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Issues: Cross-Over

Witness: James M. Maples
Sponsoring Party: Sprint
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Case No.: TO-2004-0207
Date Testimony Prepared: December 18, 2003

SPRINT MISSOURI, INC.
AND
SPRINT COMMUNICATIONS COMPANY, L.P.

DIRECT TESTIMONY

OF

JAMES M. MAPLES

IN THE MATTER OF A COMMISSION INQUIRY INTO THE POSSIBILITY OF IMPAIRMENT WITHOUT UNBUNDLED LOCAL CIRCUIT SWITCHING WHEN SERVING THE MASS MARKET

CASE NO. TO-2004-0207

Jefferson City, Missouri
December 2003

BEFORE THE PUBLIC SERVICE COMMISSION
STATE OF MISSOURI

In the Matter of a Commission Inquiry into the Possibility of Impairment without Unbundled Local Circuit Switching When Serving the Mass Market	))))	Case No. TO-2004-0207

AFFIDAVIT OF JAMES M. MAPLES

STATE OF KANSAS)
) ss:
COUNTY OF JOHNSON)

I, James M. Maples, being of lawful age and duly sworn, dispose and state on my oath the following:

1. I am presently Senior Manager, Regulatory Policy for Sprint Missouri, Inc.

2. I have participated in the preparation of the attached Direct Testimony in question and answer form to be presented in the above entitled case;

3. The answers in the attached Direct Testimony were given by me; and,

4. I have knowledge of the matters set forth in such answers and that such matters are true and correct to the best of my knowledge and belief.

James M. Maples
JAMES M. MAPLES

Subscribed and sworn to before me on this 18th day of December, 2003.

Sharon L. Yancey
NOTARY PUBLIC

My Appointment Expires:

NOTARY PUBLIC OFFICIAL SEAL STATE OF
SHARON L. YANCEY
MY COMMISSION EXPIRES
April 7, 2004

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

DIRECT TESTIMONY

OF

JAMES M. MAPLES

Q. Please state your name, business address, employer and current position.

A. My name is James M. Maples. My business address is 6450 Sprint Parkway, Overland Park, KS 66251. I am employed as Senior Manager – Regulatory Policy for Sprint/United Management Company.

Q. Please summarize your qualifications and work experience.

A. I received a Bachelor of Science degree from East Texas State University, Commerce, Texas, in December 1973 with majors in mathematics and industrial technology. During that period, beginning in 1968, I was also employed by Sprint/United Telephone Texas as an installer/repairman of residential, simple and complex business systems and as a central office switchman. I completed the company's Management Training program in 1974 and was promoted to the position of Revenue Requirement Analyst later that same year.

For the next seventeen (17) years I held positions of increasing responsibilities in state, regional and corporate Sprint organizations. During that period, I prepared

or was responsible for jurisdictional separation studies, revenue budgets, demand forecasts, access charge rates, and financial reporting to various regulatory agencies.

From 1991 through 1995, as Manager Cost Allocations at Sprint/United Management Corporation, I developed financial models for alternative regulation, participated in a two year project to develop a system-wide product costing model, developed and trained personnel on revenue budget models, and standardized systems for separations costing through system design, development, testing and implementation.

In 1995 I accepted the position of Manager-Pricing/Costing Strategy and for 17 months coordinated several system-wide teams that were charged with the identification and development of methods, procedures, and system changes required to implement local competitive services. During that period, I coordinated the technical support needed to establish and maintain relationships with Competitive Local Exchange Carriers (CLECs).

From September 1996 through July 1999 I held the position of manager of Competitive Markets – Local Access with the responsibility for pricing unbundled network elements, supporting negotiations with new competitive carriers, and assisting in implementation issues.

I began my current position in August 1999. My responsibilities include the review of legislation, court rulings and state Commission orders affecting telecommunications policy, interpreting the impact to the corporation, developing positions, communicating them throughout the organization, and representing them before regulatory bodies such as the Public Service Commission of the State of Missouri.

Q. Have you previously testified before state regulatory commissions?

A. Yes. I have testified before the Florida, Nevada, and California regulatory commissions regarding interconnection and network unbundling issues.

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to present Sprint's position regarding the appropriate policy for determining the multi-line customer cross-over between mass market customers served via DS-0 (voice grade) loops and enterprise customers served via DS-1 loops. My testimony also includes Sprint's recommended approach for calculating the multi-line cross-over and the results for the state of Missouri. This study is a subset of the economic analyses that state commissions were directed to conduct as a result of the FCC's Triennial Review Order (TRO) and codified in 47 CFR 51.319(d)(2)(iii)(B)(3).

Q. Please define a DS-0 voice-grade loop, a DS-1 enterprise loop and the difference between the two.

A. A DS-0 voice-grade loop is a single line over which voice service is provided. DS-0 loops are generally used to provide service to mass market customers. A DS-1 enterprise loop provides 24 individual DS-0's and is generally used to provide service to enterprise customers.

Q. What is the multi-line customer cross-over?

A. The multi-line customer cross-over is the point at which it is more economical for a company to provide service to an end user with multiple analog voice grade lines using a loop with greater capacity (DS-1) rather than a single loop (DS-0) for each voice grade line. A simple analogy may be helpful. We all know that it is cheaper to buy donuts by the dozen. Assume a baker charges $0.30 per donut or $2.99 per dozen. If you want to purchase 9 or fewer donuts, it's cheaper to buy them individually, but once you need 10 or more, it's cheaper to buy a dozen, and you will probably buy a dozen, even if you really only need 10. The same holds true between DS-0s and DS-1s.

Q. What guidance does the TRO provide for determining the appropriate cut-off?

A. Paragraph 497 of the TRO presents several key points on this issue. First, the TRO defined mass market customers as those customers that "are analog voice

customers that purchase only a limited number of POTS lines, and can be economically served via DS-0 loops."[1]

Second, the TRO recognized that, for certain customers, service providers are in a position to make a decision as to whether they will provide service using DS-0 or DS-1 facilities, based on the number of DS-0 loops needed to provide the customer's voice services.[2] The FCC recognized that, for certain customers who require multiple DS-0s, service providers are able to achieve better economics by installing multiplexing equipment at the customer premises.[3] Identifying the quantity of DS-0 loops at which these economic benefits are realized—i.e., the cross-over point—will, in essence, create a line of demarcation between the mass market and the enterprise market.

Q. Does Sprint agree with the FCC's use of an economic cross-over point as a method for distinguishing between mass market and enterprise customers?

A. Yes. Sprint has always recognized that some businesses have telecommunications needs that are more similar to mass market residential customers than large business customers. Indeed, many telecommunication providers address a segment of the business market with the same marketing techniques as they use for residential.

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1 TRO paragraph 497.

2 TRO paragraph 497 states, "At some point, customers taking sufficient number of multiple DS-0 loops could be served in a manner similar to that described above for enterprise customers – that is, voice services provided over one or several DS-1s"

3 TRO footnote 1544 "The evidence in the record indicates that it may be viable to aggregate loops at a customer location and provide service at a DS-1 capacity or higher. Specifically, if a customer has enough lines to justify the expense of purchasing multiplexing equipment and a high-capacity line, it makes sense to aggregate the customer's loops…"

Q. Is there a simple example of the difference in marketing techniques between those that providers use to address mass market customers and those that providers use to address enterprise customers?

A. The complexity and the volume of service required by any given customer are two of the variables that determine which marketing methods have historically been successful in acquiring new customers. For example, mass media advertising is less effective than an extensive face-to-face sales visit would be for a business with very complicated communications needs. But for a smaller business with less complex needs, mass media advertising is often sufficient.

Q. Does Sprint agree with the FCC statements that service providers must make provisioning choices once they understand the customer's needs?

A. Certainly. The service needs of a business customer at a specific physical location determine the minimum facility capacity required to provide those services. Based on the customer's needs, the service provider determines the most efficient (i.e. least costly) facilities required to provide the services the customer desires. The provider is rewarded with higher profit margins by minimizing facility costs.

Q. Is an economic cross-over analysis the best way for a service provider to determine the most efficient, least-cost provisioning option?

A. Yes. The service provider needs will determine the most efficient method of serving the customer. Based on those service needs, the CLEC determines if it is

cost effective to serve the customer with DS-0 loops or aggregate the service needs over a DS-1 loop facility at the customer premises. At some level of service need, the provider is better off serving the business customer with a DS-1 facility instead of multiple DS-0s.

Q. Has Sprint developed an analysis of this cross-over?

A. Yes. Exhibit JMM-1, attached to my testimony, shows the results from Sprint's study. The average economic cross-over point, the point at which a multi-line DS-0 customer is served more efficiently using a DS-1 capacity loop, was calculated for Southwestern Bell, CenturyTel, and Sprint ILEC territories in the state of Missouri.

Q. What is the appropriate cut-off for multiline DS-0 customers (where it is more economic to serve a multiline voice customer with a DS-1 loop)?

A. The model results indicate that up to 10 DS-0s at a customer's location, purchasing individual loops is more cost effective than purchasing single DS-1. Above 10 DS-0s, the DS-1 becomes the more cost effective means of providing service to the customer.

Q. What are the cost components in the economic cost cross-over model for the provision of service over a DS-1 facility?

A. Our model includes the monthly recurring charges of the unbundled network element DS-1 loops, the unbundled network element non-recurring charges for

DS-1 loops, and the monthly costs of a channel bank installed at the customer's premises used to multiplex multiple voice channels onto a DS-1 loop facility.

Q. What are the cost components in the economic cost cross-over model for the provision of service over a DS-0 facility?

A. The model includes the monthly recurring charges of the unbundled network element DS-0 loops and the non-recurring charges for unbundled network element DS-0 loops. The non-recurring charges reflect the charges for the initial DS-0 loop and each additional loop ordered, assuming that all of the loops are installed at the same time.

Q. What are the sources of unbundled network element prices for the monthly recurring services and the non-recurring services?

A. The prices for Southwestern Bell are taken from the existing Interconnection Agreement between Southwestern Bell and Sprint. CenturyTel's prices are from the latest Interconnection Agreement filed with the Public Service Commission.[4] Sprint's recurring prices and non-recurring prices are those that are currently offered to carriers seeking interconnection and access to network elements under section 251 of the Telecommunications Act in Missouri.

[4] Interconnection, Resale and Unbundling Agreement between CenturyTel of Missouri, LLC and Missouri Telecom, Inc. in the State of Missouri, February 2003

Q. What is the source of the access line data used to determine the weighted average UNE prices?

A. The access line data are from the FCC Universal Service Fund model (HCPM) Report for 2000 adjusted with the Universal Service Administrative Company (USAC) lines in service for year-end 2001. For each company in the study, the difference between the lines in HCPM and lines in USAC was applied to the wire center level line counts to determine a more current estimate of access lines for the studied ILECs.

Q. What additional variables are included in the calculations?

A. A weighted average cost of capital input is used for amortizing the non-recurring charges. The 12.56% cost of capital was taken from the Sprint cost studies that support its current UNE prices in Missouri.[5]

Q. How are the non-recurring unbundled network element costs treated in the economic cross-over analysis?

A. The non-recurring unbundled network element charges for establishing DS-0 or DS-1 services are amortized over a 24 month period using Sprint's weighted cost of capital.

[5] While 12.56% represents only Sprint's weighted cost of capital, it should be representative of the combined results of the three companies' cost of capital in Missouri. Further, substituting a specific company's data would not have a material impact on the resultant cross-over figure.

Q. How is the monthly cost of the channel bank at a DS-1 customer premises calculated?

A. The monthly cost of the equipment is calculated by dividing the total material cost of the channel bank over the life of the asset, accounting for Sprint's cost of capital, eleven year depreciation life, income tax, and maintenance.

Material prices reflect the size of the channel bank and cards that would be installed at a customer premises capable of multiplexing one DS-1 into DS-0s. The material was amortized using Sprint's annual cost factors from the same Cost of Local Exchange Telecommunications Services UNE cost studies mentioned above. Labor related to the installation of the customer premises channel bank was treated consistent with the UNE non-recurring charges for the DS1 loop and amortized over 24 months.

Q. How are these cost components used to calculate a state-wide average cross-over between unbundled DS-0 and DS-1 loops?

A. The model calculates the UNE provisioning costs of both DS-0 and DS-1 facilities as described above for each central office in the state of Missouri served by the largest LECs (Southwestern Bell, CenturyTel and Sprint). A weighted average cost for each MRC and NRC is computed by multiplying the central office specific result by the percentage of access lines in that central office. The weighted average cost of a DS-1 loop is then divided by the weighted average cost of a DS-0 loop.

Q. The cross-over calculations produce a state-wide average cross-over point. Why does Sprint calculate a single, statewide average cross-over point, rather than a market-specific cross-over point or even an ILEC-specific cross-over point?

A. The realities of the way that marketing efforts are conducted lead Sprint to believe that a single statewide average cross-over point is more efficient and more useful. For example, if a telemarketer is pursuing sales opportunities among small businesses in Missouri the telemarketer will require a single point of distinction that determines whether s/he is able to provide UNE-P based service to the customer or not. The telemarketer does not know whether the customer being called resides in one MSA or another, and quite possibly neither does the customer. Similarly, a direct-visit salesperson making sales visits throughout the St. Louis MSA is unaware of the point at which s/he moves from one UNE zone to another. It is more efficient to have a single cross-over point that the salesperson can apply to all potential customers, rather than maintain a veritable roster of potential cross-over points based on a potential customer's MSA, or market, or UNE zone, etc. Because Sprint's estimate is an average, the statewide cross-over will, on average, be efficient for serving customers throughout the state, even if it is slightly understated or overstated for any single customer.

Q. Does this conclude your testimony?

A. Yes.

TRO Economic Business Case
DSO to DS1 Crossover

State = Missouri
Company = State
Access Lines = Total

A	B	C	D	E	F
Row	Description	DS1 + Channel Bank	DS0	Crossover DS0 Quantity	Crossover Rounded DS0 Quantity
10	**Weighted Average**				
11	MRC	$ 157.45	$ 20.53		
12	NRC - Amortized	$ 32.85	$ 0.59		
13	Total	$ 190.30	$ 21.12	9.01	10
14					

Inputs

Row	Assumed Term	
4	Months - MRC	1
5	**Channel Bank (CB)**	
6	Cost per DS1	$51.45
7	**Assumed Term**	
8	Months - NRC	24
9	**Cost of Capital**	
10		12.56%
11	**Add'l NRC DS0 Quantity**	
12	Number of DS0s	9

UNE DS0 Loop MRC Rates

State	Zone	SouthwesternBell	Century	Sprint
Missouri	1	$12.71	$53.84	$34.18
	2	$18.64	$48.39	$64.56
	3	$19.74	$29.05	$115.13
	4	$16.41	$19.14	$0.00
Weighted Average	$20.53			

UNE DS1 Loop MRC Rates

State	Zone	SouthwesternBell	Century	Sprint
Missouri	1	$91.06	$160.31	$127.97
	2	$95.45	$160.31	$266.23
	3	$97.10	$160.31	$250.25
	4	$91.25	$160.31	$0.00
Weighted Average *	$157.45			

* Includes Channel Bank

UNE DS0 Loop NRC Rates

State	Description	SouthwesternBell	Century	Sprint
Missouri	NRC-First	$19.55	$0.00	$69.80
	NRC-Additional	$8.32	$0.00	$55.06
	S.O.-First	$5.00	$49.31	$4.18
Weighted Average	$12.39			

UNE DS1 Loop NRC Rates

State	Description	SouthwesternBell	Century	Sprint
Missouri	NRC-First	$102.47	$0.00	$275.04
	NRC-Channel Bank*	$552.03	$552.03	$552.03
	S.O.-First	$5.00	$294.07	$4.18
Weighted Average	$693.89			

* CLEC cost to install the channel bank at customer premises.