

**Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, DC 20554**

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| In the Matter of                       | ) |                     |
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| SBC Communications Inc. and            | ) |                     |
| AT&T Corp. Applications for            | ) | WC Docket No. 05-65 |
| Approval of Transfer Of Control        | ) |                     |
|  | ) |                     |
| Verizon Communications Inc. and        | ) |                     |
| MCI, Inc. Applications for Approval of | ) | WC Docket No. 05-75 |
| Transfer Of Control                    | ) |                     |
|  | ) |                     |

**SUPPLEMENTAL DECLARATION OF SIMON WILKIE**

## I. INTRODUCTION

1. My name is Simon J. Wilkie. I am a Senior Research Associate in Economics at the California Institute of Technology and former Chief Economist of the Federal Communications Commission (“FCC” or “Commission”). I have previously submitted a Declaration in this proceeding on behalf of Cbeyond Communications, Conversent Communications, Eschelon Telecom, Nuvox Communications, TDS Metrocom, XO Communications, and Xspedius Communications, in which I reviewed the pending Applications for Approval of the Transfer of Control of AT&T Corporation and its subsidiaries (“AT&T”) to SBC Communications (“SBC”) and provided an analysis of the public interest issues raised by the proposed transaction.<sup>1</sup> I have also previously submitted a Declaration in the closely related Commission proceeding investigating the proposed acquisition of MCI, Inc. (“MCI”) by Verizon Communications, Inc. (“Verizon”).<sup>2</sup> Additional information regarding my background and qualifications is presented in these earlier Declarations.

2. I have been asked by counsel for XO Communications to comment briefly upon the economic concepts of “tacit collusion” and “mutual forbearance” and to discuss the conditions under which such collusion or forbearance can be an equilibrium market outcome. As is demonstrated below, the issues are relevant to the Commission’s investigation into the proposed acquisitions of AT&T by SBC and of MCI by Verizon, as it can be demonstrated that SBC and Verizon will have the incentive to collude tacitly and forbear from competition with one another in special access markets following the successful completion of the contemplated

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<sup>1</sup> Declaration of Simon Wilkie, *SBC Communications Inc. and AT&T Corp. Applications for Approval of Transfer of Control*, WC Dkt No. 05-65 (F.C.C. Apr. 26, 2005).

<sup>2</sup> Declaration of Simon Wilkie, *Verizon Communications Inc. and MCI, Inc. Applications for Approval of Transfer of Control*, WC Dkt No. 05-75 (F.C.C. May 6, 2005).

mergers.

3. The remainder of this Supplemental Declaration is organized as follows. Section II briefly discusses the concepts at issue and the conditions under which tacit collusion is an equilibrium strategy. Section III then examines whether these conditions are met post-merger given current special access revenues and margins of SBC, Verizon, AT&T, and MCI.

## **II. TACIT COLLUSION AND FACILITATING CONDITIONS**

4. “Tacit collusion” occurs when firms act in concert through equilibrium behavior rather than through explicit agreement to reduce competition, which results in supra-competitive prices. Tacit collusion occurs when firms act in concert through equilibrium behavior rather than through explicit agreement to reduce competition, which results in supra-competitive prices. For example, suppose firm A could profitably enter firm B’s market, which would compete down the price in that market. However, firm A does not to enter because of the threat of retaliation – in particular, that firm B would enter and sufficiently compete down price in firm A’s market, thus offsetting the firm A’s additional profits earned from entry. By a similar logic, firm B does not to enter firm A’s market, and the two firms are engaged in tacit collusion. This behavior yields a non-competitive equilibrium with prices that are higher than those that would prevail in a competitive equilibrium. In essence, tacit collusion is sustained by the following strategy: “I will refrain from competing with you as long as you refrain from competing with me. But if you ever compete with me, I will compete with you in the future, and the collusion is permanently ended.”

5. Economists have identified key factors that make tacit collusion more likely: (1) a small number of firms; (2) repeated interaction among firms over time; (3) interaction among

firms in multiple geographic or product markets (so-called “multi-market” contact); (4) barriers to entry arising, for example, from credible threats of punishment to entrants; (5) distinct geographic areas; and (6) price transparency through posted prices or publicly available price information.<sup>3</sup> Moreover, empirical analysis indicates that tacit collusion leads to supra-competitive pricing in real-world situations. For example, Fournier and Zeuhlke examine airline pricing and find that when carriers are paired through multi-market contact, prices are 9 to 12 percent higher than would be expected otherwise.<sup>4</sup> Busse examines cell phone pricing in the duopoly era and finds that prices in markets where the firms had multiple market contact prices were seven to 10 percent higher than otherwise expected.<sup>5</sup> Other industries in which economists have found that firms tacitly collude include banking and bidding in FCC spectrum auctions.<sup>6</sup>

6. Economists also understand the conditions under which tacit collusion is an equilibrium strategy. Specifically, the viability of tacit collusion depends on the values of: (1) the level of profits made by each firm under tacit collusion; (2) the level of profits under competition; (3) the size and duration of the gain from “cheating and competing” in violation of the tacit collusion; (4) the number of firms; and (5) the discount factor (or cost of capital) used to

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<sup>3</sup> Fudenberg and Tirole (1994), “Game Theory,” Cambridge, MA: MIT Press. The classic reference on multi-market contact is Bernheim and Whinston (1990), “Multimarket Contact and Collusive Behavior,” 21 *RAND JOURNAL OF ECONOMICS* 1–26.

<sup>4</sup> Fournier and Zuehlke (2004), “Price Effects of Reciprocal Multi-Market Contacts Among Airline Carriers,” Department of Economics Florida State University Working Paper. They analyze situations in which one carrier has an advantage in one market, a “city pair” for which one of the cities is a hub for that carrier, but has a small presence in a second city-pair market. Symmetrically, the second carrier has a hub in the smaller market of the first carrier, but has a smaller presence in the first carrier’s hub.

<sup>5</sup> Busse (2000), “Multimarket Contact and Price Coordination in the Cellular Telephone Industry,” 9 *JOURNAL OF ECONOMIC AND MANAGEMENT STRATEGY* 287-320.

<sup>6</sup> Heggstad and Rhoades (1978), “Multi-market Interdependence and Local Market Competition in Banking,” 60 *REVIEW OF ECONOMICS AND STATISTICS* 523–532. Crampton and Schwartz (2002) “Collusive Bidding in FCC Spectrum Auctions,” *Contributions to Economic Analysis and Policy*, Vol. 1, No. 1.

discount future earnings.<sup>7</sup> The likelihood and sustainability of tacit collusion can be gauged by applying a profits test, which compares profits under tacit collusion to those under competitive behavior. Tacit collusion is an equilibrium strategy when: (a) the discounted net present value of the stream of earnings from collusion is higher than the sum of (b) the “one-shot” profits from cheating and competing plus (c) the discounted net present value of the stream of earnings under competition.

### **III. TACIT COLLUSION AS AN EQUILIBRIUM STRATEGY FOR SBC AND VERIZON**

7. I now quantify components (a), (b), and (c) above for the wholesale access market that competes with special access products of the incumbent local exchange carrier (“ILEC”). For this calculation, I assume that cash flows from operations are an appropriate measure of earnings and that the market remains the same size. As reported in the FCC’s Automated Reporting Management Information System (“ARMIS”), SBC has revenues of about \$4.5 billion from special access and an operating margin of about 64 percent, while Verizon has revenues of about \$3.7 billion and an operating margin of about 36 percent.<sup>8</sup> For simplicity, I assume that each ILEC has a cost of capital of 8.33 percent or 1/12.<sup>9</sup> In a separate proceeding before the FCC, SBC has claimed that competitors in the wholesale market for special access have won more than 40 percent share within SBC’s territory and provide over a third of the wholesale

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<sup>7</sup> For a standard treatment of the discount factor, see any Industrial Organization text book, such as Jean Tirole (1988) “The Theory of Industrial Organization,” MIT Press.

<sup>8</sup> See Federal Communications Commission, FCC Report 43-01: The ARMIS Annual Summary Report, <http://svartifoss2.fcc.gov/eafs/paper/43-01/PaperReport01.cfm> (Apr. 1, 2005), at Table 1 – Cost and Revenue (electronic ARMIS filing system data retrieval module main menu).

<sup>9</sup> The implications of my calculations are not sensitive to this assumption.

market for DS1 and DS3 services.<sup>10</sup> Evidence indicates that the prices at which AT&T and MCI sell these circuits are 50 percent or less of the special access rates.<sup>11</sup>

8. With these numbers, I can quantify component (a), the discounted net present value of the stream of earnings from collusion. By tacitly colluding, I assume that the ILEC can raise special access revenues by (at least) five percent, either by converting circuits otherwise sold in their region by AT&T and MCI to special access or by simply raising prices. This will raise SBC's revenues by approximately \$225 million per year (\$4.5 billion times 0.05) and Verizon's by approximately \$185 million per year (\$3.7 billion times 0.05); if all of the additional revenue is from exiting circuits, there will be little or no increase in operating costs. On the other hand, if I assume that operating margins remain the same, to obtain a lower bound, SBC's additional profits are \$144 million (\$225 million times 0.64), while Verizon's are \$67 million (\$185 million times 0.36). With a cost of capital of 8.33 percent, the lower bound of the present value of profits is approximately \$1.73 billion for SBC (\$144 million/0.0833) and \$800 million for Verizon (\$67 million/0.0833).

9. To quantify component (b), the "one-shot" profits from cheating and competing, I

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<sup>10</sup> SBC Communications, Inc., *Special Access Competition and Pricing*, at 3, presentation attached to Ex Parte Letter from Christopher M. Heimann, General Attorney, SBC Telecommunications, Inc., to Marlene H. Dortch, Secretary, Federal Communications Commission, re: Notice of Ex Parte Presentation, *AT&T Corp. Petition for Rulemaking to Reform Regulation of Incumbent Local Exchange Carrier Rates for Interstate Special Access Services* (F.C.C. Dec. 3, 2004).

<sup>11</sup> This is based on my study of winning bids and offer prices for wholesale private line local loops and interoffice transport, which I have discussed before the Commission and the U.S. Department of Justice as part of these agencies' investigations into the proposed mergers of SBC/AT&T and Verizon/MCI. Summarized results of my studies are presented in several publicly available presentations and declarations. See Declaration of Simon Wilkie, *SBC Communications Inc. and AT&T Corp. Applications for Approval of Transfer of Control*, WC Dkt No. 05-65 (F.C.C. Apr. 26, 2005); Declaration of Simon Wilkie, *Verizon Communications Inc. and MCI, Inc. Applications for Approval of Transfer of Control*, WC Dkt No. 05-75 (F.C.C. May 6, 2005); Professor Simon J. Wilkie, California Institute of Technology, "SBC/AT&T: Preliminary Analysis of Competitive Effects," (D.O.J. May 9, 2005), at 21 (presentation before staff of the Antitrust Division of the U.S. Department of Justice); Professor Simon J. Wilkie, California Institute of Technology, "Proposed Mergers of SBC/AT&T and VZ/MCI: Preliminary Analysis of Competitive Effects," WC Dkt Nos. 05-65 and 05-75 (F.C.C. June 14, 2005), at 20 (ex parte presentation before the Federal Communications Commission staff).

note that AT&T's operating margin is about 22 percent, while MCI's is about 11 percent.<sup>12</sup> I assume for the purpose of my calculations that the companies' overall margins represent their wholesale margins. As MCI has the larger market share in the wholesale market, I assume that if one firm does not compete then the other firm could capture both firms' share and earn the higher margin (of 22 percent). Thus, if MCI were to compete in SBC's territory after AT&T withdrew from wholesale, its revenues would be \$450 million (\$4.5 billion times 10 percent). With a margin of 22 percent, this yields a one-time gain of \$99 million. Similarly, if AT&T were to "cheat and compete" after MCI withdraws from wholesale in Verizon's territory, its one-shot gain would be \$81 million.

10. To quantify (c) based on current market size, I assume that MCI's wholesale sales are six percent of the ILEC's special access revenues, while AT&T's share is four percent. Thus, the earnings from competing in the other firm's territory is revenue of \$148 million per year for AT&T in Verizon's territory (\$3.7 billion times 0.04), profits of \$33 million per year (\$148 millions times 0.22), and a present value of \$391 million (\$33 million/0.0833). Similarly, the earnings from competing in the other firm's territory is revenue of \$270 million per year for MCI in SBC's territory (4.5 billion times 0.06), profits of \$30 million per year (\$270 millions times 0.11), and a present value of \$357 million (\$30 million/0.0833).<sup>13</sup>

11. When I implement the profits test for SBC, I find that \$1.73 billion is greater than \$457 million (\$99 million + (0.917 times \$391 million)). Similarly, for Verizon, I find that \$800 million is greater than \$408 million (\$81 million + (0.917 times \$357 million)). Therefore, tacit collusion in the wholesale market is an equilibrium strategy when flipping special access lines is

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<sup>12</sup> See John C. Hodulik et al., UBS Investment Research, *Wireline Postgame Analysis 10.0* (Mar. 17, 2005), at Table 2.

<sup>13</sup> These numbers have to be discounted one period out, however, as they would begin after the one-shot gains from cheating and competing.

an option for SBC and Verizon.<sup>14</sup> I conclude, therefore, that tacit collusion by SBC and Verizon in wholesale market access is likely and sustainable.

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<sup>14</sup> Elsewhere, the Yankee Group has estimated that the nationwide shares of MCI and AT&T in wholesale metro private line markets are approximately 10 percent and 9 percent, respectively. See J.P. Gownder, The Yankee Group, *Wholesale Communications Strategy Session: Survey Results and Research Overview Prepared for XO Communications* (Jan. 2004), at 13. In the present proceeding, however, Applicants have indicated that their share of wholesale special access is considerably less. See, e.g., Reply Declaration of Dennis W. Carlton and Hal S. Sider, *SBC Communications Inc. and AT&T Corp. Applications for Approval of Transfer of Control*, WC Dkt No. 05-65 (F.C.C. May 9, 2005). Nevertheless, even if one were to assume conservatively for the purposes of the profits test that MCI's and AT&T's shares of special access revenues are 10 percent and 9 percent – rather than the 6 percent and 4 percent I employ in the text above – the results of the analysis do not change. The profits to the post-merger SBC and Verizon from tacitly colluding would continue to outweigh the profits from competing, implying that tacit collusion in the wholesale market would still represent an equilibrium strategy.