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OFFICE OF THE
EXECUTIVE SECRETARY

June 10, 2002

David Waddell, Esq.
Executive Secretary
Tennessee Regulatory Authority
460 James Robertson Parkway
Nashville, TN 37243-0505

Re: *Petition for Interconnection by Cinergy Communications Company for Arbitration of an Interconnection Agreement with BellSouth Telecommunications, Inc. Pursuant to the Telecommunications Act of 1996*
Docket No. 01-00987

Dear David:

Enclosed are the original and thirteen copies of pre-filed direct testimony of Patrick Heck, Albert Cinelli and Marc Rouleau filed on behalf of Cinergy Communications Company in the above-captioned proceeding.

Very truly yours,

BOULT, CUMMINGS, CONNERS & BERRY, PLC

By: Henry Walker

HW/nl
Enclosure

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BEFORE THE TENNESSEE REGULATORY AUTHORITY
NASHVILLE, TENNESSEE

Re: Petition for Interconnection by Cinergy Communications Company for Arbitration of an Interconnection Agreement with BellSouth Telecommunications, Inc. Pursuant to the Telecommunications Act of 1996

Docket No. 01-00987

DIRECT TESTIMONY OF
PAT HECK

Dated June 10, 2002

Q. **Please state your name and business address.**

A. My name is Pat Heck. My business address is 1419 Lloyd Expressway, Suite 101, Evansville, Indiana 47710.

Q. **Who do you work for?**

A. I am Chief Technology Officer for Cinergy Communications Company (CCC).

Q. **What are your responsibilities as CTO of CCC?**

A. I oversee our data delivery infrastructure including our core data network services, hosting services, and new product development. I also oversee research and development of most telecommunication services and oversee the development of automation systems for customer-touching departments such as Customer Service and Helpdesk.

Q. **Please briefly outline your educational background and related experience.**

A. I graduated from the University of Evansville in 1985 with a degree in Computer Science and earned a Masters Degree in Computer Science from the University of Virginia in 1988. I was accepted into the Ph.D. program at the University of Virginia and have completed all required courses. From 1991 to 1994 I served as an assistant professor at the University of Evansville and continued working on required research projects at the University of Virginia. In August of 1994 I, with the help of some Evansville area businessmen, started World Connection Services, a successful residential and commercial Internet Service Provider where I served as the President from 1994 to 2000. Under my direction, World Connection Services grew from a small ISP serving Evansville into a regional ISP serving Southwestern Indiana and Western Kentucky with approximately 8,000 subscribers. In 1998, World Connection Services was acquired by Q-Comm Corporation, the parent company of CCC. In 2000, World Connection Services, then named Network WCS, was merged into CCC and I took on the responsibilities of the Chief Technology Officer.

Q. Have you previously testified in a regulatory proceeding before a state utility commission, the FCC or a hearing officer?

A. Yes. I have testified before the Public Service Commission in the state of Kentucky in CCC's Arbitration of an Interconnection Agreement with BellSouth Telecommunications, Inc.

Q. What is the purpose of your testimony in this proceeding?

A. The purpose of my testimony is to offer the factual basis for the Tennessee Regulatory Authority (TRA) to order BellSouth to unbundle its high-speed packet switching services, including intralata transport service, so that CCC can offer important and necessary telecommunication services on a ubiquitous basis to the residential and small business markets in the state of Tennessee.

Q. Please provide a brief overview of CCC's position regarding the need for unbundled packet switching.

A. CCC seeks the ability to offer its customers a bundle of advanced telecommunication services and high-speed internet access on a single bill in order to effectively compete with BellSouth across the entire BellSouth service area in the state of Tennessee. BellSouth has been able to use its ADSL transport service to put CCC and other CLECs at a tremendous competitive disadvantage. Lack of unbundled access to BellSouth's ADSL transport service has materially impaired CCC's ability to provide telecommunication services in the state of Tennessee. Access to BellSouth's high-speed packet switching services, in accordance with applicable law, is essential for CCC to offer bundled and advanced telecommunication services on a ubiquitous basis in the state of Tennessee.

Q. What is ADSL?

A. DSL, short for *D*igital *S*ubscriber *L*ine, is a technology that enables high-speed data transmission over traditional copper loop facilities at rates far exceeding those typically achieved by traditional "dial-up" modems. At the customer premise end of the loop is a DSL modem and at the carrier facility end of the loop is a DSLAM ("Digital Subscriber Line Access Multiplexer") which is capable of serving many DSL connections simultaneously. To provide a viable DSL transmission service, the loop between the customer and the carrier's equipment must typically be shorter than 18,000 feet, free of bridged tap, load coils and repeaters, and free from interference caused by nearby fiber-based telecommunications. DSL can be used to transmit packet-switched voice as well as data. ADSL is a cost-effective and popular form of DSL. ADSL is widely available in the BellSouth territory. According the BellSouth press releases, BellSouth's DSL service is now available to 70% of the households served by BellSouth.[1]

Q. **What is the relevant background leading to CCC's request for unbundled packet switching?**

A. CCC has been using BellSouth's UNE products in Tennessee for the purpose of building a customer base in order to justify the building of facilities. The most important of these UNE products has been the availability of UNE-P facilities (also known as the Unbundled Network Element Platform) for the purpose of providing voice services to small businesses in the state of Tennessee (unbundled loop combination of 2-Wire Voice Grade Loop with 2-Wire Line Port[2]). CCC has focused most of its efforts on providing competitive telecommunication services to small businesses in underserved areas. This strategy is very similar to the strategy CCC has engaged in Kentucky. In Kentucky CCC has built

[1] BellSouth press release dated January 22, 2002 – see http://bellsouthcorp.com/proactive/newsroom/release.vtml?id=38903

[2] BellSouth Telecommunications, Inc.. Tennessee Competitive Local Exchange Carrier Tariff issued October 25, 2001.

collocation facilities in Owensboro, Henderson, Madisonville, Bowling Green, Louisville, and Paducah. Each of these was built after CCC had developed a customer base in those markets. CCC is in the process of utilizing other UNE products, including unbundled copper loops and unbundled DS1s, so that CCC is less dependent on the use of BellSouth's UNE-P facilities. In Tennessee CCC has recently completed a collocation in Clarksville under the same situation – CCC first sold services to small businesses using UNE-P facilities and will shortly begin moving many of those small businesses to CCC facilities and off of the UNE-P facilities. Additionally, CCC, through our sister company KDL, has built its own long-haul fiber optic network linking many cities in Tennessee including Nashville, Clarksville, Chattanooga, Knoxville, Memphis, Jackson, London, Kingston, and Johnson City. Cities linked together in Kentucky include Bowling Green, Louisville, Lexington, Madisonville, Owensboro, Paducah, Henderson, and Winchester. It remains CCC's intention to build collocation facilities throughout BellSouth's Tennessee service area.

The introduction of UNE-P in Tennessee has enabled CCC to build a viable business plan to become a facilities-based telecommunications provider in the state of Tennessee, and CCC has been successful in moving forward with this business plan. However, BellSouth's recent introduction of high-speed Internet service via their ADSL transport service (from this point on referred to as ADSL Internet service) throughout their service area in the state and their refusal to allow us to use this ADSL transport in a cost-effective manner has put CCC at a tremendous competitive disadvantage.

Q. **Could you please provide an overview of how BellSouth provides ADSL service to its own customers?**

A. To fully understand how BellSouth uses their ADSL Internet service to put CCC at a competitive disadvantage and materially impair CCC requires a thorough explanation of how BellSouth provides ADSL Internet service. BellSouth's FastAccess® ADSL Internet service is Internet service provided via BellSouth Telecommunication's federally tariffed ADSL transport product. This ADSL transport product is a high-speed packet switching service that is capable of operating across the same copper line that also carries POTS (Plain Old Telephone Service). The ADSL transport operates at a different frequency than POTS making it possible for high-speed packets to traverse across the copper line at the same time the POTS service is in use (e.g., a user can browse the Internet at the same time he is having a telephone conversation). The fact that ADSL uses the same copper as POTS is what makes the technology attractive from a cost perspective. In and of itself ADSL has no purpose other than serving as a high-speed transport service capable of carrying many different types of telecommunication services including local exchange service, long distance service, Internet service, and video services. DSL transport services have become a preferred mechanism for delivering a variety of voice and data services because of its cost-effectiveness and reliability.

BellSouth has deployed DSLAMs (carrier-side equipment used to provide different types of DSL service including ADSL) in 166 Tennessee BellSouth Central Offices. Additionally, BellSouth has deployed DSLAMs in 571 Remote Terminals in Tennessee. The deployed DSLAMs are networked together via an ATM network that spans across each LATA. BellSouth uses its ADSL transport service to provide a connection from a customer premise out to the Internet. BellSouth markets their FastAccess ADSL Internet service through the same retail channels used for local exchange services. Customers of BellSouth's FastAccess ADSL Internet service are billed via their BellSouth telephone bill.

Q. Does BellSouth make this ADSL service available to competitors?

A. BellSouth does make its underlying ADSL packet switching transport service available to other carriers and markets this service mainly to independent Internet Service Providers (ISPs) under BellSouth's Wholesale ADSL program. An ISP seeking to use the wholesale ADSL transport service is required to connect to BellSouth's ATM network at one point within each LATA the ISP seeks to serve. BellSouth provides end-to-end packet switching between the end user and the ISP. BellSouth bills the ISP for the ADSL transport service and the ISP bills the end user for the services provided over the ADSL transport. The most common service that is provided across the ADSL transport is Internet service, but I have personal knowledge of ISPs also providing other telecommunication services including such services as Data Virtual Private Networking, Voice Virtual Private Networking (which allows a multi-location company to route inter-office telephone calls across a public packet switching network), Network Monitoring, and Application Services.

Q. **Couldn't CCC use this wholesale service to provide the telecommunications services it seeks to provide to its customers?**

A. On the surface it would appear that CCC could use BellSouth's wholesale ADSL service as a way to deliver telecommunication services, including Internet service and advanced voice services, and then be able to compete effectively with BellSouth. In fact, CCC has attempted exactly that. However, BellSouth's intentionally restrictive policy on the deployment of ADSL has done just the opposite and has left CCC in an imperiled state. Specifically, BellSouth's policy is that it will only provision ADSL transport service over BellSouth voice lines. BellSouth voice lines include voice lines billed by BellSouth to end users and voice lines billed by CLECs, but provisioned under resale. BellSouth refuses to provision their ADSL transport service over lines provisioned under UNE-P. BellSouth's widespread deployment of ADSL coupled with this anticompetitive policy is absolutely a CLEC killer and I believe will lead to the remonopolization of voice services in BellSouth's Tennessee service area.

Q. **How is BellSouth's policy in this area anticompetitive?**

A. Our experience over the past several months really demonstrates this quite clearly in three ways:

First, Facilities-based customers of CCC who call BellSouth and inquire about ADSL Internet service are informed that in order to receive the ADSL service they will need to return their local service to BellSouth. BellSouth then signs up the customer to a 24 or 36 month term "Key Customer" contract for local exchange service, effectively locking CCC out from serving the customer.

Second, BellSouth's anticompetitive policy greatly erodes CCC's profit margin on its current customers receiving local service via UNE-P. BellSouth's wholesale ADSL transport service is available to many ISPs and commonly CCC receives a request from an ISP, or from the customer directly, to reprovision local voice lines from UNE-P to local resale so that the ISP can provide Internet service to CCC's voice customer. This leaves CCC in the unenviable position of telling the customer that they can't have the ADSL Internet service from their ISP of choice, or requires CCC to move the lines to resale status. In the first case CCC is essentially telling the customer "No, you can't have Internet service because we'll make less money – perhaps no money – on the voice service we're providing you." In the second case, CCC is essentially giving up all or nearly all of the gross profit made on the customer each month. Keep in mind that 40% of

CCC's business customers have only one or two lines and 70% have five lines or fewer. It may seem on the surface that a two, three, or four line customer may not be so undesirable since only a single line contains the ADSL service, but call hunting on the lines means that CCC has to move all of the lines to resale.

Q. What is Hunting and why is it so important?

A. Hunting is used by most businesses with two or more lines and allows a company to publish a single number that can come in on any available line within the hunt group. If the first line in the hunt group is busy, then the call will hunt to the second line. If the second line is busy, then the incoming call will hunt to the third line. The caller will receive a busy signal only if all of the lines in the hunt group are busy. Hunting is an absolutely essential service for small businesses. Again, BellSouth's internal policy greatly damages competition for voice services. Although it is not a technical issue, BellSouth will not allow lines provisioned under UNE-P to be in the same hunt group as lines provisioned under resale. Since ADSL can only be provisioned on resale lines, then CCC must move every line of the customer in the hunt group to resale status – not a single line in the hunt group can remain provisioned under UNE-P. This reduces CCC's profit margin to the point that the customer is no longer profitable.

Q. You mentioned there are three examples of how BellSouth's use of ADSL is anticompetitive, what is the third?

A. In addition to the first two problems, BellSouth's ADSL Internet service also prevents CCC from acquiring new customers. If a BellSouth customer who receives ADSL does move their local voice service to CCC's facilities, provisioned under UNE-P, then BellSouth terminates the customer's ADSL Internet service. Once a customer learns that they will lose their ADSL Internet service by moving to CCC's local voice service they are no longer willing to become a customer of CCC. Again, CCC's alternative is to provision these new lines under resale, but doing so is unprofitable to CCC.

The net effect of BellSouth's rapid deployment of ADSL Internet service and their anticompetitive policy is that BellSouth is remonopolizing the regulated voice market through attrition of competitive local exchange carriers who cannot compete due to the inability to sell a combination voice and high-speed Internet service.

Q. What is the difference between ADSL transport service and ADSL Internet service?

A. We believe that it is important to understand that ADSL is simply a telecommunications transport service. Anytime that someone talks about providing ADSL Internet service, they are talking about taking an ADSL transport service and using it to deliver Internet service. As stated earlier, Internet is only one of many different telecommunication and information services that can be delivered via ADSL. Local voice is another telecommunication service that can be delivered via ADSL. In this respect, ADSL is performing the same function as a DS1 which is available to CCC on an unbundled basis to our medium and large business customers. In our strongest words we state that ADSL is not Internet service, but a high-speed transport service.

Q. Why is CCC asking for unbundled packet switching instead of unbundled ADSL Service?

A. CCC does seek to use BellSouth's ADSL network on an unbundled basis, but we strongly believe that the Tennessee Regulatory Authority should grant CCC access to all high-speed packet switching transport services deployed by BellSouth primarily because BellSouth is our principal competitor. BellSouth, because of its size and resources, could easily replace its ADSL network with a similar but different technology in a fairly short timeframe. In fact, BellSouth's competitive position towards CCC and other CLECs makes it likely that it would begin deploying another competing technology. Examples of viable competing technologies include other types of DSL (e.g., SDSL, IDSL) and fixed wireless technologies (e.g., MMDS, LMDS). A narrow ruling on ADSL transport services is likely to be a short-lived victory for CCC.

Q. What is unbundled packet switching and what components should be included in unbundled packet switching?

A. The FCC defined packet switching in the UNE Remand Order as "the function of routing individual data units, or "packets," based on address or other routing information contained in the packets. The packet switching network element includes the necessary electronics (e.g. routers and DSLAMs)."[3] The FCC went on to specifically recognize that unbundled packet switching was a network element, stating: "We find that packet switching qualifies as a network element because it includes "all features, functions and capabilities. . . sufficient. . . for transmission, routing or other provision of a telecommunications service."[4] Unbundled packet switching should be an end-to-end solution that includes transport from the end user location all the way to a single meet point within each serving LATA. This model mirrors BellSouth's current wholesale ADSL transport service. BellSouth currently provides this service so there are no technical limitations or billing issues which would prevent the immediate implementation of this service as soon as it is ordered by the TRA.

Additionally, requiring CCC, or any other CLEC, to interconnect with BellSouth in each Central Office serviced will prevent CCC from offering service on a ubiquitous and timely basis. It is imperative for ubiquitous deployment of advanced telecommunication services and data services that CCC be permitted to interconnect with BellSouth's packet switching

[3] *Implementation of the Local Competition Provision of the Telecommunications Act of 1996, CC Docket No. 96-98, Third Report and Order,* 15 FCC Rcd. 3696, ¶304 (1999) ("UNE Remand Order).

[4] *Id.*

network at a single meet point within each LATA. CCC would then be able to offer services across the entire BellSouth service area in Tennessee within 45 days of a favorable ruling.

Q. **How will access to unbundled packet switching enable CCC compete fairly, effectively and ubiquitously in the state of Tennessee?**

A. With access to unbundled packet switching, CCC will be able to offer a combined voice and high-speed data access service ubiquitously and cost effectively to the residential and small business markets in the state of Tennessee. This bundling will compete with BellSouth's current offering. Prior to BellSouth's introduction of ADSL transport service, UNE-P was sufficient as a mechanism for aiding CCC in our business plan execution, ultimately leading to a build-out of our own facilities. Because BellSouth uses its ADSL transport service in anticompetitive ways, it is essential that the unbundling of packet switching give CCC instant ubiquity in the same way UNE-P gave CCC instant ubiquity for basic local voice services.

CCC will also roll out advanced telephony services such as IP Centrex which is not offered by BellSouth or any other competitive carrier in the state of Tennessee. CCC is already planning to roll-out these advanced telephony services in Indiana and Kentucky in the third and fourth quarters of this year. Access to unbundled packet switching, initially via BellSouth's ADSL network, is CCC's only viable option to roll out advanced telephony services on any scale that ensures CCC's success in the state of Tennessee. CCC would begin rolling out these same services in Tennessee during the fourth quarter of this year if unbundled packet switching is made available.

One of the key challenges of offering facilities-based voice services to small business and residential customers via UNE-P is "price squeeze." This situation arises when the TELRIC rate established for UNE-P local exchange service is near and often higher than the retail price of the retail service provided by BellSouth. As an example BellSouth offers full featured residential local exchange service (BellSouth Complete Choice) for $29.00 in Tennessee. To offer a competitive product, CCC would have to offer a similar service for less than BellSouth's offering. Assuming that CCC offers a competitive product in UNE Zone 3 for 5% less than BellSouth (effective price of $27.55) the gross profit margin after 24 months is only 4.3% (gross profit margin is the profit after covering direct expenses only). When you consider that CCC's general overhead expenses are approximately 32% of CCC's revenue, it becomes clear that CCC cannot even justify selling the high-end voice services in zone 3. The complete analysis of selling a competitive product in all three zones under UNE-P is presented in Exhibit PLH-1. For comparative purposes I have attached the same analysis when lines are provisioned under resale (labeled Exhibit PLH-2). Customers willing to spend a premium for high-end voice services are those most likely to want ADSL. As I testified earlier, any line with ADSL must be provisioned under resale. In this case gross margins in all zones drop to a mere 0.4%. As would be expected, the biggest drop in gross profit margin happens in zone 1 where it drops from 30.7% to 0.4%. The anticompetitive policies of BellSouth ensure that CLECs operate under "price squeeze" conditions in all zones.

However, if CCC has access to fairly priced unbundled packet switching, we believe we can offer a very compelling and competitive product that overcomes this "price squeeze".

Q. Specifically, how can unbundled packet switching aid CCC in overcoming "price squeeze"?

Access to unbundled packet switching with the functionality I described earlier gives CCC an opportunity to overcome price squeeze. One straight-forward option combines unbundled ADSL with UNE-P to provide a combination service of full-featured local service and ADSL Internet service. Exhibit PLH-3 demonstrates this offering that CCC could make in Tennessee and one that would be competitive with a similar offering from BellSouth. I have used a surrogate rate of $25.00 for unbundled ADSL service that functions identically to BellSouth's Wholesale ADSL service. I propose that the TRA consider using this as a surrogate rate until it has been able set a fair and reasonable TELRIC rate. As Exhibit PLH-3 shows, gross profit margins are positive in all zones. This is an offering that CCC would make available in Tennessee if a favorable ruling is made by the TRA.

Even better, unbundled ADSL gives CCC the opportunity to offer Voice over Broadband and IP Centrex services to residential customers who desire more than one phone line (e.g., additional line or lines for kids) and to small businesses. CCC has invested in technology that would enable us to deliver two additional phone lines over the single copper line that goes into most households. By combining UNE-P local service, ADSL transport, Internet Service, and Voice over Broadband technology, CCC could make an offering as shown in Exhibit PLH-4: 3 full-featured voice lines and high-speed Internet service for $95.00. Gross profit margins range from 38.8% (zone 3) to 47.2% (zone 1). Given CCC's overhead expense of 32%, these numbers allow us to cover all of our expenses and earn a modest profit.

Delivering services such as these just described will enable CCC to build up a sufficient customer base and a sufficient revenue stream to build our own facilities.

Q. What options are available to CCC if the TRA does not unbundle packet switching?

A. CCC has made the investment in the technology to provide advanced telephony services to its customers. From a practical standpoint, lack of access to unbundled packet switching will force CCC to focus efforts in those markets where CCC can exploit this investment.

Q. **Does CCC have access to unbundled packet switching as a UNE in any other markets in which it operates?**

A. In the state of Indiana CCC already has access to unbundled packet switching via SBC Ameritech's UNE-D product. This product became available to CCC in the Fall of 2001 when the Indiana Utility Regulatory Commission ("IURC") finalized an arbitration between AT&T and SBC Ameritech which, in part, requires SBC Ameritech to offer a bundled UNE combo of voice and high-speed data transport referred to as UNE-D (for Unbundled Network Element – Digital platform). CCC recently adopted the relevant portion of that agreement and will soon be able to offer voice and high-speed data services to its customers over a single loop. This UNE-D combo consists of a 2 Wire Loop and Port with ATM Transport. It allows CCC to provide facilities-based voice via UNE-P and high-speed data access via DSL data transport as a UNE. This offering also gives CCC the ability to provide advanced telephony and data services to its residential and small customers on a ubiquitous basis in the state of Indiana. CCC pays $38 for the SBC Ameritech UNE-D product – a price below that which I have proposed in Tennessee.[5]

Q. What features will CCC be able to provide to the residential and small business market with IP Centrex if it is granted access to unbundled packet switching as a UNE?

A. CCC is in the early stage of deploying IP Centrex telephony services in the Evansville, Indiana market where CCC has access to low cost transport service similar to that which we are requesting in this arbitration. Personal services (available to residential and business customers) in this offering include Anonymous and Selective Call Rejection, Call Return, Call Waiting, Do Not Disturb, Flash Call Transfer, N-Way Calling, Last Number Redial, Speed-Dial, Selective Call Acceptance, Advanced Call Reporting (inbound and outbound), Simultaneous Ring (aggressive find-me/follow-me service), unified messaging (fax, email, voicemail), and multiple voice message notification options (stutter dial tone, paging, message waiting indicator). Business customers would also have access to many advanced group functions including Auto Attendant Services (Extension and Name Dialing/Transfer, Group Mailbox, and Name Recording/Playback), Account Codes, Authorization Codes, Call Center Support, Call Intercept, Configurable Extension Dialing, Configurable Feature Codes, Multiple Hunt Groups, Instant N-Way conferencing, and

[5] In zone 1, the combination of UNE-P at $14.18 and UNE ADSL using the proposed surrogate rate of $25.00 leads to a total cost of $39.18. The combination cost is $43.01 and zone 2 and $48.02 in zone 3.

Loudspeaker paging. Additionally, all of these services can be managed and self-provisioned via the web. See Exhibit PLH-5 for a complete list of the services that CCC is currently testing. Additionally, Exhibit PLH-6 demonstrates how CCC would deliver IP Centrex services over broadband connections.

Most of these services/features currently are available only with the purchase of very expensive telephony equipment and therefore are deployed almost exclusively by large commercial businesses. We believe that deploying these services to the small business market is economically viable and will enable small businesses in the state of Tennessee to remain competitive in a marketplace that increasingly favors large businesses over small. As stated earlier, we hope to roll out these services in the state of Tennessee during the fourth quarter of 2002.

Q. Could you provide the Commission an example of how this service might work for a small business owner.

A. Sure. Imagine a real estate agent who spends an equal amount of time in and out of the office. Most likely he has a business phone line and a cell phone. He has voicemail attached to each of these. One of the features he'll have available is Sim Ring (simultaneous ring). He can specify from a web portal that he'd like to have his cell phone ring in addition to his office phone whenever a client calls his office phone, but only between the hours of 7am and 10pm. So now when someone does call him between these hours, both is cell phone and office phone will ring. Whichever he picks up first is where the call is delivered. If he doesn't pick up either, the caller is dropped into the voicemail box associated with his office phone – thus he doesn't have to worry about checking voicemail on two different voicemail systems any longer. When in the office he can turn off his cell phone and just use his office phone, but when he walks out the door he can turn on his cell phone – unless he doesn't want to be bothered.

The second feature that he can use to his benefit is Remote Office. Imagine he has a sick child and needs to work from home. From his web portal he can turn on Remote Office to signify that his home phone is now his office phone. Incoming calls get routed to his home phone – just like call forwarding -- but the handling of his out-bound calls is the attractive feature. Assuming he has an Internet connection, he can use his web portal to dial the call. Remote Office will turn and dial his home phone. Once he's picked up, Remote Office will then dial his destination. This has a couple of advantages. First, if the call is a long-distance call, the charges will be billed to his office phone instead of his home phone. Second, the Caller-ID information passed to the person he called will be his office phone number instead of his home phone number. To the person he called it looks like he's at the office. He doesn't have to worry about the person he called now having his home phone number – and perhaps calling it another day when he really is in the office.

Q. Does the TRA have the authority to establish an unbundled packet switching UNE as requested by CCC?

A. Yes. I am not an attorney, but it is my understanding that Section 251(d)(3) of the Telecommunications Act of 1996 expressly authorizes state commissions to establish additional unbundling obligations. In its order adopting the national list of UNEs, the FCC explicitly found that:

> section 251(d)(3) of the Communications Act grants state public utility commissions the authority to impose additional obligations upon incumbent LECs beyond those imposed by the national list, as long as they meet the requirements of section 251 and the national policy framework instituted in this Order.[6]

The FCC was even more explicit regarding the ability of states to add UNEs that the FCC declined to place on the national list in its discussion of packet switching. The FCC found that it did not have a record before it that justified nationwide unbundling of the frame relay network element. The FCC went on to say, however, that CLECs

> are free to demonstrate to a state commission that lack of unbundled access to the incumbent's frame relay network element [a form of packet switching] impairs their ability to provide the services they seek to offer. A state commission is empowered to require incumbent LECs to unbundle specific network elements used to provide frame relay service, consistent with the principles set forth in this order.[7]

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[6] *In the Matter of Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, Third Report and Order and Fourth Further Notice of Proposed Rulemaking, 13 FCC Rcd 3696, ¶ 154 (1999) ("*FCC UNE Remand Order*").

[7] *Id.* ¶ 312.

The *Line Sharing Order*, which sought to promote unbundled CLEC access to DSL, further encouraged state commissions "to impose additional, pro-competitive requirements consistent with the national framework established in this order."[8]

Q. Please explain the federal unbundling framework?

A. The federal unbundling framework has two basic layers – a list of national minimum network elements (that must be offered everywhere),[9] and a mechanism for States to require additional unbundling. Where a State requires additional unbundling under the authority of the federal Act, however, FCC rules require that certain standards be met.[10] Specifically, a State must conclude (for non-proprietary network elements)[11] that CLECs would be "impaired" without access to the network element in question.

Q. Has the FCC provided guidance as to what constitutes "impairment"?

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8 *Deployment of Wireline Services Offering Advanced Telecommunications Capability*, CC Docket No. 98-147, Third Report and Order, 14 FCC Rcd. 20912, at ¶ 159 (1999)("Line Sharing Order")

9 This list of federally mandated minimums is codified in the Code of Federal Regulations at 47 C.F.R. §51.319.

10 47 C.F.R. §51.317(b)(4) states: A state commission must comply with the standards set forth in this Sec. 51.317 when considering whether to require the unbundling of additional network elements.

11 BellSouth has never claimed, to my knowledge, that any aspect of the local switching network element is proprietary.

A. Yes. Acting in response to the U.S. Supreme Court's remand of its initial interconnection rules, the FCC adopted rules to give greater definition to what is meant by "impairment." Under this framework, impairment is defined as follows:

> A requesting carrier's ability to provide service is "impaired" if, taking into consideration the availability of alternative elements outside the incumbent LEC's network, including self-provisioning by a requesting carrier or acquiring an alternative from a third-party supplier, lack of access to that element materially diminishes a requesting carrier's ability to provide the services it seeks to offer. The Commission will consider the totality of the circumstances to determine whether an alternative to the incumbent LEC's network element is available in such a manner that a requesting carrier can provide service using the alternative.[12]

Further, in judging whether alternatives (either self-provisioned or obtained from a third-party) are available to the entrant, States are directed to consider whether alternatives are "…available as a practical, economic, and operational matter:

(i) Cost, including all costs that requesting carriers may incur when using the alternative element to provide the services it seeks to offer;

(ii) Timeliness, including the time associated with entering a market as well as the time to expand service to more customers;

(iii) Quality;

(iv) Ubiquity, including whether the alternatives are available ubiquitously;

[12] 47 C.F.R. §51.317(b)(1), emphasis added.

(v) Impact on network operations." [13]

Q. Are there other factors that the Authority may consider when determining whether a particular network element should be offered in accordance with the federal Act?

A. Yes. The FCC also enumerated a number of other factors that a State may consider when conducting an unbundling review under the federal Act, including the following:

(i) Whether unbundling of a network element promotes the rapid introduction of competition;

(ii) Whether unbundling of a network element promotes facilities-based competition, investment, and innovation;

(iii) Whether unbundling of a network element promotes reduced regulation;

(iv) Whether unbundling of a network element provides certainty to requesting carriers regarding the availability of the element;

Q. Is CCC impaired under the standard you just outlined?

A. Yes. Lack of access to unbundled packet switching materially diminishes our ability to provide IP Centrex to residential and small business

[13] 47 C.F.R. §51.317(b)(2).

customers in Tennessee. CCC has invested in this technology and can provide a facilities-based, feature-rich product to its customers that BellSouth is not offering at any price. CCC has also invested in the network and the back office operations necessary to support this service. CCC only lacks a mechanism to bridge the "last mile" from its network to the customer. Without unbundled packet switching CCC cannot cost-effectively provide this service to the small business and residential markets.

In addition, CCC is impaired in providing traditional POTS service to its customers. Customers are demanding high-speed internet access and CCC cannot offer this to the small business and residential market without access to unbundled packet switching. BellSouth's anticompetitive policies preclude any other cost-effective alternatives and encourage the customer to switch back to BellSouth. Access to unbundled packet switching for internet access would allow CCC to bundle voice and high-speed Internet and offer the customer one bill in the same fashion that BellSouth currently bills its own customers. If CCC cannot offer bundled services on a single bill, we are simply not an attractive competitor to the BellSouth monopoly.

Q. **Are there any alternatives available to CCC that would allow CCC to provide its IP Centrex service or a bundled service of voice and high speed Internet access to its customers?**

A. No other viable option exists that will enable CCC to quickly, cost-effectively, and ubiquitously provide high-speed data services and other advanced voice services. CCC has looked at all available options. First, CCC has considered installing DSLAMs across BellSouth's Central Offices and Remote Terminals. Second, CCC has considered partnering with a Data LEC ("DLEC"). Third, CCC has considered using BellSouth's UNE DS1 service. Fourth, CCC has considered using BellSouth's wholesale DSL product combined with BellSouth's resale local exchange services. None of these options enable CCC to provide high-speed data services and other advanced services ubiquitously in the state of Tennessee.

Q. Why is self-provisioning of DSLAMs not a viable option?

A. It is simply not economically viable. Installing DSLAMs in Central Offices and Remote Terminals without a customer base is a business plan that will certainly fail. This is exactly the approach that was taken by Rhythms, Northpoint, Covad, Sprint (with its ION project), and Bluestar. Of these only Covad remains and they pulled back deployment plans exponentially to the point where they now only serve the largest markets. The same economic reasons that make it necessary to unbundle local switching make it necessary to unbundle packet switching. At the time the UNE Remand Order was released the FCC was hopeful (based on the deployment schedules of the above-mentioned DSL providers) that the playing field was level enough that incumbent providers would not be able to obtain an advantage in the deployment of packet switching networks. Unfortunately this was not the case. Incumbents have been able to use their control over the network and the customer base to become essentially the only provider of DSL services in Tennessee.

BellSouth's Wholesale ADSL service demonstrates very well the advantage the incumbent enjoys in selling DSL to end users. As I testified earlier, BellSouth makes its Wholesale ADSL product available to other Network Service Providers (NSP). Although we are not aware of the number of NSPs currently selling ADSL through the Wholesale program it certainly is a very significant number. If there is equal footing in selling ADSL one would expect that the total number of ADSL loops sold by each of the providers would be similar to the number sold by BellSouth through their FastAccess service. The numbers, however, are staggeringly in BellSouth's favor. At the end of 2001 BellSouth had provisioned 6,521 ADSL circuits on behalf of other NSPs but had provisioned 35,708 on behalf of its own FastAccess service. BellSouth has garnered an 84.5% market share under conditions it claims are level.

We do want to point out that the FCC has already determined that the collocation required to provide packet switching constitutes an impairment:

> "Collocating in incumbent LEC central offices imposes material costs and delays on a requesting carrier and materially diminishes a requesting carrier's ability to provide the services it seeks to offer. As discussed above, we identified the costs and delays associated with collocation as factors that impair a requesting carrier's ability to self-provision circuit switches to serve residential and business market [sic]. We see no reason to distinguish a requesting carrier's collocation-related costs and delays to provide circuit-switched services from those collocation costs and delays incurred by requesting carriers to provide packet switched services. These costs and delays lead us to find that competitors are impaired in their ability to offer advanced services without access to incumbent LEC facilities.[14]

Q. Why is partnering with a DLEC not a viable option?

A. In the UNE Remand Order, the FCC relied quite heavily on the availability of DLECs such as Rhythms, Northpoint and Covad in refusing to unbundle packet switching at that time.[15] However, the FCC could not have foreseen the economic meltdown in the telecommunications industry that has occurred since the UNE Remand Order was released. All of the aforementioned DLECs have filed bankruptcy and only Covad has emerged intact. CCC is not aware of any DLEC or any combination of DLECs with which we could partner in order to provide ubiquitous access in Tennessee.

Q. Why isn't UNE DS1 a viable option?

[14] *Implementation of the Local Competition Provision of the Telecommunications Act of 1996, CC Docket No. 96-98, Third Report and Order,* 15 FCC Rcd. 3696, *¶309* (1999) ("UNE Remand Order).

[15] Id. at ¶ 307

A. A UNE DS1 is the only UNE transport service currently available to CCC, and CCC uses DS1 service to provide voice and data services to our large and medium sized business customers. The TELRIC pricing for UNE DS1 service in the state of Tennessee is too expensive to use as an option for serving residential and small businesses. Additionally, in order to provide service over a UNE DS1, CCC is required to collocate in the BellSouth Central Office which serves the customer. It would be impossible for CCC to collocate with BellSouth rapidly so that CCC could utilize UNE DS1 loops on a ubiquitous basis in CCC's territory. Even if CCC were collocated within each Central Office, it would be difficult to build a sound business case for serving even small business customers and impossible to build a business case for serving residential customers. The cost of the UNE DS1 loop itself is greater than what most residential customers and single-line small business customers currently pay for a combination of local exchange service and ADSL Internet service. CCC would be unable to offer a competitively priced product.

Q. You mentioned that you are currently able to provide voice and data services to your large and medium sized business customers using DS1. Isn't ADSL substantially similar in function to DS1?

A. Yes. The nuts and bolts of how the two work is quite different. However, in both cases we use these "pipes" to reach our customers. We are then able to provide services to our customers over these pipes. You can think of the advanced voice and data services we provide to our customers as water that is being sent down these large pipes.

Q. Why isn't BellSouth's wholesale ADSL transport service a viable option to unbundled packet switching as a UNE?

A. BellSouth's wholesale ADSL transport service just isn't a viable solution for residential and small businesses due to the requirement that the lines be converted to resale as outlined earlier in my testimony. It simply isn't possible to generate adequate gross margin for any residential customer or any business customer with fewer than four lines.

Q. Are there any jurisdictional issues that would prevent the TRA from requiring the unbundling of packet switching as a UNE?

A. No. This is a purely local issue over which the TRA has jurisdiction. The ADSL packet switching solution is no different for a small business than a DS1 is for a large business from a jurisdictional point of view. Both are merely transmission methods for voice calls. Likewise, both are capable of carrying data or connecting to the Internet.

Other states have recognized that uses other than Internet access do exist for ADSL. The Kentucky Public Service Commission (KPSC) has determined that "Although DSL is used to connect to the Internet, other uses for this service exist and will evolve as a broadband infrastructure is deployed throughout the Commonwealth."[16] CCC's IP Centrex product is precisely the type of non-Internet use that the KPSC was predicting. The customer's voice is converted into packets and transported across DSL to CCC's facilities where CCC interconnects with the publicly switched telephone network (PSTN). The call originates and terminates within the same state. This is no different than an analog local call except that advanced technology is employed. Based upon this logic, the KPSC previously determined that "The development of a broadband infrastructure and the resulting high-speed access market is critically important to Kentucky's economic future. Pursuant to KRS Chapter 278, this agency has been entrusted with oversight of this [DSL] market, and we have specific authority to address complaints in regard to it and to ensure that unreasonable and discriminatory practices do not impede its development."[17] This same logic applies in Tennessee just as it does in Kentucky.

Q. Could you briefly summarize for the TRA the overall policy reason why unbundled packet switching should be made available to CCC as a UNE?

A. BellSouth has engaged in a deliberate campaign to restrict CLECs from gaining broadband access over the copper loop. BellSouth knows that one day in the near future all voice will be carried in packets because this

[16] Iglou v. BellSouth Telecommunications, Inc., Case No. 99-484

[17] Id.

transmission method is much more efficient than analog and also provides more feature capabilities. Voice traffic is carried across the backbones of fiber networks in packets today. The only thing preventing packetized voice throughout the entire network today is the "last mile" over which BellSouth is trying to regain monopoly control. The purpose of the Telecommunications Act of 1996 was to open up the infrastructure that was a gift to BellSouth from the taxpayers. BellSouth has altered that legacy network for its own purposes and is profiting greatly from its ability to provide voice and high speed Internet access. If CCC is not allowed to provide IP Centrex to our customers over ADSL, CCC will be denied nondiscriminatory access to the transport infrastructure that should be open to all competitors. The TRA should remedy this situation and stimulate competition within Tennessee by ordering unbundled packet switching as a UNE as requested by CCC.

Q. Does this conclude your testimony?

A. Yes.

Exhibit PLH-1

Residential Complete Choice Local Service in TN under UNE-P

Notes		UNE ZONE 1 Month 1	UNE ZONE 1 Month 2+	12 Total	24 Total	UNE ZONE 2 Month 1	UNE ZONE 2 Month 2+	12 Total	24 Total	UNE ZONE 3 Month 1	UNE ZONE 3 Month 2+	12 Total	24 Total
	REVENUES												
	Residential Line -- All Features	$27.55	$27.55	$330.60	$661.20	$27.55	$27.55	$330.60	$661.20	$27.55	$27.55	$330.60	$661.20
	Subscriber Line Charge	$5.00	$5.00	$60.00	$120.00	$5.00	$5.00	$60.00	$120.00	$5.00	$5.00	$60.00	$120.00
1	Carrier Access Revenue	$0.90	$0.90	$10.80	$21.60	$0.90	$0.90	$10.80	$21.60	$0.90	$0.90	$10.80	$21.60
	Total Monthly Revenues	$33.45	$33.45	$401.40	$802.80	$33.45	$33.45	$401.40	$802.80	$33.45	$33.45	$401.40	$802.80
	DIRECT COSTS:												
	Customer Acquisition spending	$30.00		$30.00	$30.00	$30.00		$30.00	$30.00	$30.00		$30.00	$30.00
	Non-Recurring Fixed Costs:												
	NRC Port/Loop Process Fees - asssume all elec	$3.50	$0.00	$3.50	$3.50	$3.50	$0.00	$3.50	$3.50	$3.50	$0.00	$3.50	$3.50
	NRC Port/Loop/NID Combo - Switch as/is or w/chng	$1.03	$0.00	$1.03	$1.03	$1.03	$0.00	$1.03	$1.03	$1.03	$0.00	$1.03	$1.03
	Total Non-Recurring	$34.53	$0.00	$34.53	$34.53	$34.53	$0.00	$34.53	$34.53	$34.53	$0.00	$34.53	$34.53
	Monthly Recurring Fixed Costs:												
	MRC Port/Loop/NID (UZ1=$14.18; UZ2=$18.01; UZ3=$23.02)	$14.18	$14.18	$170.16	$340.32	$18.01	$18.01	$216.12	$432.24	$23.02	$23.02	$276.24	$552.48
	Monthly Recurring Usage Costs												
2	Per minute unep usage charges (1,615 minutes * $0.00326)	$5.26	$5.26	$63.18	$126.36	$5.26	$5.26	$63.18	$126.36	$5.26	$5.26	$63.18	$126.36
	Subtotal Monthly Recurring Usage Costs	$5.26	$5.26	$63.18	$126.36	$5.26	$5.26	$63.18	$126.36	$5.26	$5.26	$63.18	$126.36
	Monthly Recurring Feature Costs:												
	All Port Features (vertical features)	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
	Subtotal Monthly Recurring Feature Costs	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
	Monthly Recurring Other Costs:												
3	MRC ADUF & ODUF	$1.04	$1.04	$12.48	$24.96	$1.04	$1.04	$12.48	$24.96	$1.04	$1.04	$12.48	$24.96
	Subtotal Monthly Recurring Other Costs	$1.04	$1.04	$12.48	$24.96	$1.04	$1.04	$12.48	$24.96	$1.04	$1.04	$12.48	$24.96
	Total Direct Costs	$85.01	$20.48	$310.35	$556.17	$88.84	$24.31	$356.31	$648.09	$93.85	$29.32	$416.43	$768.33
	Gross Margin	-$51.56	$12.97	$91.05	$246.63	-$55.39	$9.14	$45.09	$154.71	-$60.40	$4.13	-$15.03	$34.47
	Gross Margin %	**-154.2%**	**38.8%**	**22.7%**	**30.7%**	**-165.6%**	**27.3%**	**11.2%**	**19.3%**	**-180.6%**	**12.3%**	**-3.7%**	**4.3%**
	General Overhead (S,G, & A) as % of Revenue	32.0%	32.0%	32.0%	32.0%	32.0%	32.0%	32.0%	32.0%	32.0%	32.0%	32.0%	32.0%
	Net Profit Margin % (Gross Margin % minus Overhead)	**-186.2%**	**6.8%**	**-9.3%**	**-1.3%**	**-197.6%**	**-4.7%**	**-20.8%**	**-12.7%**	**-212.6%**	**-19.7%**	**-35.7%**	**-27.7%**

1 BellSouth Provided Numbers: Kentucky Arbitration Hearing Transcript p. 78, May 22, 2002
2 April 2002 actual usage of Cinergy Communications' 300 KY Residential customers provisioned on UNE-P
3 BellSouth Provided Numbers: Kentucky Arbitration Hearing Transcript p. 72, May 22, 2002

Exhibit PLH-2

Residential Complete Choice Local Service in TN under Resale

Notes		UNE ZONE 1		12	24	UNE ZONE 2		12	24	UNE ZONE 3		12	24
		Month 1	**Month 2+**	**Total**	**Total**	**Month 1**	**Month 2+**	**Total**	**Total**	**Month 1**	**Month 2+**	**Total**	**Total**
	REVENUES												
	Residential Line -- All Features	$27.55	$27.55	$330.60	$661.20	$27.55	$27.55	$330.60	$661.20	$27.55	$27.55	$330.60	$661.20
	Subscriber Line Charge	$5.00	$5.00	$60.00	$120.00	$5.00	$5.00	$60.00	$120.00	$5.00	$5.00	$60.00	$120.00
1	Carrier Access Revenue	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
	Total Monthly Revenues	$32.55	$32.55	$390.60	$781.20	$32.55	$32.55	$390.60	$781.20	$32.55	$32.55	$390.60	$781.20
	DIRECT COSTS:												
	Customer Acquisition spending	$30.00		$30.00	$30.00	$30.00		$30.00	$30.00	$30.00		$30.00	$30.00
	Non-Recurring Fixed Costs												
	NRC Process Fees - asssume all elec	$3.50	$0.00	$3.50	$3.50	$3.50	$0.00	$3.50	$3.50	$3.50	$0.00	$3.50	$3.50
	NRC Switch as/is or w/chng	$1.03	$0.00	$1.03	$1.03	$1.03	$0.00	$1.03	$1.03	$1.03	$0.00	$1.03	$1.03
	Total Non-Recurring	$34.53	$0.00	$34.53	$34.53	$34.53	$0.00	$34.53	$34.53	$34.53	$0.00	$34.53	$34.53
	Monthly Recurring Fixed Charges												
2	MRC Complete Choice Resale (16% discount)	$24.36	$24.36	$292.32	$584.64	$24.36	$24.36	$292.32	$584.64	$24.36	$24.36	$292.32	$584.64
3	MRC Subscriber Line Charge Resale	$4.33	$4.33	$51.91	$103.82	$4.33	$4.33	$51.91	$103.82	$4.33	$4.33	$51.91	$103.82
	Total Non-Recurring	$28.69	$28.69	$344.23	$688.46	$28.69	$28.69	$344.23	$688.46	$28.69	$28.69	$344.23	$688.46
	Monthly Recurring Usage Costs												
4	Per minute unep usage charges	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
	Subtotal Monthly Recurring Usage Costs	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
	Monthly Recurring Feature Costs:												
	All Port Features (vertical features)	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
	Subtotal Monthly Recurring Feature Costs	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
	Monthly Recurring Other Costs:												
5	MRC ADUF & ODUF	$1.04	$1.04	$12.48	$24.96	$1.04	$1.04	$12.48	$24.96	$1.04	$1.04	$12.48	$24.96
	Subtotal Monthly Recurring Other Costs	$1.04	$1.04	$12.48	$24.96	$1.04	$1.04	$12.48	$24.96	$1.04	$1.04	$12.48	$24.96
	Total Direct Costs	$94.26	$29.73	$421.24	$777.95	$94.26	$29.73	$421.24	$777.95	$94.26	$29.73	$421.24	$777.95
	Gross Margin	-$61.71	$2.82	-$30.64	$3.25	-$61.71	$2.82	-$30.64	$3.25	-$61.71	$2.82	-$30.64	$3.25
	Gross Margin %	**-189.6%**	**8.7%**	**-7.8%**	**0.4%**	**-189.6%**	**8.7%**	**-7.8%**	**0.4%**	**-189.6%**	**8.7%**	**-7.8%**	**0.4%**
	General Overhead (S,G, & A) as % of Revenue	32.0%	32.0%	32.0%	32.0%	32.0%	32.0%	32.0%	32.0%	32.0%	32.0%	32.0%	32.0%
	Net Profit Margin % (Gross Margin % minus Overhead)	**-221.6%**	**-23.3%**	**-39.8%**	**-31.6%**	**-221.6%**	**-23.3%**	**-39.8%**	**-31.6%**	**-221.6%**	**-23.3%**	**-39.8%**	**-31.6%**

1 Carrier Access Revenue is Zero -- BellSouth keeps the Carrier Access Revenue on lines provisioned on Resale.
2 Retail services provisioned under resale are receive a 16% discount off of retail
3 Under Resale, BellSouth charges the CLEC the Subscriber Line Charge. The rate charged to the CLEC is
4 There are no per minutes usage charges on lines provisioned under Resale.
5 BellSouth Provided Numbers: Kentucky Arbitration Hearing Transcript p. 72, May 22, 2002

Exhibit PLH-3

Residential Complete Choice w/ADSL Internet (using UNE-P and Surrogate UNE ADSL rate)

Notes		UNE ZONE 1		12	24	UNE ZONE 2		12	24	UNE ZONE 3		12	24
		Month 1	Month 2+	Total	Total	Month 1	Month 2+	Total	Total	Month 1	Month 2+	Total	Total
	REVENUES												
1	Residential Line/ADSL Internet -- All Features	$74.00	$74.00	$888.00	$1,776.00	$74.00	$74.00	$888.00	$1,776.00	$74.00	$74.00	$888.00	$1,776.00
	ADSL Service Install Fee	$100.00	$0.00	$100.00	$100.00	$100.00	$0.00	$100.00	$100.00	$100.00	$0.00	$100.00	$100.00
	Subscriber Line Charge	$5.00	$5.00	$60.00	$120.00	$5.00	$5.00	$60.00	$120.00	$5.00	$5.00	$60.00	$120.00
2	Carrier Access Revenue	$0.90	$0.90	$10.80	$21.60	$0.90	$0.90	$10.80	$21.60	$0.90	$0.90	$10.80	$21.60
	Total Monthly Revenues	$179.90	$79.90	$1,058.80	$2,017.60	$179.90	$79.90	$1,058.80	$2,017.60	$179.90	$79.90	$1,058.80	$2,017.60
	DIRECT COSTS:												
	Customer Acquisition spending	$30.00		$30.00	$30.00	$30.00		$30.00	$30.00	$30.00		$30.00	$30.00
	Non-Recurring Fixed Costs:												
3	NRC ADSL Circuit Turnup	$110.00	$0.00	$110.00	$110.00	$110.00	$0.00	$110.00	$110.00	$110.00	$0.00	$110.00	$110.00
	NRC Port/Loop Process Fees - asssume all elec	$3.50	$0.00	$3.50	$3.50	$3.50	$0.00	$3.50	$3.50	$3.50	$0.00	$3.50	$3.50
	NRC Port/Loop/NID Combo - Switch as/is or w/chng	$1.03	$0.00	$1.03	$1.03	$1.03	$0.00	$1.03	$1.03	$1.03	$0.00	$1.03	$1.03
	Total Non-Recurring	$144.53	$0.00	$144.53	$144.53	$144.53	$0.00	$144.53	$144.53	$144.53	$0.00	$144.53	$144.53
	Monthly Recurring Fixed Costs:												
	MRC Port/Loop/NID (UZ1=$14.18; UZ2=$18.01; UZ3=$23.02)	$14.18	$14.18	$170.16	$340.32	$18.01	$18.01	$216.12	$432.24	$23.02	$23.02	$276.24	$552.48
4	MRC UNE ADSL Service	$25.00	$25.00	$300.00	$600.00	$25.00	$25.00	$300.00	$600.00	$25.00	$25.00	$300.00	$600.00
	MRC Email & Bandwidth	$4.50	$4.50	$54.00	$108.00	$4.50	$4.50	$54.00	$108.00	$4.50	$4.50	$54.00	$108.00
	Subtotal Monthly Recurring Fixed Costs	$43.68	$43.68	$524.16	$1,048.32	$47.51	$47.51	$570.12	$1,140.24	$52.52	$52.52	$630.24	$1,260.48
	Monthly Recurring Usage Costs												
5	Per minute unep usage charges (800 minutes * $0.00326)	$2.61	$2.61	$31.30	$62.59	$2.61	$2.61	$31.30	$62.59	$2.61	$2.61	$31.30	$62.59
	Subtotal Monthly Recurring Usage Costs	$2.61	$2.61	$31.30	$62.59	$2.61	$2.61	$31.30	$62.59	$2.61	$2.61	$31.30	$62.59
	Monthly Recurring Feature Costs:												
	All Port Features (vertical features)	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
	Subtotal Monthly Recurring Feature Costs	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
	Monthly Recurring Other Costs:												
6	MRC ADUF & ODUF	$1.04	$1.04	$12.48	$24.96	$1.04	$1.04	$12.48	$24.96	$1.04	$1.04	$12.48	$24.96
	Subtotal Monthly Recurring Other Costs	$1.04	$1.04	$12.48	$24.96	$1.04	$1.04	$12.48	$24.96	$1.04	$1.04	$12.48	$24.96
	Total Direct Costs	$191.86	$47.33	$712.47	$1,280.40	$195.69	$51.16	$758.43	$1,372.32	$200.70	$56.17	$818.55	$1,492.56
	Gross Margin	-$11.96	$32.57	$346.33	$737.20	-$15.79	$28.74	$300.37	$645.28	-$20.80	$23.73	$240.25	$525.04
	Gross Margin %	**-6.6%**	**40.8%**	**32.7%**	**36.5%**	**-8.8%**	**36.0%**	**28.4%**	**32.0%**	**-11.6%**	**29.7%**	**22.7%**	**26.0%**
	General Overhead (S,G, & A) as % of Revenue	32.0%	32.0%	32.0%	32.0%	32.0%	32.0%	32.0%	32.0%	32.0%	32.0%	32.0%	32.0%
	Net Profit Margin % (Gross Margin % minus Overhead)	**-38.6%**	**8.8%**	**0.7%**	**4.5%**	**-40.8%**	**4.0%**	**-3.6%**	**0.0%**	**-43.6%**	**-2.3%**	**-9.3%**	**-6.0%**

1. Competitive BellSouth Product retails for $74.00 (Complete Choice $29, FastAccess ADSL Internet $45)
2. BellSouth Provided Numbers: Kentucky Arbitration Hearing Transcript p. 78, May 22, 2002
3. Same turnup cost as BellSouth Wholesale ADSL product
4. Surrogate rate for UNE ADSL (compares to $33 for Wholesale ADSL product)
5. Assume usage is roughly half from typical CCC customer since won't being using dialup Internet service.
6. BellSouth Provided Numbers: Kentucky Arbitration Hearing Transcript p. 72, May 22, 2002

Exhibit PLH-4

Residential Complete Choice w/ADSL Internet and 2 Extra VoBB lines (using UNE-P and Surrogate UNE ADSL rate)

Notes		UNE ZONE 1 Month 1	UNE ZONE 1 Month 2+	12 Total	24 Total	UNE ZONE 2 Month 1	UNE ZONE 2 Month 2+	12 Total	24 Total	UNE ZONE 3 Month 1	UNE ZONE 3 Month 2+	12 Total	24 Total
	REVENUES												
	Residential Line/ADSL Internet/2 VoBB local lines	$95.00	$95.00	$1,140.00	$2,280.00	$95.00	$95.00	$1,140.00	$2,280.00	$95.00	$95.00	$1,140.00	$2,280.00
	ADSL Service Install Fee	$100.00	$0.00	$100.00	$100.00	$100.00	$0.00	$100.00	$100.00	$100.00	$0.00	$100.00	$100.00
	Subscriber Line Charge	$5.00	$5.00	$60.00	$120.00	$5.00	$5.00	$60.00	$120.00	$5.00	$5.00	$60.00	$120.00
1	Carrier Access Revenue	$0.90	$0.90	$10.80	$21.60	$0.90	$0.90	$10.80	$21.60	$0.90	$0.90	$10.80	$21.60
	Total Monthly Revenues	$200.90	$100.90	$1,310.80	$2,521.60	$200.90	$100.90	$1,310.80	$2,521.60	$200.90	$100.90	$1,310.80	$2,521.60
	DIRECT COSTS:												
	Customer Acquisition spending	$30.00		$30.00	$30.00	$30.00		$30.00	$30.00	$30.00		$30.00	$30.00
	Non-Recurring Fixed Costs:												
	Incremental License Fee for Voice over Broadband lines	$50.00	$0.00	$50.00	$50.00	$50.00	$0.00	$50.00	$50.00	$50.00	$0.00	$50.00	$50.00
2	NRC ADSL Circuit Turnup	$110.00	$0.00	$110.00	$110.00	$110.00	$0.00	$110.00	$110.00	$110.00	$0.00	$110.00	$110.00
	NRC Port/Loop Process Fees - asssume all elec	$3.50	$0.00	$3.50	$3.50	$3.50	$0.00	$3.50	$3.50	$3.50	$0.00	$3.50	$3.50
	NRC Port/Loop/NID Combo - Switch as/is or w/chng	$1.03	$0.00	$1.03	$1.03	$1.03	$0.00	$1.03	$1.03	$1.03	$0.00	$1.03	$1.03
	Total Non-Recurring	$194.53	$0.00	$194.53	$194.53	$194.53	$0.00	$194.53	$194.53	$194.53	$0.00	$194.53	$194.53
	Monthly Recurring Fixed Costs:												
	MRC Port/Loop/NID (UZ1=$14.18; UZ2=$18.01; UZ3=$23.02)	$14.18	$14.18	$170.16	$340.32	$18.01	$18.01	$216.12	$432.24	$23.02	$23.02	$276.24	$552.48
3	MRC UNE ADSL Service	$25.00	$25.00	$300.00	$600.00	$25.00	$25.00	$300.00	$600.00	$25.00	$25.00	$300.00	$600.00
	MRC Email & Bandwidth	$4.50	$4.50	$54.00	$108.00	$4.50	$4.50	$54.00	$108.00	$4.50	$4.50	$54.00	$108.00
	Subtotal Monthly Recurring Fixed Costs	$43.68	$43.68	$524.16	$1,048.32	$47.51	$47.51	$570.12	$1,140.24	$52.52	$52.52	$630.24	$1,260.48
	Monthly Recurring Usage Costs												
4	Per minute unep usage charges (800 minutes * $0.00326)	$2.61	$2.61	$31.30	$62.59	$2.61	$2.61	$31.30	$62.59	$2.61	$2.61	$31.30	$62.59
	Subtotal Monthly Recurring Usage Costs	$2.61	$2.61	$31.30	$62.59	$2.61	$2.61	$31.30	$62.59	$2.61	$2.61	$31.30	$62.59
	Monthly Recurring Feature Costs:												
	All Port Features (vertical features)	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
	Subtotal Monthly Recurring Feature Costs	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
	Monthly Recurring Other Costs:												
5	MRC ADUF & ODUF	$1.04	$1.04	$12.48	$24.96	$1.04	$1.04	$12.48	$24.96	$1.04	$1.04	$12.48	$24.96
	Subtotal Monthly Recurring Other Costs	$1.04	$1.04	$12.48	$24.96	$1.04	$1.04	$12.48	$24.96	$1.04	$1.04	$12.48	$24.96
	Total Direct Costs	$241.86	$47.33	$762.47	$1,330.40	$245.69	$51.16	$808.43	$1,422.32	$250.70	$56.17	$868.55	$1,542.56
	Gross Margin	-$40.96	$53.57	$548.33	$1,191.20	-$44.79	$49.74	$502.37	$1,099.28	-$49.80	$44.73	$442.25	$979.04
	Gross Margin %	**-20.4%**	**53.1%**	**41.8%**	**47.2%**	**-22.3%**	**49.3%**	**38.3%**	**43.6%**	**-24.8%**	**44.3%**	**33.7%**	**38.8%**
	General Overhead (S,G, & A) as % of Revenue	32.0%	32.0%	32.0%	32.0%	32.0%	32.0%	32.0%	32.0%	32.0%	32.0%	32.0%	32.0%
	Net Profit Margin % (Gross Margin % minus Overhead)	**-52.4%**	**21.1%**	**9.8%**	**15.2%**	**-54.3%**	**17.3%**	**6.3%**	**11.6%**	**-56.8%**	**12.3%**	**1.7%**	**6.8%**

1 BellSouth Provided Numbers: Kentucky Arbitration Hearing Transcript p. 78, May 22, 2002
2 Same turnup cost as BellSouth Wholesale ADSL product
3 Surrogate rate for UNE ADSL (compares to $33 for Wholesale ADSL product)
4 Assume usage is roughly half from typical CCC customer since won't being using dialup Internet service.
5 BellSouth Provided Numbers: Kentucky Arbitration Hearing Transcript p. 72, May 22, 2002

CINERGY® COMMUNICATIONS

Advanced Voice Services

Planned September 2002

Group Administration

Web-based administration
Self-provisioning

Group Services

Auto Attendant

- Extension & Name Dialing/Transfer
- Group Mailbox
- Name Recording & Playback

Group Services

- Account Codes
- Authorization Codes
- Call Capacity Management
- Call Center Support
- Call Intercept
- Calling Group ID Delivery
- Calling Plans
- Incoming, Outgoing, Fwd/Transferred
- Configurable Extension Dialing
- Configurable Feature Codes
- Device Inventory
- Hunt Groups
- Incoming/Outgoing Calling Plans
- Instant Conferencing (n-way)
- Instant Messaging & Presence Mgmt
- Loudspeaker Paging
- Series Completion
- Simultaneous Ring—Group
- Voice Messaging – Group

Personal Services

Web-based Call Management

- Dial, Answer, Release, Hold, Retrieve, Blind Transfer, Transfer with Consultation
- Three-Way Calling
- Calling Line ID Delivery
- Phone Lists -- Personal, Business Group, Recent Calls
- Outlook Integration

Personal Services

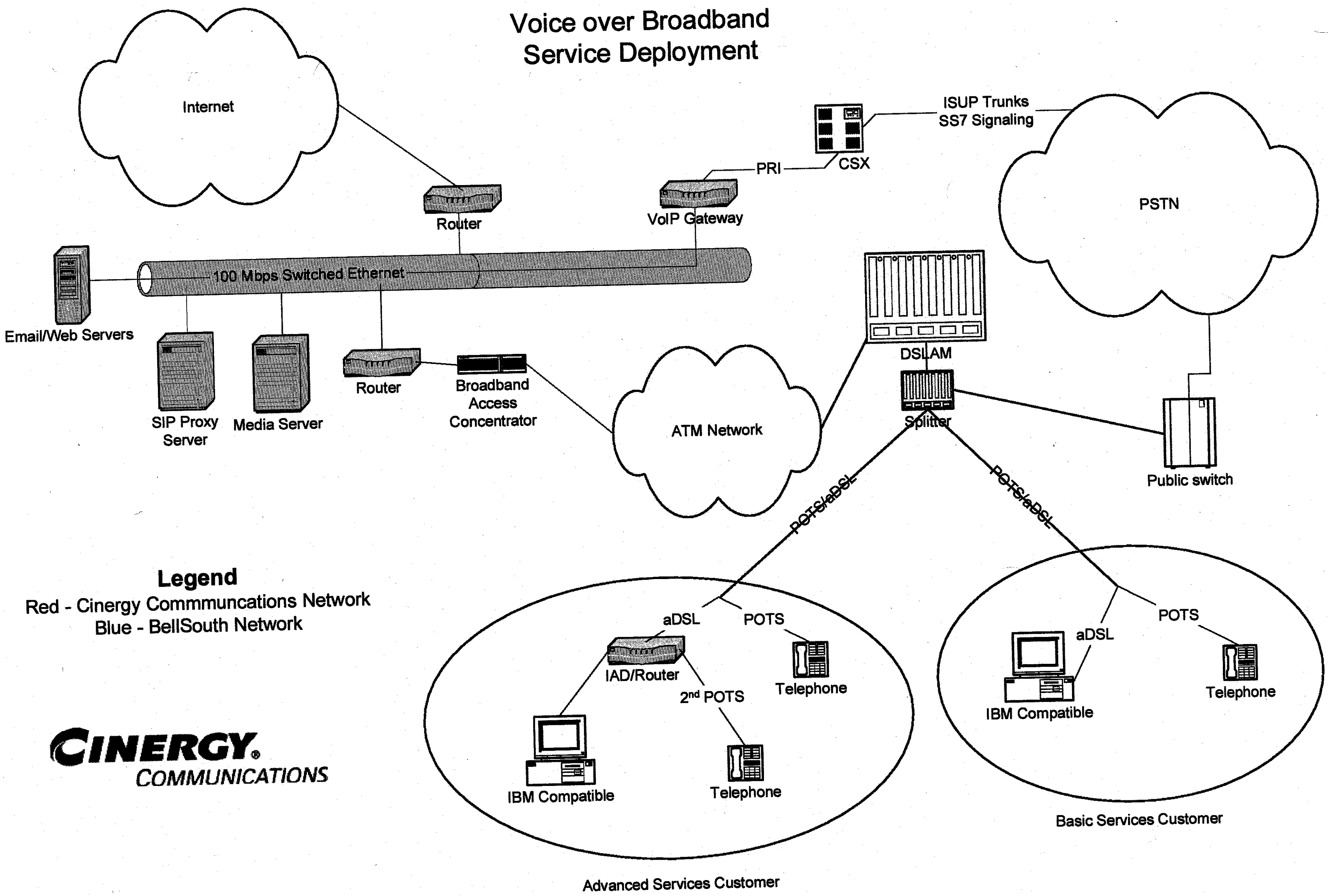
- Anonymous & Selective Call Rejection
- Call Forwarding -- Always, Busy, No Answer, Selective
- Call Notify
- Call Park & Call Pickup
- Call Return
- Call Waiting & Cancel Call Waiting
- Calling Line ID Blocking
- Distinctive & Priority Alert/Ringing
- Do Not Disturb
- Extension Dialing
- Flash Call Transfer
- Flash Three-Way Call
- IP Phone Support
- Last Number Redial
- Remote Office
- Selective Call Acceptance
- Simultaneous Ring, Advanced Follow-Me/Find-Me

Voice Messaging

- Retrieval from E-Mail
- Retrieval from Phone
- Message Waiting Indicator
- Personal Greeting
- Voice Message Waiting Indication
- Voice Messaging Notification

Exhibit PLH-6

Voice over Broadband Service Deployment



Legend

Red - Cinergy Commmuncations Network

Blue - BellSouth Network

CINERGY® COMMUNICATIONS

BEFORE THE TENNESSEE REGULATORY AUTHORITY
NASHVILLE, TENNESSEE

Re: Petition for Interconnection by Cinergy Communications Company for Arbitration of an Interconnection Agreement with BellSouth Telecommunications, Inc. Pursuant to the Telecommunications Act of 1996

Docket No. 01-00987

DIRECT TESTIMONY OF
ALBERT CINELLI

Dated June 10, 2002

Q. What is your name and business address?

A. My name is Albert E. Cinelli. My business address is 8829 Bond St., Overland Park, Kansas 66214.

Q. Who do you work for?

A. I am the Chairman of Cinergy Communications Company (CCC) as well as the Chairman of CCC's parent company Q-Comm Corporation.

Q. What are your responsibilities as Chairman of CCC?

A. As Chairman of CCC I oversee the strategic direction of the company. I am involved with new product development and oversee our management team. The President, Chief Financial Officer, and General Counsel all report directly to me. I am also involved in the day-to-day business operations of the company and the decision-making in areas ranging from marketing and sales strategies, new product development, new market development, finance, human resources, customer care, and litigation.

Q. Please briefly outline your educational background and related experience.

A. I attended Lafayette College where I received a B.A. degree with a major in Political Science and a minor in Economics. After graduation, I was accepted to Columbia University Law School where I received a Juris Doctor. After graduation from law school, I served as legislative counsel and as a trial attorney for a railroad company in New York City. Thereafter, I accepted a position as Chief Legal Counsel for Eltra

Corporation. In 1967, I accepted a position as International General Counsel for American Home Products Corporation and I worked there for approximately nine years doing exclusively international corporate law. In 1976, I accepted a position as Vice President and General Counsel of Marion Laboratories in Kansas City, Missouri. I retired from the practice of law in 1984.

Q. **How did CCC come to be?**

A. After I retired from the practice of law, I formed a corporation which ultimately became Q-Comm Corporation, the parent company of CCC. In 1992 we purchased Quest Communications Corporation (QCC), a financially troubled company that provided operator services to the hotel/motel market Within three months, we turned QCC into a profitable operation. QCC subsequently expanded its offerings to include resale of 1+ and calling card services.

In 1996, seeking an entrée into the facilities-based telecommunication business, we purchased Wright Businesses, Inc. (WBI). Founded in 1977, WBI operated primarily as a facilities-based long-distance carrier named Long Distance Management (LDM).

In 1998, we acquired Network WCS, an Evansville, IN-based Internet service provider offering service in Indiana and Kentucky. We merged

Network WCS and WBI to form Community Telephone Corporation (CTC). In November of 2000 Cinergy Corporation (NYSE:CIN), an electric utility company with its principal offices in Cincinnati, Ohio, made a substantial investment in Q-Comm and acquired 32.5% of its outstanding common stock. As part of that transaction, we were allowed to change CTC's name to Cinergy Communications Company.

In 1999, CCC's precursor began developing a long-haul fiber optic transmission business under the name KDL (www.kdlinc.com). Since that time, KDL has become a full-fledged sister company to CCC and has extended its 1,500 route-mile network to many cities in Kentucky, Indiana, Tennessee, and Ohio. CCC's local telecommunication services use KDL network capacity and facilities extensively in Tennessee. Exhibit AEC-1 is a map of KDL's network.

Q. **What is CCC's strategic vision and management philosophy?**

A. CCC is a facilities-based total communication provider delivering innovative local, long distance, and Internet services to residential and business customers in Kentucky, Tennessee, and Indiana. By offering excellent customer service and a strong value proposition to its customers, CCC seeks to retain those customers and grow at a steady, sustainable pace.

CCC's associates, although not mentioned on the balance sheet, are its most important asset. In order to maximize the value of this resource, we structure jobs around the talents of each individual and encourage full participation in the business. We share financial performance information broadly and encourage two-way communication regarding company tactics and strategy.

CCC has an old-fashioned approach to accounting and finance. Businesses do not run on revenue, gross profit, or operating income – they pay their bills using free cash flow, and they justify their ongoing existences by producing bottom-line profits. CCC rejects the get-rich-quick gravity-defying thinking which created the dotcom and telecom bubbles. CCC's managers scrutinize company spending carefully and analyze prospective investments for internal rate of return, gross margin, months to payback, months to positive cash flow, and cash required. In an industry where debt-to-operating-income ratios often exceed 50:1, and CCC's conservative banker at Bank of America is willing to lend up to 3.25:1, CCC maintains an enviable 1.36:1 ratio.

Exhibit AEC-2 is a spreadsheet comparing Q-Comm (the aforementioned holding company consisting of CCC the CLEC and KDL the fiber-optic carrier) to a number of well-known comparable telecommunication companies. Because Q-Comm's industry-leading selling, general, and administrative (SG&A) costs are only 32 percent of revenue, CCC is able to offer services with gross margins as low as 35 percent.

In this economic recession, CCC has enjoyed record sales and record profits. CCC has weathered the storm of the telecommunications meltdown and is prepared to continue competing with other telecommunications companies for business in the state of Tennessee.

Q. Where are CCC's offices ?

A. In Tennessee we have offices in Clarksville and Nashville. We also have offices in Kentucky, Indiana, and Kansas. CCC has 170 associates and overall Q-Comm has 240 associates.

Q. Who are CCC's customers?

A. Two-thirds of our current customers have fewer than 5 lines. Exhibit AEC-3 is a chart showing our distribution of lines per customer. The majority of our customers demand telephone service and high-speed Internet access, but they do not have enough lines to support the cost of a DS1 (or T-1) line.

Q. What is the impact of this focus on smaller customers with respect to this proceeding?

Dial-up access is no longer sufficient for many of our customers. These customers want broadband Internet access, and we need DSL transport in order to connect them to our own Internet service. More and more of our customers are returning to BellSouth because of our inability to give them broadband Internet access.

I believe that the ability to deliver services to our customers via high-speed packet switching technologies is the most important issue facing CCC. We are committed to building out our own facilities to do just that, and our efforts to date demonstrate this quite clearly. However, we currently find ourselves in a precarious position in Tennessee. BellSouth's rollout of ADSL service is having a tremendous impact on CCC's ability to obtain and keep customers, and this is hampering the deployment of our own facilities in Tennessee. Building facilities before we have a customer base to support them is cost prohibitive and foolish. Simply put, we are no longer able to compete with BellSouth on equal footing. As we will demonstrate in later testimony, BellSouth's monopolization of ADSL transport services has greatly impaired our ability to deliver telecommunication services to Tennessee customers – indeed, we will show that monopolization of ADSL transport is enabling BellSouth to remonopolize telecommunication services in general.

Q. **Are there any other factors driving your desire to obtain Broadband access?**

A. Yes. We have invested in technology that would give our customers the ability to have the same features as a PBX system in a large company from their small business or home. These services, generally referred to as IP Centrex services, require delivery via broadband packet switching transports. The functionality of IP Centrex is so powerful that it will render analog telephony obsolete.

Q. What would you like the Commission to order in this arbitration that would allow you to compete with BellSouth?

A. We are requesting access to unbundled packet switching as a UNE. UNE-P has allowed CCC to begin to build up a customer base sufficient to support facilities. We need unbundled packet switching to maintain this customer base and also to deliver advanced features to small business and residential customers in Tennessee on a packaged basis that would result in substantial cost saving for our customers. We request that the Commission require BellSouth to deliver the packet switching UNE in the same fashion that BellSouth now provides its wholesale DSL service, but at TELRIC prices, because it is technically feasible and would not require any changes or delays.

Q. What will CCC look like five years from now?

A. CCC has been on a mission to build out our own facilities in Tennessee. To date we've spent many millions of dollars building infrastructure. Our desire is that we would have a high speed intercity fiber transport throughout the Commonwealth for the purpose of delivering telecommunication services. We have a vision of delivering IP Centrex services and other advanced telecommunication services all over

Tennessee. I don't think we've even dreamed up the services we'll be offering in five years, but I do know that CCC wants to be in a position to be a telecommunication leader in the state – not because we have the largest market share, but because we have the best services.

Q. **Is that the end of your testimony?**

A. Yes.

Exhibit AEC-1

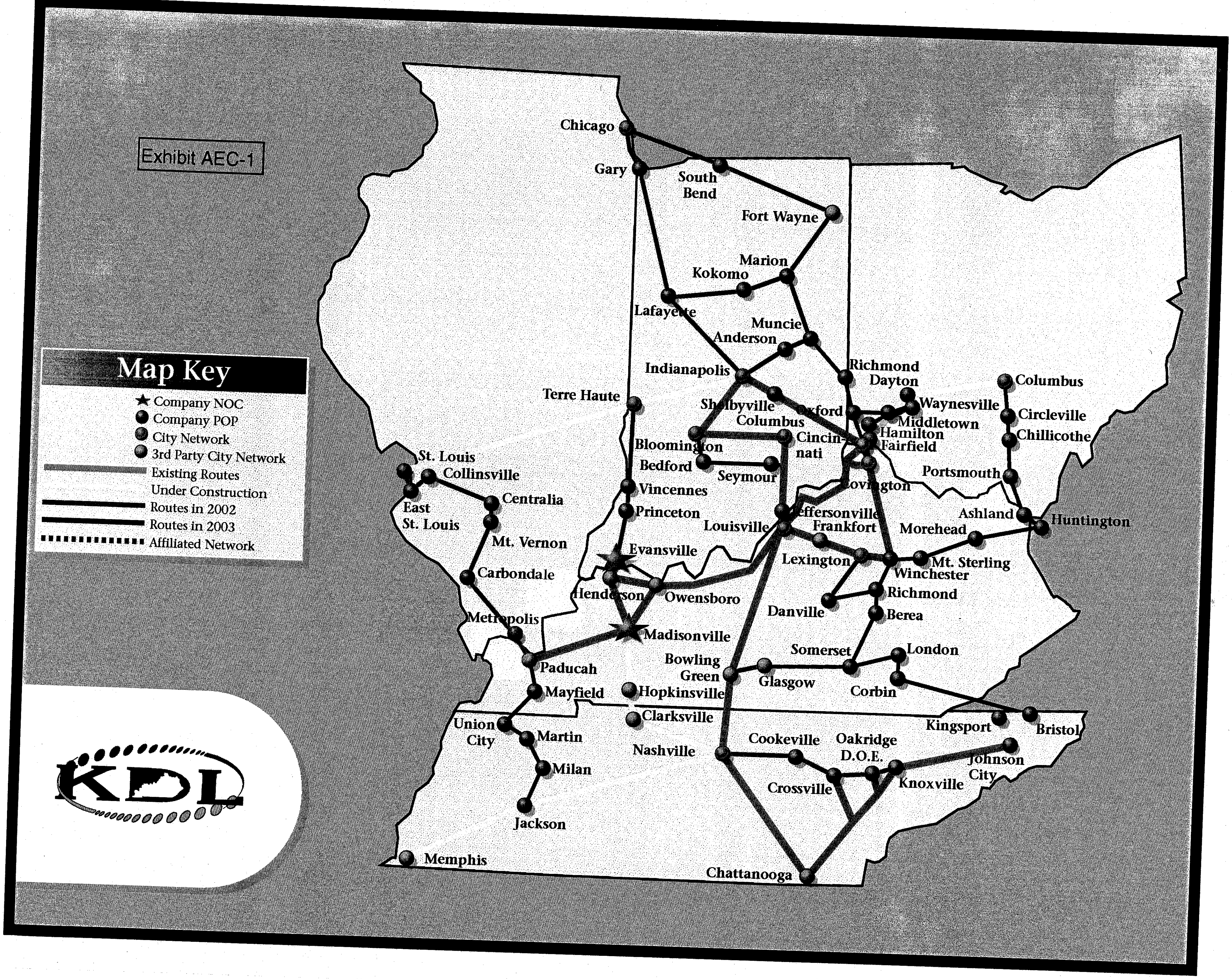


Exhibit AEC-2

Company Comparisons

Data for Quarter ending 3-31-2002

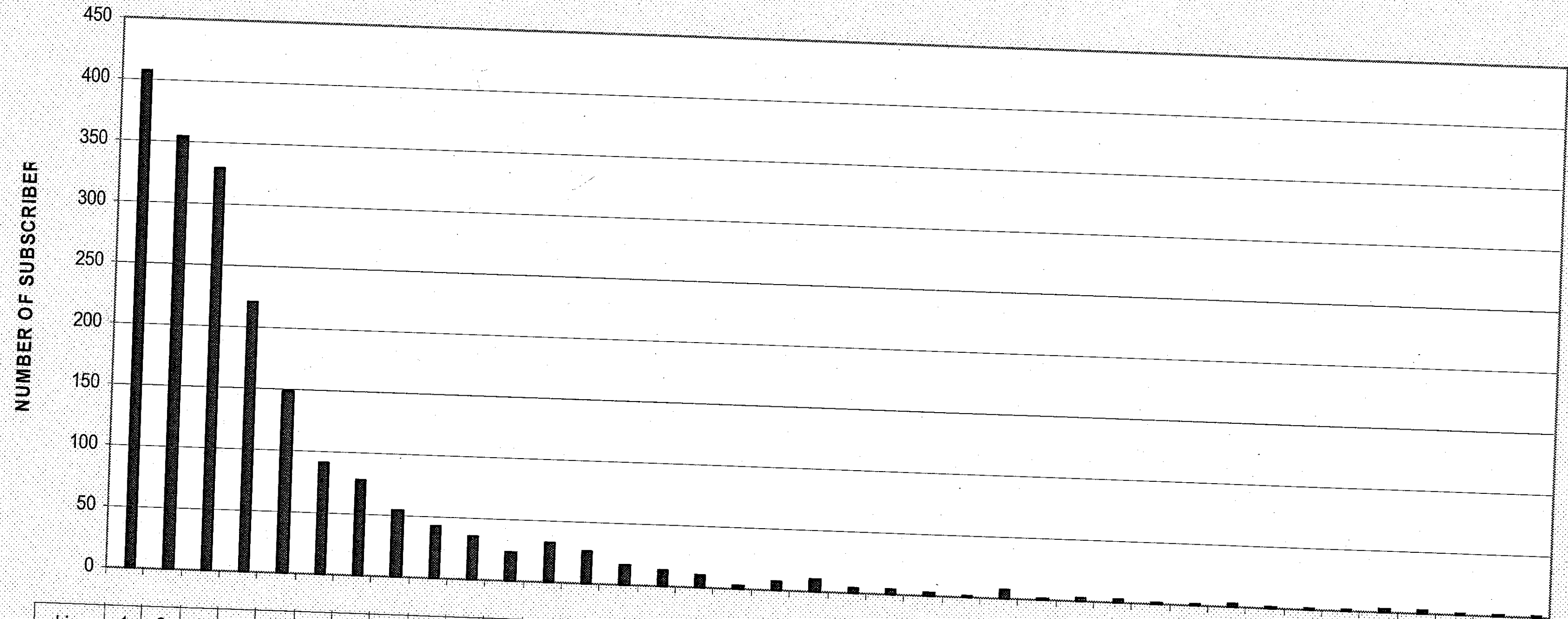
Company Name	Symbol		Revenue*		Gross Margin %		EBITDA*		SG&A %		Net Income (Loss)*		Associates		Monthly Revenue Per Associate*
Q-Comm Corp.	N/A	11	10,325	2	62.8%	3	3,171	2	32.1%	2	1,597	11	229	7	15,029
Pac-West Tele.	PACW	9	43,092	1	68.1%	2	14,999	3	33.3%	1	7,384	10	402	2	35,731
Z-Tel Tech.	ZTEL	6	57,269	5	50.7%	7	(5,576)	8	60.4%	3	(14,525)	4	1,332	8	14,332
US LEC Corp.	CLEC	7	53,938	6	49.4%	5	727	6	48.1%	4	(15,178)	7	892	4	20,156
CTC Comm.	CPTL	4	83,085	11	23.7%	6	(923)	1	24.8%	5	(31,188)	9	700	1	39,564
ITC Delta Com	ITCD	2	109,348	3	53.4%	1	16,103	4	38.6%	6	(32,896)	2	2,000	6	18,225
Focal Comm.	FCOMD	3	84,476	4	51.8%	8	(6,991)	7	56.3%	7	(57,150)	5	1,270	3	22,172
Choice One Comm.	CWON	5	70,595	9	40.2%	10	(16,786)	10	64.0%	8	(57,809)	3	1,820	10	12,929
Electric Lightwave	ELIX	8	48,150	8	47.1%	4	2,472	5	42.0%	9	(83,383)	8	823	5	19,502
Allegiance Telecom	ALGX	1	162,095	6	49.4%	11	(22,221)	9	62.8%	10	(112,590)	1	4,090	9	13,211
Nuvox, Inc.	N/A	10	30,360	10	39.0%	9	(13,451)	11	83.3%	11	(211,526)	6	1,088	11	9,301

*Amounts are in thousands

ABIZ	***Adelphia Bus. Sol. - Filed for appeal for late filing of its 10K***
NPLS	***Network Plus - Company Filed for Chapter 11 on 2-5-2002***
NTKKQ.OB	***Net2000 Comm - Company sold all of its assets to Cavalier Telephone on 1-21-2002***

Exhibit AEC-3

DISTRIBUTION OF UNE-P LINES PER SUBSCRIBER



Lines	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	37	38	39	49	65	75
■ Subs	407	354	330	221	149	91	78	54	42	35	24	32	26	16	13	10	3	8	10	4	4	3	2	7	2	3	3	2	1	3	2	1	1	3	3	1	1	1

NUMBER OF LINES PER SUBSCRIBER

BEFORE THE TENNESSEE REGULATORY AUTHORITY
NASHVILLE, TENNESSEE

Re: Petition for Interconnection by Cinergy Communications Company for Arbitration of an Interconnection Agreement with BellSouth Telecommunications, Inc. Pursuant to the Telecommunications Act of 1996

Docket No. 01-00987

DIRECT TESTIMONY OF
MARC ROULEAU

Dated June 10, 2002

Q. Please state your name and business address.

A. My name is Marc Rouleau. My business address is 1419 Lloyd Expressway, Suite 101, Evansville, Indiana 47710.

Q. Who do you work for?

A. I am Chief Operating Officer for Cinergy Communications Company (CCC).

Q. What are your responsibilities as COO of CCC?

A. The following CCC departments report up to me: Management Information Systems (MIS), Margin Assurance, Network Operations, Switchroom Systems, Customer Provisioning, Network Provisioning, Field Services, Project Management, and Network Support. MIS is responsible for the software development, maintenance and technical support of CCC's operational support systems including billing, network inventory, management reporting, order processing, and workflow management. Margin Assurance is responsible for reconciling costs to revenues in order to find and fix revenue leaks (e.g. unbilled services) and excessive costs (e.g. third-party circuits cancelled by the customer but not by CCC's carrier) in order to improve CCC's gross margin. Also reporting through Margin assurance are CCC's pricing, business case analysis, tariff management, customer billing, and carrier billing functions. Network Operations operates CCC's 7x24 network operations center (NOC). Switchroom Systems operates CCC's switching centers and collocations. Customer Provisioning processes all customer service orders and handles the provisioning of non-dedicated long distance and all non-facilities-based local services. Network Provisioning designs and provisions private line, dedicated long distance, dedicated Internet, and facilities-based local circuits for customers as well as carrier interconnection trunking in support of facilities-based local and long distance services. Field Services operates CCC's teleconnect business (sales and service of business communication systems including key systems and PBXes) and provides general-purpose customer support whereever onsite technicians are needed. Project Management turns up complex customer services including private lines, dedicated long distance, dedicated Internet, and facilities-based local. Network Support manages CCC's internal computers and local area network servers.

Q. **Please briefly outline your educational background and related experience.**

A. I graduated from the University of Virginia in 1985 with a B.A. in General Studies and subsequently completed all courses required for a Masters Degree in Computer Science at UVa. From 1987 through 1993 I served as a Systems Engineer with the UVa Academic Computing Center. From 1993 through 1995 I served as the Director of Academic Computing and Network Services for the University of Evansville. Under my direction, UE established a campus-wide fiber network and associated data communication and Internet services. In 1995, I joined an Internet service provider named World Connection Services as its Vice-President of Engineering. In 1998, World Connection Services was acquired by Q-Comm Corporation, the parent company of CCC. After the merger, I served as Q-Comm's Chief Information Officer, and in the spring of 2001 I also became CCC's Chief Operating Officer.

Q. **Have you previously testified in a regulatory proceeding before a state utility commission, the FCC or a hearing officer?**

A. Yes, I testified before the Kentucky Public Service Commission this spring.

Q. **What is the purpose of your testimony in this proceeding?**

A. The purpose of my testimony today is to provide the Commission an operational and technical context in which to make its decision on whether to unbundle packet switching. In addition, I will summarize CCC's track record of facilities-based investment in Tennessee, Kentucky, and Indiana.

Q. **Could you please provide a brief history of CCC's facilities-based CLEC operations?**

A. Sure. In 1998, CCC, operating under the name Long Distance Management, was a facilities-based interexchange carrier (IXC). CCC offered 1+, toll-free, and calling card long distance services to customers using a Nortel DMS-250 switch.

In October, CCC installed a DTI DXC switch, established interconnection trunking with BellSouth, and began providing inbound service to collocation customers (ISPs, voicemail providers, paging companies, etc.) in its Madisonville switching center.

In 1999, operating as KDL (www.kdlinc.com), CCC began developing a long-haul fiber optic transmission network in Tennessee, Kentucky, Indiana, and Ohio. Today KDL operates as a full-fledged sister company to CCC and provides services to carriers throughout the region on its 1,500 route-mile network. In Tennessee, KDL fiber connects Nashville, Chattanooga, Crossville, Oak Ridge, Knoxville, and Johnson City. Under construction are facilities connecting Kingsport, Bristol, Clarksville, Jackson, and Memphis to the KDL network. Future plans in 2002 and 2003 include Cookeville, Union City, Martin, and Milan. CCC's local telecommunication services use KDL network capacity and facilities extensively.

Currently, none of KDL's Tennessee cities enjoy protected (diverse-path SONET ring) service. Protected service, which tolerates a single serious network failure (typically a fiber cut) without service interruption, is reliable enough to serve as a transport for local telecommunication service. Protected service allows CCC to achieve economies of scale by centralizing its local switches and serving modest concentrations of customers in multiple communities using a single switch.

KDL's development over the next two years should establish protected service for all of the aforementioned Tennessee cities except Memphis, and CCC intends to offer service on its own facilities in those cities as they join diverse-path SONET rings.

Also in 1999, CCC received facilities-based CLEC authorization in Indiana, established a switching center in Evansville, Indiana, established interconnection trunking with Ameritech, and began providing inbound service to collocation customers in Evansville. CCC also completed collocations in two Evansville-based Ameritech central offices (COs) and connected them via protected KDL transport service to its Evansville switching center. The Ameritech collocations include equipment to exploit two-wire HDSL-compatible loops (UNE-HDSL2s) as well as DS1 digital loops (UNE-DS1s).

Q. Can you explain the distinction between UNE-HDSL2s and UNE-DS1s?

A. Sure. A UNE-HDSL2 is a two-wire "dry" copper loop with a network interface device (NID – a passive wire termination point) on the customer premise side. By "dry", I mean that BellSouth attaches no electronics to the loop – it consists of two copper conductors stretching from a CCC customer NID to a CCC BellSouth collocation. CCC attaches UNE-HDSL2 loops at the customer location to a CCC-provided network interface unit (NIU – an HDSL2 modem) and at the CCC BellSouth collocation to a CCC-provided HDSL2 Digital Subscriber Line Access Multiplexer (DSLAM) port. Combined with these CCC-provided elements and services, a UNE-HDSL2 loop allows CCC to offer DS1-carried voice and data service to the customer. To support HDSL transmission service, the loop between the customer and the carrier's equipment must not exceed 12,000 feet in length and must be free of bridged taps, load coils and repeaters. The loop must be copper from end to end – areas served by remote terminals (RTs), which are connected to their COs by fiber, do not generally qualify for HDSL2.

UNE-DS1s, on the other hand, combine the dry copper loop and NID with a range of BellSouth-provided equipment and service: the NIU at the customer premise, any repeaters needed to compensate for long length, a DSLAM port at the RT or the CO, any required transport from an RT to a CO, and installation of all components including the NIU. UNE-DS1s exist because having CLECs climb into manholes and up poles to install DS1 repeaters and collocating in RTs to install HDSL DSLAMs is logistically and financially impractical.

Because BellSouth UNE-DS1 monthly recurring charges are much higher than those charged for UNE-HDSL2, the HDSL2 business case is superior even when one considers the higher upfront and recurring costs of providing service via HDSL2. Those costs include the NIU and its installation at the customer premise, the DSLAM port, and the recurring power charge required to support the power-hungry DSLAM. In the key collocations where CCC has invested in both options and focuses its sales efforts primarily, CCC uses UNE-DS1s only when no HDSL2 loop qualifies.

Q. Please continue with your brief history of the development of CCC's facilities-based local service operations.

A. In early 2000, CCC began offering its Superlink Plus facilities-based local and Internet access service to Evansville, IN-area businesses via channel-grouped DS1 loops. A typical Superlink Plus product offering is 11 lines of voice and 256 kbps of Internet access on 15 channels of a DS1 pipe. For transport, CCC uses HDSL UNE loops preferentially and UNE-DS1 loops when no dry copper loop qualifies for HDSL.

In December of 2000, CCC began sales of local lines in Kentucky using the UNE Platform (UNE-P). In early 2001, CCC acquired facilities-based CLEC authorization in Tennessee and began selling UNE-P local lines there in May of 2001. Sales efforts to date have been successful (over 13,000 lines to date), and higher gross margins have produced positive operating income which allows CCC to continue to reinvest in facilities. Concentrations of customers sufficient to justify facilities-based investments have developed around several BellSouth serving wire centers because of the availability of UNE-P.

Also in 2001, CCC focused tightly on revenue assurance, cost minimization, and operational efficiency including business process reengineering. The resulting improvements have strengthened CCC's financial position and have improved its ability to deliver service on a large scale. Today CCC generates strongly positive cash flow and modest profits, and continues to invest in sales and infrastructure to improve service and grow revenue.

In January of 2002, CCC brought two new CopperCom CSX 2100 CLASS 4/5 softswitches into operation. The CSXes allow CCC to deliver DS1-based local services to customers in the vicinity of its SONET-ring-served collocations.

Also this year, CCC began reselling Ameritech's network services on the UNE Platform in Indiana. Notably, CCC's Ameritech interconnection agreement provides CCC with access to loop/port combinations bundled with ADSL, DSLAM, and ATM transport (UNE-D). This UNE-D option allows CCC to compete effectively with Ameritech for small business and residential customers in the critical market for bundled voice and high-speed Internet access, so CCC is funneling significant resources into developing an Ameritech UNE-P customer base.

Another current CCC activity is the development of next-generation voice products based on the BroadWorks service delivery system from BroadSoft. BroadWorks is the foundation of CCC's upcoming IP Centrex offering, which updates traditional Centrex services with such media-oriented applications as voice mail, conferencing, and auto attendant, as well as end-user-configurable personal calling functions such as selective call forwarding and notification, call transfer, and dial-by-name.

BroadWorks voice services ride on Internet Protocol (IP) packets rather than traditional circuits. Time-division multiplexing is not required, so broadband packet-switching telecommunication services including ADSL are excellent BroadWorks carriers.

Q. How does CCC plan to nurture the investment it has made in Tennessee to this point?

A. Going forward, CCC's Tennessee strategy is to acquire customers throughout the state using UNE-P and then to migrate those customers to CCC facilities. As end office concentrations develop, CCC collocates in those end offices, establishes local interconnection trunking, and moves suitable customers to CCC-provided DS1 facilities.

Q. Does a DS1 solution work well for all of your customers?

A. No. CCC's costs allow it to provide DS1-based service competitively in Tennessee only to business customers with five or more local lines.

Q. Does CCC have plans for providing facilities-based services to the small business and residential market?

A. CCC needs a facilities-based solution for its customers with four and fewer lines. These smaller customers comprise two-thirds of CCC's base. Coupled with voice-over-IP (VoIP) technology, such broadband packet-switching services as ADSL are ideal transports for unified local, long distance, and Internet service.

Q. Why does CCC need an unbundled broadband packet switching transport solution?

A. Just as CCC requires the flexibility of two DS1 transport options for its larger customers (i.e. UNE-HDSL2 and UNE-DS1) because of dry copper suitability and availability issues, so CCC needs two broadband transport options for its residential and small business customers – CO collocation and unbundled broadband packet switching (UBPS).

One option, analogous to UNE-HDSL2, involves CO collocation, the installation of hundred-pair copper cables from the CO's main distribution frame to the collocation area, and the installation of DSLAM and remote loop testing equipment. This option offers better gross margins but requires more upfront investment. We can afford investments of this type only after we have a sizable existing customer base being served by a particular CO.

Like UNE-HDSL2, the CO collocation option is not in any case a comprehensive solution allowing CCC to offer services based upon broadband packet-switching in timely and ubiquitous fashion to residential and small business customers. Many of BellSouth's Tennessee access lines are served by RTs, which cannot be used by ADSL equipment in the central office; instead, the ADSL port must be installed in the RT.

Q. In that case, perhaps CCC should collocate in the BellSouth Tennessee RTs.

A. RT collocation to install ADSL equipment is logistically and financially impractical for CCC for two reasons,. First, CCC's FCC-inspired and fiscally prudent strategy of deploying equipment after building a customer base prohibits speculative deployment of facilities. The failures of such "build it and they will come" DLECs as Bluestar, Rhythms, Northpoint, and Covad underscore the wisdom of this approach.

Second, RT collocation plays away from CCC's strengths. CCC's strategy is to leverage the long haul fiber network of its sister company, KDL, to aggregate its customers and serve them with a small number of centralized switches. This approach allows CCC to provide facilities-based services in areas of modest customer concentration. The approach works because KDL's network costs are covered by KDL's carrier customers; however, KDL's carrier customer base is not going to push KDL to build out to remote terminals. According to BellSouth, central offices in Tennessee average 12,805 lines apiece; remote terminals average 641 lines apiece. CCC simply cannot justify paying for interoffice transport in addition to the normal collocation costs in order to reach groups of potential customers that are one twentieth of the size of those reachable via CO collocations.

Incidentally, CCC is not alone in its belief in the impracticality of RT collocation. According to BellSouth, no CLEC has ever collocated in a BellSouth RT in Tennessee. BellSouth itself averages only 27 xDSL customers per xDSL-equipped RT.

Q. **Please describe the unbundled broadband packet-switching (UBPS) transport solution that you envision.**

A. The second transport option needed by CCC in order to compete for residential and small business customers on an even footing with BellSouth is unbundled broadband packet switching (UBPS). Just as UNE-DS1 offers end-to-end DS1 access to larger customers by bundling NIU, NID, loops, repeaters, and CO equipment, so UBPS would combine NID, high-frequency portion of the loop, splitter, DSLAM port, and LATA-wide ATM transport to provide end-to-end packet access to the customer. In CCC's view, the ideal UBPS element would function like

BellSouth's existing wholesale ADSL product, which BellSouth markets to ISPs.

CLECs wanting to offer the comprehensive, ubiquitous telecommunication service required to compete effectively with the ILEC must have UNE-DS1 and UBPS. Copper loops can be useful, but in many circumstances they cannot be used directly by the CLEC to provide DS1 or ADSL service. Just as DS1s can require repeaters, which are not available in unbundled form to CLECs, so ADSL can require DSLAMs to be located in RTs. RT collocations are almost as unthinkable for the fiscally responsible CLEC and wasteful overall as duplicating the fabled "last mile" of copper altogether.

Q. Under what circumstances would use of UBPS be appropriate?

A. CCC will use UBPS for transport of voice and data services to residential and small business customers in two scenarios. First, CCC will use UBPS whenever it encounters RT-served loops in an ADSL-capable collocation. Second, UBPS will be an essential companion to CCC's UNE-P resale services in areas where a CCC collocation and supporting protected network are not yet in place.

Q. Please summarize your position.

A. CCC's current inability to combine UBPS with UNE-P voice services impairs it from providing ubiquitous, cost-effective telecommunication services in Tennessee. This impairment prevents CCC from developing the customer concentrations it needs to justify additional facilities-based investment in Tennessee. Continuation of this serious impairment will cause CCC to invest more in Indiana, where it has substantial network assets and a more appealing interconnection agreement.

That said, CCC believes that it can deliver innovative services at attractive prices to the citizens and businesses of Tennessee. CCC wants to continue to grow with the state.

Q. Is that the end of your testimony?

A. Yes.

CERTIFICATE OF SERVICE

I hereby certify that a true and correct copy of the foregoing has been forwarded via fax or hand delivery and U.S. mail to the following on this the 10th day of June, 2002.

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