

Attached is Talk America's submission as to Virtual NXX costs and compensation, based on Gary Field's diagram # 3.

These are the involved costs and compensation as best we understand them. But as is the case with the collaborative as a whole, we are continuing to learn from the perspectives offered by others. We look forward to the continued discussion.

Jerry Finefrock  
Talk America

Talk America  
January 27, 2005

## **Compensation and Costs on an ISP-Terminating VNXX Call**

### **Summary**

At the Michigan collaborative on Virtual NXX on January 24, carriers were asked to circulate to the group their views of the compensation that would be applicable to each leg of a virtual NXX call, using Diagram # 3 as prepared by Gary Field. We have done so, using the compensation mechanisms currently in place in Michigan, some of which are in dispute among carriers. We have also included costs incurred by the originating carrier, as this may be a subject of the collaborative's deliberations as well. We have included costs in the discussion below as best we understand them, but are open to clarifications, corrections, and alternative views.

### **Local Loop and Associated Costs Incurred By the Originating Carrier**

In Gary Field's Diagram # 3 (attached below), we assume that the call originates from the Carrier 3 End User, who dials a 7-digit number to reach a dial-up Internet service provider. The call then moves on path A to B to Carrier 3's End Office Switch, and from there via path C to D to the ILEC's Tandem Switch, and from there via path E to F to the End Office and Tandem Switch of the carrier who is in the VNXX business (providing ISP-terminating services), and then via path G to H to the Carrier 2 End user, who is the ISP provider.

Carrier 3 incurs significant costs in serving the originating customer. For a facilities-based CLEC in Michigan, the average cost of a local loop to serve the originating customer is about \$11 per month, in AT&T/SBC territory. The typical CLEC potentially also incurs very roughly about \$16 per month in added costs of serving that originating customer loop (allocated NRC costs, cross connect, DS1/DS3 transport, collo

# Area Code, Sweet Area Code



Andrew Council for The New York Times

Washington is where you'll find them, but their hearts and their cellphones belong to distant area codes. From left, Punja Patel (714), Jay Heidbrink (617) and Michele Gordon (662).

By MAGGIE MASTER

**New York Times**

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## WASHINGTON

JAY works in communications for a Washington think tank, but if you want to give him a ring, try Boston. Samantha studies international relations in Dupont Circle, but you'll have to call San Francisco to find her. Michele has been a congressional aide on Capitol Hill for nearly four years, but ask for her number, and you'll be calling Starkville, Miss.

In a city known for its revolving door of young professionals, graduate students and eager-eyed Hill staffers, many a mobile phone number proves that home is where the cell is.

Like a rear-windshield decal or an old college T-shirt, a cellphone number has become as much a part of an identity as a Social Security number. It represents a hometown, a college or a first job, and such memories are not casually thrown aside for a few good years with a 202 romance. For these area-code clingers, those 10 little digits provide a constant in the face of changing locations and uncertain futures.

And, hey, it's great small talk.

"It's totally like a networking thing," said Ashley Kizler, 23, a native of Richmond, Va. A forensic psychology graduate student with a cheerleader's spunk, Ms. Kizler is a bit of a social butterfly, not to mention an ardent champion of the prefix 804.

"You find someone else who has an 804 area code, and you're, like: 'Hey! What's going on! Richmond? Yeah!' " Ms. Kizler howled in a show of hometown pride.

Jay Heidbrink, 27, sees a person's cellphone number as a standout feature in a city where people are usually identified by what they do and where they work.

"You meet a lot of new people in D.C., and so you hand out your number a lot," Mr. Heidbrink said. "When it's not a 202 number they say: 'What area code is that? Where'd you go to school?'"

A Dallas native, Mr. Heidbrink purchased his cellphone and acquired his 617 area code seven years ago when he was a junior at Boston College. Since graduating, he lived in six cities and participated in three political campaigns before landing a job in Washington a year ago with the Center for American Progress, a think tank. But 617 is still his story, and he's sticking to it.

Though wireless companies have not researched area-code loyalists, both Verizon and Cingular say anecdotal evidence supports the trend. "Younger people are not tied to a location anymore," said Ritch Blasi, Cingular's director of media relations. "They really are tied to their phones."

Twenty million wireless subscribers have ditched their land lines, according to the Yankee Group, a telecommunications research firm. Known in telecom lingo as cord cutters, roughly six million are between the ages of 18 and 24.

Just nine months out of college, Punja Patel, 23, is from Orange County, Calif. She spent the summer working for a congressman in the San Francisco area before relocating to his Capitol Hill office last fall. Trade her 714 from the O.C. for a D.C. 202? Not a chance.

"I'm homesick," Ms. Patel said, and for a homesick girl, dear old 714 is a lifeline. "Everyone already has this," she said of her number, "and knows how to get in touch with me."

Beyond the thrill of finding other 804 transplants, Ms. Kizler said that nostalgia is a big part of what keeps her holding on to her Richmond-accented area code, a sentiment shared by fellow cord cutters. Ms. Kizler got her Richmond number before she left for college in 2000. Her parents have since moved to Alabama, but 804 is Ms. Kizler's link to her childhood stomping ground.

"I kind of want to keep it, so I'm still associated with that area," Ms. Kizler said. "Even though my parents aren't there anymore I can still be like: 'Yeah, I'm totally from Richmond. That's my area code.'"

Michele Gordon, 26, purchased her 662 cellphone shortly before graduating from Mississippi State University. Now a Senate committee staffer, Ms. Gordon may fit the cord-cutter profile, but she can't seem to cut the ties to her alma mater.

"I know that I'll probably never move back to Mississippi," Ms. Gordon said. "But I loved my time there. I guess in some strange way it is holding on to a little bit of Mississippi."

Samantha Test, 27, is the proud owner of the Cadillac of area codes, San Francisco's 415. Like its East Coast rival, New York's 917, it has enormous cachet.

A Californian who attended Berkeley and lived in the Bay Area after college, Ms. Test says she just "feels more like a 415 than a 202." She purchased her cellphone and acquired the San Francisco digits shortly before moving to Washington to attend the Paul H. Nitze School of Advanced International Studies in Washington, part of Johns Hopkins University. Ms. Test can't predict when she'll return to San Francisco; in May she'll head north to a New York consulting firm. Keeping her 415 number is a pledge to friends, family and herself that she will head home eventually.

For those who cling to the less flashy area codes, sometimes it comes down to economics. Jeri Roberts, a classmate of Ms. Kizler, isn't about to quit 864, aka Greenwood, S.C., because "a lot of my family and friends have 864 area codes," she said. "For them to call me, it's not long distance."

And then, in the directoryless world of the cellphone, there is the fear of losing touch. "I do randomly get calls from people I haven't heard from in such a long time," Ms. Gordon said. "They'll be, like, 'I'm so glad you didn't change your number, I would have never found you.'"

Of course there are exceptions. Clark Jennings, Mr. Heidbrink's friend and fellow campaign junkie, moved to Washington from Little Rock, Ark., after the 2004 presidential election and promptly picked up a 202 land line and cellphone.

For Mr. Jennings, who is 26, 202 symbolizes unloading the metaphorical baggage of the past and embracing a new phase of his life. It annoys him that Mr. Heidbrink's 617 number is a long-distance call from his land line, and Mr. Heidbrink jokes his friend acquired the 202 to pad his political résumé.

Mr. Heidbrink is beginning to hear responses from law schools for the fall. Soon he'll be packing up his apartment in Adams Morgan and his Boston phone number to move to one of six different cities.

In the meantime he is keeping his eye out for fellow area-code transplants. "You recognize that that person's new along with you," Mr. Heidbrink said.

"We'll figure this town out eventually," he said with a smile. "And then we'll probably leave."

Friends may not know where the members of this group will be a year from now, but it's a safe bet they'll know how to reach them.

power, switch power, voice network, CNAM/SS7/LIDB/LNP, repair and MACD's, allocated capital costs and etc.), totaling very roughly \$27 per month.

In 2005, the ALJ of the California PUC estimated that typical usage on a local phone line is about 1,700 minutes per month. A monthly cost of \$27 divided by 1,700 minutes yields a cost per minute of about \$.016. Some commenters, such as the survey of unbundled network element prices in the U.S. by the Consumer Advocate Director of the West Virginia PSC, put the usage per phone line per month at 1,000 minutes, which would put the allocated cost per minute even higher. We have utilized the lower cost of \$.016 per minute for this discussion.

### **Compensation Paid to the ILEC**

The next costs incurred by Carrier 3 are those of the connection via the ILEC (path C to D, and apparently also, the path E to F). In AT&T/SBC territory, we understand those per-minute costs to average as follows: local switching \$0.003134, common trunk port \$.000337, tandem switching termination \$.000113, and tandem zone charge \$.001157, for a total of \$.004741 per minute – assuming we have calculated these costs correctly.

### **Compensation Allegedly Payable to the VNXX Carrier**

Carriers in Michigan who are in the business of providing VNXX service for ISP-bound calls often argue they should be specially compensated for the business they have created, of calls traversing their facilities, consisting of dial-up Internet calls (ISP-terminating traffic). Often, such carriers argue these fees are for reciprocal compensation. Requested compensation, on a per-minute basis, varies widely in Michigan, and here are but a few examples:

VNXX Carrier A:	\$.00831 per minute
VNXX Carrier B:	\$.003134 per minute
VNXX Carrier C:	\$.0007 per minute
VNXX Carrier D:	\$.032785 per minute

ILECs and CLECs at the originating end of the process, who are asked to pay such fees, often argue that these fees are unwarranted or unreasonable, and that bill and keep or other alternative principles should apply.

### **Cost and Revenue Effects, at Typical Monthly Usage Levels**

Pew Research has conducted extensive Internet studies in recent years. In 2002, they found that the typical dialup Internet user is on-line an average of 83 minutes per

day. Their study in 2003 concluded that the typical “novice” dialup Internet user is on-line an average of 83 minutes per day, and the typical “veteran” dialup Internet user is on-line an average of 94 minutes per day. We could not find a percentage breakout for novice vs. veteran, or a definition of how many such “average” days are in a month. We have assumed the typical dialup Internet user is represented by 83 minutes per day times 20 days per month, or 1,660 minutes per month.

This suggests that for the typical dial-up Internet user, the originating carrier (Carrier 3) would pay to the ILEC for the use of the Tandem Switch and transport, around \$7.87 per month (1,660 minutes times \$.004741).

It further suggests that for the typical dial-up Internet user, the originating carrier would be asked to pay to the VNXX carrier the following monthly amounts for 1,660 minutes of monthly traffic:

VNXX Carrier A:	\$13.79
VNXX Carrier B:	\$ 5.20
VNXX Carrier C:	\$ 1.16
VNXX Carrier D:	\$54.42

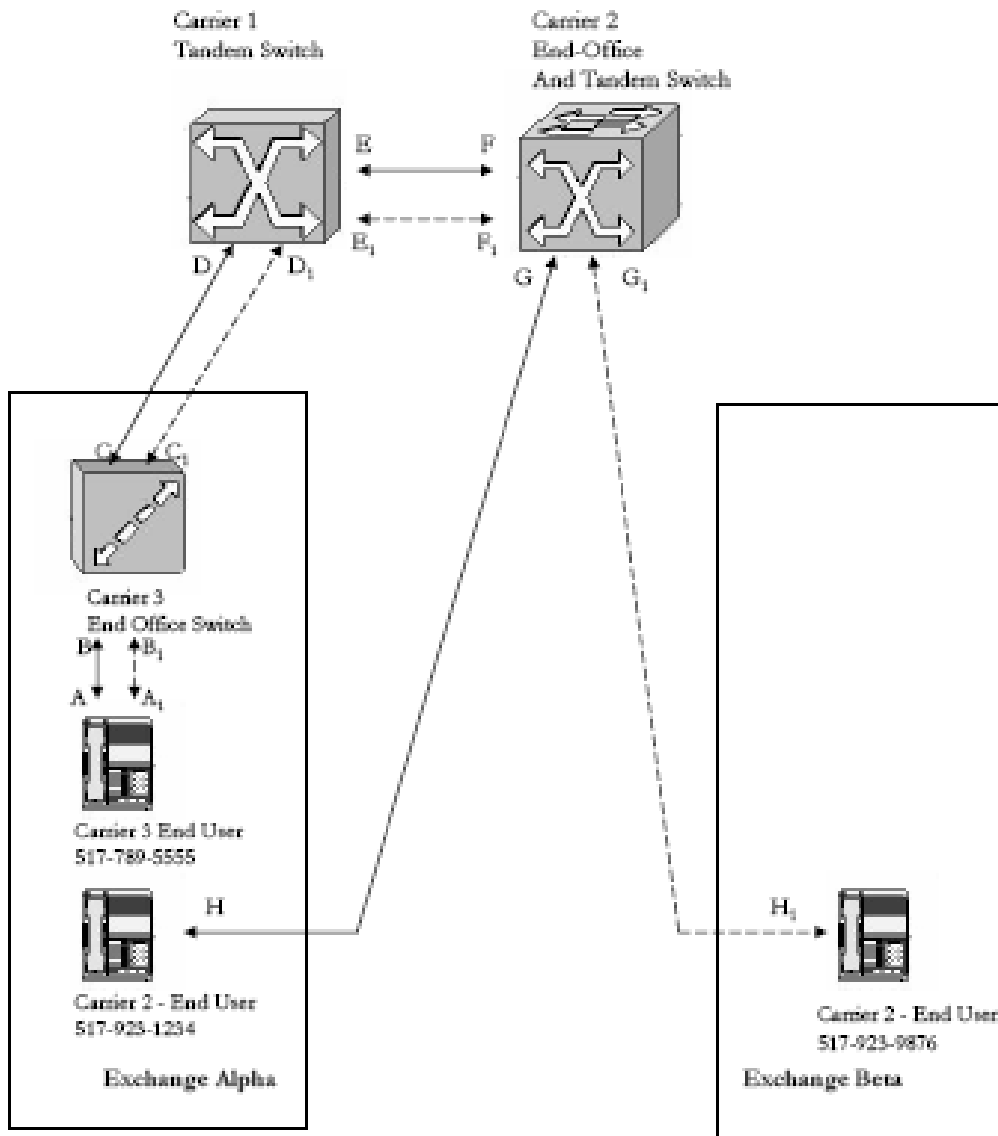
And it further suggests that for the typical dial-up Internet user, the originating carrier would incur allocated costs of roughly \$.016 per minute (as described earlier in this document) times 1,660 minutes, or very roughly \$26 per month. (The collaborative can consider whether, or not, this cost should be directly included in the analysis and consideration.)

For many CLECs today, as the originating carrier they would derive no additional revenue, as “unlimited local calling” has become the norm. But where local calls are charged for, one might assume two dial-up Internet calls per day, and 20 dial-up days per month, with per-call revenue of \$.08 per call. This would suggest, at maximum, local call revenue of \$3.20 per month – a revenue stream that is dwarfed by all the costs incurred by the originating carrier.

All of the above is presented at the request of the VNXX collaborative, and we are fully open to discussion of the various costs and issues.

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Diagram of Two NEX Calls – One Virtual  
(Three Carriers Involved)



Notes:

- 1) Exchange Alpha and Exchange Beta are in different Local Calling Areas.
- 2) The 517-923 NPA-NXX is associated with Exchange Alpha.
- 3) The bi-directional lines could represent either one-way or two-way trunking.