BELLSOUTH TELECOMMUNICATIONS, INC.

DIRECT TESTIMONY OF NATHANIEL (NAT) D. TOLAR

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

DOCKET NO. 000075-TP (PHASE II)

MARCH 12, 2001

Q. PLEASE STATE YOUR NAME, YOUR BUSINESS ADDRESS, AND YOUR POSITION WITH BELLSOUTH TELECOMMUNICATIONS, INC. ("BELLSOUTH").

A. My name is Nathaniel (Nat) D. Tolar. My business address is 675 West Peachtree Street, Atlanta, Georgia 30375. I am employed by BellSouth as Manager – Interconnection Services for the nine-state BellSouth region. In this position I am responsible for the management of issues assigned to me regarding network interconnection and unbundled network elements provided to Alternative Local Exchange Carriers (ALECs). I have been in my current position since February 2000.

Q. PLEASE SUMMARIZE YOUR BACKGROUND AND EXPERIENCE.

A. My business career spans over 30 years and includes responsibilities in the areas of network planning, engineering, regulatory, forecasting, finance, small business services, strategic planning, performance measurements and interconnection services. Prior to my BellSouth employment, I performed a variety of functions including design

engineering and software production with the Western Electric Company (now Lucent Technologies). I received a Bachelors of Science Degree in Mathematics from the University of North Carolina at Pembroke in 1970.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY TODAY?

A. In my testimony, I will address the types of local network architectures that BellSouth currently employs and how traffic volumes affect its choice of architectures. Specifically, I will address the following issues, in whole or in part: Issue 11 of General Compensation Issues, Attachment A

Issue 11: What types of local network architectures are currently employed by ILECs and ALECs, and how does a carrier's past, present, and forecasted traffic volumes affect its choice of architectures? (Informational issue)

Q. WOULD YOU COMMENT ON THE TYPES OF ARCHITECTURES CURRENTLY EMPLOYED BY ILECs AND ALECs.

A. I cannot comment on other ILECs or ALECs but will describe BellSouth's architecture.

Q. WHAT ARE THE TYPES OF ARCHITECTURES USED BY BELLSOUTH IN ITS DEPLOYMENT OF ORIGINATING AND TERMINATING CALLS IN A LOCAL ACCESS AND TRANSPORT AREA (LATA).

A. As shown in Exhibit NDT-1, slide 1, BellSouth's switching systems are interconnected by a network of trunks that handle a variety of customer services. In order for a Florida local customer served by BellSouth to make an interLATA call, BellSouth's switching systems must be connected to the networks of the Interexchange Carriers (IXCs) at a long distance Point of Presence (POP). The number and placement of these switching systems is mainly dependent on the economic trade-off between trunking and switching costs. The use of intermediate switching systems (tandem switches) is determined by economic studies that evaluate whether traffic is more economically handled over direct trunking between two switching systems or by combining traffic from multiple locations into one group through the tandem switch. BellSouth provides an automatic alternate routing plan that utilizes multiple paths to complete a call within its switching systems. When a call is to be delivered to a customer served by another switching system, the routing plan will determine the first path (trunk group) that the call is to take. If that path is busy, the call is automatically route-advanced to the next trunk group and so forth in the routing plan until it reaches an available final route for call completion.

Q. WHAT KINDS OF SWITCHING SYSTEMS DO BELLSOUTH EMPLOY?

A. BellSouth employs the Stored Program Control (SPC) system as its most common type of switching equipment used at its End and Tandem offices. These systems use either analog or digital technology. Signaling between

these systems is either inband (multi-frequency or dial pulse) or out-of-band (Common Channel Signaling (CCS)). BellSouth has deployed the Signaling System 7 (SS7) CCS that allows for faster call setup time, database access and other basic call setup features.

Q. WHAT FUNCTIONS DO THE END OFFICE SWITCHING SYSTEMS PROVIDE?

A. The end office switching systems provide access to the Message Telecommunications Service (voice) or packet network (data). The network's basic function is to provide communication paths between terminal equipment located at the customer's locations. If the originating and terminating point of the path is in the same switching system, the communications path is through one switching system only. If the customers are in different switching systems (commonly called central offices) in the same LATA, the communication path is established via BellSouth's intraLATA trunking network. Originating and terminating calls between LATAs must currently go through the interLATA network via an IXC.

Q. WHAT FUNCTIONS DO THE TANDEM SWITCHING SYSTEMS PROVIDE?

A. BellSouth provides tandem switching systems to interconnect its end offices when direct trunk groups are not economically justified or when alternate

routing is justified. These tandem switching systems allow BellSouth the ability to configure the network in its most economic fashion. It also provides additional functions such as buffers between different switching systems, centralization functions for billing and database access along with the following:

- Connection to other tandems
- Centralized Automatic Message Accounting points
- Access to Interconnection Carriers
- Access to Operator Functions

Q. WOULD YOU COMMENT ON HOW THESE ARCHITECTURES ARE AFFECTED BY CHANGES IN TRAFFIC VOLUMES?

A. Yes. As stated in the description of BellSouth's architecture, the design of the intraLATA network configuration is based on economics. The decision to provide tandem switching is directly related to the quantity of trunks between two points and multiple points in the case of alternate routing. As shown in slide 2 of Exhibit NDT-1, adding an ALEC switching system to this configuration adds another decision point in this economic analysis. The ALEC would need to decide to either provide direct trunking to BellSouth's end offices or utilize the tandem switch as the interconnection point or some combination of these. BellSouth would then establish the appropriate trunking to deliver this traffic throughout its network switching configuration.

Depending on the quantity of ALEC traffic, new arrangements could be necessary or additional trunking may be required.

Q. WOULD YOU PROVIDE AN EXAMPLE OF HOW THE CHANGES IN AN ALEC's NETWORK ARCHITECTURE WOULD AFFECT BELLSOUTH'S INTRALATA NETWORK?

A. Yes. First, when a new ALEC enters the network and they select the resale mode of entry, there is very little, if any change to the BellSouth's network configuration. Since the ALEC subscribers are handled identical to BellSouth's retail customers, no trunking or switching system changes are required. Next, an ALEC might add a collocation point as their method of provisioning service. As shown in Exhibit NDT-1, slide 2, BellSouth would have to change the intraLATA switching pattern for this ALEC's calls. At the time the ALEC was reselling BellSouth's service, all intraLATA calls were completed using the BellSouth network routing plan. With the change to collocation, all intraLATA calls for this ALEC must be delivered to their Point of Interface at their collocation point. This would require changes to the BellSouth network configuration and the establishment of trunk groups to the ALEC collocation office, either direct or through tandem switching. Finally, an ALEC becomes total facility based. In slide 3 of Exhibit NDT-1, I show the ALEC as a facility-based provider. Depending on whether the interconnection for this carrier moves from its existing collocation office or not, major trunking rearrangements might be required to meet this change.

Q. WHAT WOULD BE THE EFFECT OF THESE NETWORK CONFIGURATION CHANGES ON BELLSOUTH?

A. The overall effect in either of these methods is that BellSouth will have major rearrangements in its network configuration. When customers change their local service providers, this can have the same effect. If a large business that is currently served by ALEC A, switches to ALEC B, the trunking arrangements could change throughout BellSouth's intraLATA network. As previously shown, moving large amounts of call volumes from one switching system (central office) to another will require BellSouth to reevaluate the trunking patterns and routing plans for that area.

Q. HOW DOES BELLSOUTH FORECAST THESE CHANGES?

A. The best way to forecast these changes is direct information from the ALECs. As with all business projections, many ALECs will forecast the same group of customers in their marketing plans. Also, many ALECs do not share their plans with BellSouth. Our network engineering groups are faced with making forecasts for those ALECs who do not share their plans or trying to validate the ambitious projections of those who do. The success of these forecasts is best measured by the ability of BellSouth to meet the needs of our ALEC customers.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes

- Slide 1 -
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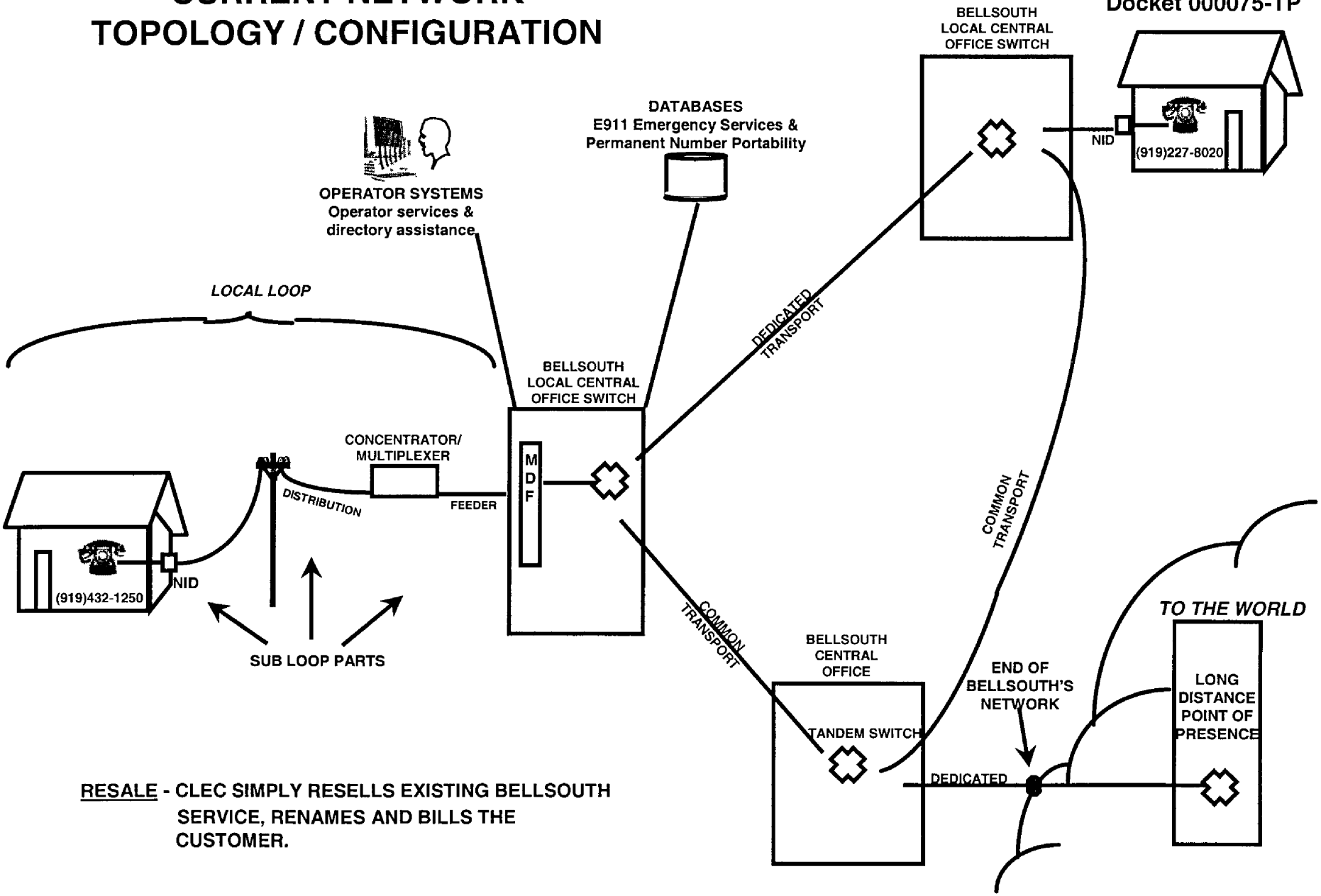
Docket 000075-TP

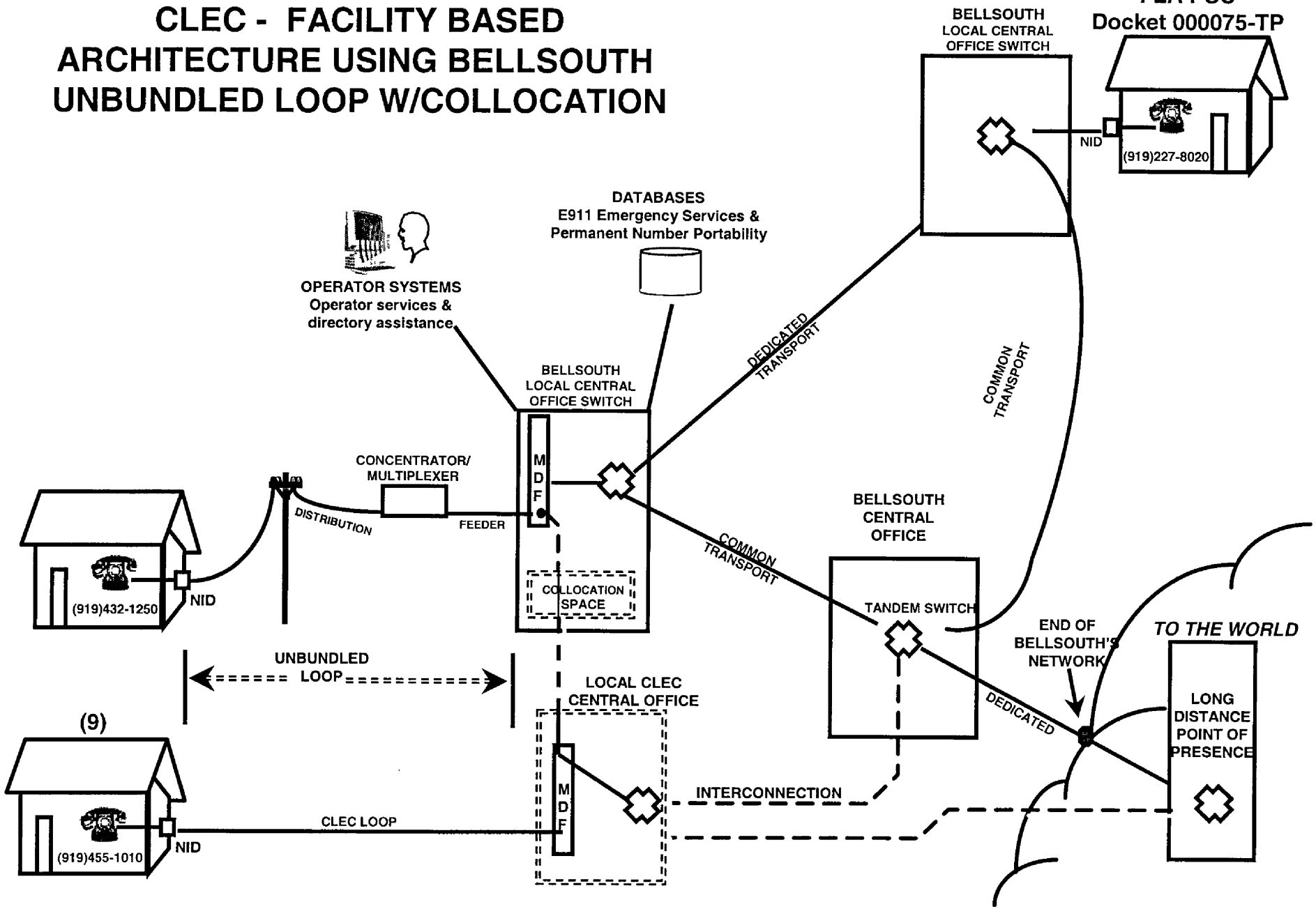
CURRENT NETWORK TOPOLOGY / CONFIGURATION



RESALE - CLEC SIMPLY RESELLS EXISTING BELLSOUTH SERVICE, RENAMES AND BILLS THE CUSTOMER.

- Slide 2 -
FLA PSC
Docket 000075-TP

CLEC - FACILITY BASED ARCHITECTURE USING BELLSOUTH UNBUNDLED LOOP W/COLLOCATION



- Slide 3 -
FLA PSC
Docket 000075-TP

BASIC CLEC FACILITY BASED ARCHITECTURE