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FEDERAL COMMUNICATIONS COMMISSION  
WASHINGTON, D.C. 20554

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SOUTHWESTERN BELL TELEPHONE COMPANY'S  
ANNUAL OPEN NETWORK ARCHITECTURE REPORT

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## SUMMARY\*

In this Annual report, SWBT updates its deployment projections for its ONA network capabilities, and explains, that it has received no solicitations for its 120-day ESP request form since the April 1996 report filing. SWBT also updates the status of any ONA service requests previously deemed technically infeasible and details herein its projected deployment of SS7, ISDN and IN, as required. In this regard, SWBT also explains the status of services to be available through SS7, ISDN and IN.

The IILC has been restructured and its functions are now being carried through activities in the Network Interconnection/Architecture (NIA) Committee. Several issues have reached closure and new issues are being introduced. SWBT also describes progress in providing BNA, CNI, and ANI in its region.

The report also describes SWBT's progress in developing and implementing OSS services, including its involvement in the Working Group T1M1.5 to develop the architecture, interface, and protocol standards for Operation System Interface with Network Elements. Finally SWBT lists the BSEs used in the provision of its own enhanced services.

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\* All abbreviations are referenced in the text of this filing.

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SOUTHWESTERN BELL TELEPHONE COMPANY'S  
ANNUAL OPEN NETWORK ARCHITECTURE REPORT

Southwestern Bell Telephone Company (SWBT), by its attorneys, respectfully files this Annual report regarding its Open Network Architecture (ONA) Plan, as required by the Commission's Second BOC ONA Amendment Order<sup>1</sup> and the Memorandum Opinion and Order of March 29, 1993.<sup>2</sup>

**I. BACKGROUND AND INTRODUCTION**

In the BOC ONA Further Amendment Order, certain annual reporting requirements were established, and the MO&O added one annual reporting requirement. All requirements are addressed herein.

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<sup>1</sup> Memorandum Opinion and Order, CC Docket No. 88-2, Phase I 6 FCC Rcd 7646 (1991) (BOC ONA Further Amendment Order).

<sup>2</sup> Memorandum Opinion and Order, CC Docket 88-2, Phase I 8 FCC Rcd 2606 (1993), para. 10 (MO&O).

## **II. ANNUAL REPORT**

### **A. ANNUAL PROJECTED DEPLOYMENT SCHEDULES FOR ONA SERVICES**

Attached as Exhibit A is the three-year estimated deployment information for SWBT's ONA network capabilities as of December 31, 1998, 1999, 2000, and 2001. This information represents SWBT's future plans, some of which have not yet been officially funded. If funding becomes available, the exact deployment time frames are still not guaranteed, and thus, the projected service availabilities may not actually occur in the reported period. These plans are subject to review and change as demand, finances, equipment availability, regulatory mandates, legal requirements and other similar conditions change the plans for network evolution. These factors may cause certain offerings now deemed to meet the Commission's four criteria for "key" ONA services to no longer meet those criteria.

### **B. NEW ONA SERVICE REQUESTS FROM ENHANCED SERVICE PROVIDERS (ESPs)**

The BOC ONA Further Amendment Order requires SWBT to report on new ONA service requests from ESPs and the disposition of such requests.<sup>3</sup> Five types of dispositions are possible:

- Category 1 – Developed. The requested service has been developed and is available (or will be upon tariff approval).
- Category 2 – Under development. The requested service is under development and will generally be available within a year.

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<sup>3</sup> BOC ONA Further Amendment Order, para. 18.

- Category 3 – Further evaluation planned. The requested service is not currently available, but certain conditions may develop which could possibly change its status. The request will be re-evaluated within a time frame specified in the request response.
- Category 4 – Pending evaluation. The request is currently being evaluated within the 120-day request cycle.
- Category 5 – No Further activity planned. The request cannot be met for the reason specified in the response, or the requesting party chooses no further activity after receiving the response.

Since the last SWBT ONA annual filing on April 15, 1998, SWBT has received no requests for an ESP Request for New ONA Capabilities Form. In the previous report period, one request Form was forwarded to a requester but, to date, that Form has not been completed and returned to SWBT. No activity has been experienced in over 17 months concerning this request. This request will now be classified by SWBT as a Category 5. In SWBT's last annual report, three requests were classified as Category 4. As indicated in the last annual report, a follow-up request for additional information was sent by SWBT. No response has been received from any of the requesters since the last annual report. Since no activity has been experienced in over 12 months concerning these requests, SWBT is classifying these three requests as Category 5.

### **C. ONA SERVICE REQUESTS PREVIOUSLY DEEMED TECHNICALLY INFEASIBLE**

Attached as Exhibit B is a list of ONA services sought by the ESP market at the commencement of the ONA proceedings along with their technical status today.<sup>4</sup> Some of these original request are now technically feasible but are not being offered or developed because they do not meet one or more of the Commission's three other criteria (market demand, cost

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<sup>4</sup> Nomenclature used in this Exhibit is the same as that used in Appendix A & B, Pacific Bell's, Nevada Bell's and SWBT's Open Network Architecture (ONA) Report, March 31, 1999.

feasibility, or utility to ESPs).<sup>5</sup> Further, many of the other services could potentially be developed with the emergence of future technologies.

**D. SS7, ISDN, AND IN PROJECTED DEPLOYMENT**

Attached as Exhibit C is SWBT's Projected Deployment of Signaling System 7 (SS7), Integrated Services Digital Network (ISDN), and Intelligent Networks (IN).<sup>6</sup> These deployment projections reflect the percentage of access lines in exchanges where SS7, ISDN, and IN capability is projected. The same qualifications explained above at p. 2 also apply to these projections.

**E. NEW ONA SERVICES AVAILABLE THROUGH SS7, ISDN, AND IN**

The following is a description of several services, which SWBT has either introduced or progressed in developing since prior reports. Included also are new services which SWBT is planning to trial. While each service does not necessarily fall within the ONA model, they are nevertheless consistent with the ONA principles of nondiscriminatory availability of network building blocks and unbundled tariff options.

**1. COMMON CHANNEL SIGNALING (CCS7) - DERIVED SERVICES**

SWBT currently offers the CCS7 – derived service Caller ID in each state within its service territory. Caller ID permits the calling party's name and telephone number to appear on the called party's customer premises equipment (CPE), if so equipped. All LATAs within SWBT's serving area have Caller ID.

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<sup>5</sup> As explained in SWBT's May 19, 1989 Second ONA Plan Amendment, (pp. 8-9), SWBT intends to evaluate new network capability requests via a Business Opportunity Analysis (BOA).

<sup>6</sup> Exhibit C reflects AIN (Release 0.1) capabilities.

SWBT currently offers Calling Name Delivery in each state within SWBT's serving territory and Anonymous Call Rejection within Texas. Calling Name Delivery permits the calling party's name and time of delivery of the call to appear on the called party's CPE, if so equipped, during the first silent interval of the ringing cycle. Anonymous Call Rejection (sometimes called "Block the Blocker") allows the called party to automatically reject incoming calls from any party that is blocking his/her calling number information while trying to place the call. The called party receives no alerting when a call has been rejected. The calling party receives a denial announcement directing them to "unblock" their call if they wish to call the called party.

As indicated in SWBT's last ONA Report, all three of these CCS7-based services are unbundled from other discretionary services and from one another (i.e., the only working service a customer must have to order one or more of these services is general exchange circuit-switched, line-side service). Caller ID and Calling Name Delivery are tariffed in the local exchange service tariffs within SWBT's five states. Anonymous Call Rejection is tariffed in Texas and is planned for deployment in Arkansas, Oklahoma, Kansas, and Missouri in 1999. All three services are offered on a flat rate basis.

None of these services was planned or deployed on the basis of demonstrated ESP market demand. However, as mentioned in the April 14, 1994, ONA Plan Report, Caller ID has been added as a Complementary Network Service (CNS) to the three-year deployment projection for ONA services. Should it appear at any time that the other services are being used to support enhanced services on any appreciable scale, SWBT would categorize them as CNSs within the Commission's ONA model, for all purposes.

## **2. SS7 SIGNALING**

SWBT currently offers SS7 signaling capability that supports ISDN calling throughout the interconnected networks. These ISDN supporting capabilities are 64 Clear Channel Capability and Multiple 64 Clear Channel Capability.

### **a. 64 Clear Channel Capability (CCC)**

Switched Access 64 CCC is a common switching feature available with Switched Access Feature Group D (FGD) and Circuit Switched – Trunk Side Alternative D Basic Serving Arrangement (BSA – D) that uses SS7. SS7 protocol provides a means to transfer ISDN information from switching machine to switching machine across interconnected networks. 64 CCC provides the customer with an increase in usable data bandwidth from 56 Kbps per trunk across the network. 64 CCC is provided on a 1.544 Mbps facility and requires the customer signal at the channel interface to conform to Bipolar Eight Zero Substitution (B8ZS) line code format.

In addition, SS7 Signaling specifications were modified for the implementation of National ISDN- 1 (NI – 1) services. These modifications allow ISDN subscribers to communicate with other ISDN subscribers across the network at speeds up to 64 Kbps and provide the ability to deliver terminal sub-address and protocol compatibility information through the use of the SS7 Access Transport Parameter (ATP).

Until 64 CCC was available, ISDN had been limited to intraswitch applications. With 64 CCC and SS7 Signaling, customers now have the ability to establish interLATA calls to and from end users who are served by ISDN-equipped switches and access lines.

**b. Multiple 64 CLEAR CHANNEL CAPABILITY (CCC)**

SWBT began offering Multiple 64 CCC in metropolitan areas in 1994 and it is currently being expanded concurrent with ISDN deployment.<sup>7</sup> This includes rural areas as well as metropolitan areas. Multiple 64 CCC is an optional feature available with Feature Group D (FGD) and Basic Serving Arrangement D (BSA – D) that uses SS7 Signaling and 64 CCC in suitably equipped end offices. Multiple 64 CCC expands the capability of existing ISDN Primary Rate Inter face (PRI) and user offerings. Today, switched access for customers is limited to services using bit rates of 64 Kbps or less. Multiple 64 CCC will enable ISDN PRI end users to establish calls at data transfer rates between 64 Kbps to 1536 Kbps on a real – time basis. End user customer applications using the Multiple 64 CCC feature may include, but are not limited to, Switched Fractional DS1, Select Video Plus, Bulk Data Transfer, Videoconferencing, and Electronic Imaging.

**c. Network Subscriber Information Interface**

SWBT provides Network Subscriber information Interface (NSII) in suitably equipped offices and per tariff in Texas. NSII offers a version of Simplified Message Desk Interface (SMDI) that allows an Enhanced Service Provider (ESP) to control stutter dial tone on subscriber lines in more than one central office using SS7 signaling. This application typically allows ESPs to offer voice messaging service.

**3. IN – DERIVED SERVICES**

SWBT currently has fifteen Intelligent Network (IN) services deployed or under

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<sup>7</sup> St. Louis, Kansas City, Topeka, Wichita, Little Rock, Oklahoma City, Tulsa, Dallas, Houston, San Antonio and Austin. See also Transmittal No. 2335 that SWBT filed with the FCC on February 25, 1995 in Tariff F.C.C. No. 73.

development. SWBT's current (IN) family of services consist of:

**a. 555 INFORMATION DELIVER SERVICE (IDS)**

555 IDS is a seven-digit local dialing arrangement offered by Southwestern Bell Telephone to Information Providers (IPs), Enhanced Service Providers (ESPs) and regular business customers. It is an incoming only, LATA-wide, local calling service. SWBT provides 555 announcement lines to connect the customer's application to the network, as well as a 555 dialing plan allowing end user to make toll free calls to the customer.

Service Deployment: Wichita, Kansas only (grand-fathered).

**b. CALLER INTELLIDATA**

Caller IntelliData provides valuable quantitative and demographic data cost – effectively in the form of regular monthly reports, available on paper or computer diskettes. The individual elements of the Caller IntelliData usage reports could include:

- Total quantity of incoming calls received
- Total quantity of incoming calls by date
- Total quantity of incoming calls by hour of day
- Total quantity of incoming calls by demographic code (based on billing address)
- Total quantity of incoming calls by NPA/NXX (area code/exchange and town)
- Total quantity of incoming calls by ZIP Code+4 (based on billing address)

Caller IntelliData was deployed in Wichita and Topeka, Kansas as well as Houston and Austin, Texas in 1995. Caller IntelliData has been deployed throughout SWBT's five state area.

**c. INTELLIGENT CALL FORWARDING**

In 1995, this service was redesigned and split into two distinct, new services:

Disaster Routing Service and Intelligent Redirect. The service name “Intelligent Call Forwarding” is no longer in use within Southwestern Bell.

**c.1.     DIASTER ROUTING SERVICE (DRS)**

DRS utilizes the Basic Routing option from Intelligent Call Forwarding to provide a telecommunications disaster recovery plan. With this option, for every telephone number the business wants to equip with DRS, it can select up to three alternative telephone numbers to forward calls to in the event of problem at the customer’s business premises.

Disaster Routing Service has been deployed throughout SWBT’s five state area.

**c.2.     INTELLIGENT REDIRECT (IR)**

IR is comprised of the remaining four routing options of Intelligent Call Forwarding, which enable calls to multiple telephone numbers to be forwarded to various designated locations. By pre-establishing call destination groups (by specific telephone number, floor, department, building, etc.), businesses can respond more effectively to their individual customer needs. The customer chooses how it wants its organization’s various phone numbers grouped together, and how it wants calls to these numbers handled. For example, after regular business hours, a business can have all calls to the sales department handled one way, while calls to accounting are handled in another manner. Following are the four types of call management capabilities that Intelligent Redirect provides:

- (1)     Time-Of-Day/Day-Of-Week Routing:     This feature enables calls to be forwarded based on the time of day/day of week. And, a business can specify up to 10 different time of day/day of week combinations per group.
  
- (2)     Specific Data Routing:             This feature enables a business to redirect incoming calls to different telephone numbers, based on the specific date

the call is placed. A business can specify up to 10 different dates per group.

- (3) Percentage Allocation Routing: This feature enables a business to forward calls to multiple work groups and locations on a preselected percentage basis. A business can specify up to 5 different percentages per group, provided that the sum of the percentages is 100 percent. Percentages must be designated in whole numbers.
- (4) Originating Location Routing: This feature enables a business to forward calls based on the calling party's phone number. A business designates how it wants these calls forwarded via a preestablished list. When a call comes through from a number that's on the list, it can be forwarded appropriately. When a call comes through that's not on the list, the call will be completed based on the service's default position or one of the other Intelligent Call Forwarding service features a business has designated.

The deployment schedule for Intelligent Redirect is identical to the schedule for Disaster Routing Service, as referenced in c.1. above.

#### **d. CALL SELECT**

Call Select – formerly “Selective Call Acceptance (SCA)”, via a customer-defined authorizations profile, enables customers to specify the incoming calls that can access their phone number. Calls from phone numbers that have been authorized for clearance or from callers who have been given an access code will ring through to the home. Other calls will be sent to voice mail or to a denial announcement. There are three states of the service:

- (1) Accept All Calls – All calls placed to the home ring through.
- (2) Accept Calls Selectively – Only authorized calls ring through to the home (up to 50 authorized phone numbers, and /or individuals provided an access code).
- (3) Accept No Calls – No calls placed to the home ring through (“Do Not Disturb” option).

Customers have control of who has access to their phone by changing the state of

the service. Once the service is set to "Accept Calls Selectively" calls placed by family and/or authorized friends gain access. Setting the state of the service to "Do Not Disturb" blocks all calls, thereby routing calls to either voice mail or a denial announcement. This feature provides "peace and quiet", total privacy, convenience, and peace of mind to the subscriber.

During 1995 SCA was trialed in Wichita, Kansas. This service will be reevaluated and future deployment plans will be determined in 1999.

**e. INTELLINUMBER**

IntelliNumber (a.k.a. Single Number Service) provides a single telephone number for customers with multiple satellite locations. Customers may use this service to provide a single publicized telephone number in a metro area for their business regardless of the number and location of their satellite or branch locations. Incoming calls to this single number are routed to the appropriate satellite location based on the ZIP Code of the CPN (Calling Party Number) and/or based on a routing option(s). The customer may select one or a combination of routing option(s) – Time-Of-Day/Day-Of-Week Routing, Specific Date Routing, and Allocation Routing. From the caller's point of view, the call is processed the same as any other normal telephone call; thus, the caller is unaware that the call has been rerouted.

IntelliNumber is currently deployed in all NPAs within SWBT's five state area.

**f. AREA WIDE NETWORKING**

Area Wide Networking (AWN) is a set of features that improves the inter-location networking capabilities of customers connected to SWBT central offices. AWN is targeted toward multi-location/multi-switch subscribers with a requirement for "community of interest" calling, regardless of the type of telephone system in place at each of the subscriber's

premises. Existing Plexar/Centrex, Private Branch Exchange (PBX), Key systems, and single exchange lines are the primary vehicles to be integrated in this service. AWN is an overlay to a customer's existing service (i.e., Plexar, PBX, Key, etc.). AWN features include: inter-location abbreviated (Intercom) dialing, automatic selection of facilities, centralized access to private/public facilities, remote access to facilities, outgoing call screening, function codes, link extensions, and a work at home option.

AWN is currently deployed in all metropolitan areas within SWBT.

**g. POSITIVE ID**

Positive ID restricts telephone access to computers, PBXx and/or faxes. The services, via customer-defined authorization profiles, enables customers to specify the incoming calls that can access their phone numbers. Calls from phone numbers that have been authorized for clearance access their phone numbers. Calls from phone numbers that have been authorized for clearance or from callers who have been given an access code, gain access. All other calls are denied.

Authorization is initially assessed based on the calling party number (CPN) of the caller (i.e. the caller is handled prior to accessing the machine). Though the service's operational support is performed by SWBT, the customer's local administrator has control over system access modification, monitoring and fraud management. Authorized callers can be changed, expanded or updated via PC interface anytime, or on an emergency basis, via Touch-Tone input into the Interactive Voice Response (IVR) system.

All attempts to access the phone number (whether computer, fax, etc.) are recorded and displayed on reports which are available for distribution either weekly or monthly on diskette or paper.

Positive ID is currently deployed in all metropolitan areas within SWBT.

**h. VOICE ACTIVATED DIALING**

Voice Dial is SWBT's voice activated dialing service. Following a successful marketing and technical trial from late 1994 to early 1995, SWBT began introduction of Voice Dial in August 1995.

Voice Dial which is offered as an unbundled, stand-alone service (i.e., the customer needs only an access line (dial tone) for Voice Dial to be functional) permits a customer to simply pick up the telephone and verbally identify the party or intended destination of the call. The Voice Dial platform recognizes the spoken input and dials the spoken input and dials the appropriated telephone number. To use Voice Dial, the customer must choose either a 30, 50, or 75 number directory and then train the directory with names and phrases to recognize their verbal instructions.

Due to insufficient customer demand and the high cost of maintaining the service, SWBT has recently withdrawn the service in Missouri, Oklahoma, Kansas, and Arkansas. The service is still offered in Texas pending PUC approval following the introduction of an acceptable alternative.

**i. RESERVE LINE**

Reserve Line is a repackaging of Additional Line Service, offering a lower cost

alternative to customers who have a need for a low-use additional line. Reserve Line is now available in Arkansas, Texas, Missouri, and Kansas.

**j. GOVERNMENT EMERGENCY  
TELECOMMUNICATIONS/ALTERNATE CARRIER  
ROUTING (GETS/ACR) SERVICE**

GETS/ACR provides alternate routing paths for calls to specified federal government telephone number that will be used in times of government emergencies. The service was deployed in all market areas in August of 1996.

**k. OUTGOING CALL RESTRICTION**

Outgoing Call Restriction is an IP application that screens calls based on a list of included and/or excluded NPAs, NPA-NXX, and/or 10 digit telephone numbers. Deployment is planned for Dallas, Texas in the 2<sup>nd</sup> Quarter 1999 and all other metropolitan areas in 1999 and 2000.

**l. INTERCEPT CALL COMPLETION – (OPERATOR SERVICES)**

Intercept Call Completion (Operator Services) enables callers to telephone numbers that have been changed or disconnected to have the network complete the call automatically. This service was deployed in Austin, Texas in 1998. This service will be grandfathered and will not be deployed in any other SWBT areas.

**m. LSP ROUTING SERVICE – (INTERCONNECTION)**

LSP (Local Service Provider) Routing Service is an AIN alternative to the

Utilization of Line Class Codes to meet the FCC requirement to provide Custom Routing on Resale and Unbundled Local Switch ports. SWBT agreed to provide this alternative to cover situations where SWBT lacks the capability or capacity to provide the service using LCCs.

**n. 311**

311 is a citizen service for non-emergency calls. 311 provides an alternative to E911 in that it frees up emergency operators who now handle both emergency and non-emergency calls. An initial Individual Case Basis service was developed for the Dallas City Government in 1997. 311 service is available throughout SWBT's five state area.

**o. Internet Caller ID**

Internet Caller ID allows a telephone subscriber to receive incoming call information via a pop-up dialog box on their PC while logged on the Internet. The subscriber will see the Caller ID and will be able to take or dispose of the call via four options. Internet Caller ID will be deployed in Lubbock, Texas in the 2<sup>nd</sup> quarter 1999, followed by deployment throughout SWBT in 1999 and 2000.

**F. PROGRESS ON NETWORK INTERCONNECTION/ARCHITECTURE COMMITTEE (NIAC) EFFORTS ON CONTINUING ACTIVITIES FOR THE IMPLEMENTATION OF SERVICE-SPECIFIC AND LONG-TERM UNIFORMITY ISSUES.**

The Network Interconnection/Architecture Committee (NIAC), a committee in the Network Interconnection Interoperability Forum (NIIF), within the Alliance for Telecommunications Industry Solutions (ATIS) framework, supports activities for the

implementation of service-specific and long-term uniformity issues. The NIAC identified three issues as ESP requests in the last ONA Report:

1. NIIF 0004 Advanced Intelligent Network (AIN) Access by Non-LEC Resource Element-withdrawn on January 14, 1999, after being tabled since January 7, 1997, at the request of the originator. Correspondence was sent Return Receipt Requested notifying the originator of the NIAC planned action to withdraw Issue #0004, with no official response. Based on previous agreements, the committee withdrew the issue.
2. NIIF 0011 ISDN Information for ESPs – resolved on December 8, 1997, providing ESPs options for access to ISDN information. NIIF participants agreed to move Issue #0011 to Final Closure on February 11, 1998.
3. NIIF 0012 Identify and Define Specific Mediation Functions for “Create Call” – withdrawn on January 14, 1999, after being tabled since January 7, 1997, at the request of the originator. Correspondence was sent Return Receipt Requested notifying the originator of the NIAC planned action to withdraw Issue #0012, with no official response. Based on previous agreements, the committee withdrew the issue.

There were no new issues originated by ESPs since the last ONA report.

## **G. PROGRESS IN PROVIDING BILLING INFORMATION**

### **1. BILLING AND ADDRESS (BNA)**

In accordance with the Commission’s decision in CC Docket 91-115, Second

Order on Reconsideration,<sup>8</sup> federal tariffs for BNA were filed and became effective April 9, 1994. A copy of SWBT's Transmittal No. 2334 was provided in its April 15, 1994, ONA Plan Amendment.

## **2. LINE-SIDE CALLING NUMBER IDENTIFICATION (CNI)**

SWBT currently offers Caller ID on Oklahoma, Kansas, Arkansas, Missouri and Texas. Caller ID is offered with free "Per-call Blocking" capability in all states. "Per-call Blocking" enables a customer to temporarily block the delivery of the Calling Party Number (CPN) to the called party. In addition, in Missouri, Arkansas and Kansas, free "Per-call Blocking" is offered to law enforcement and domestic violence agencies. Per-line blocking blocks CPN delivery from all calls made. Missouri and Kansas also extend per-line blocking to those employees of the law enforcement or domestic violence agencies that conduct official business from home. Texas state law requires that per-line blocking be offered to anyone who writes the Texas Public Utility Commission (PUC) or to SWBT stating that they have a "compelling" need for per-line blocking.

## **3. AUTOMATIC NUMBER IDENTIFICATION (ANI) AND CALL DETAIL**

SWBT currently provides ANI through the trunk side BSA approved by the Commission in SWBT's original ONA Plan. Generally, the ESP can determine the call detail information with its own recording equipment. SWBT currently does not provide call detail recording to ESPs. However, SWBT would certainly consider the provision of this service if sufficient demand existed.

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<sup>8</sup> Second Order on Reconsideration, CC Docket No. 91-115, Released December 7, 1993.

## **H. PROGRESS IN DEVELOPING AND IMPLEMENTING OPERATIONS SUPPORT SYSTEMS (OSS) SERVICES.**

As a preface, SWBT directs the Commission's attention to its April 15, 1993, Annual ONA Report and its ONA Amendment filed July 15, 1993. In these filings, SWBT described significant progress in developing and implementing OSS services, particularly those of interest to ESPs. This report will describe SWBT's further progress since that time.

Effective March 31, 1993, SWBT announced availability of the ESP version of its Customer Network Administration (CNA) service, which allows ESPs to access SWBT's OSS and conduct business electronically with SWBT.

As outlined in the July 15, 1993, ONA Amendment, CNA provided the ESP the means to accomplish a variety of business functions, including the ability to order CNSs on behalf of end users. When placed, such orders are automatically inserted into SWBT's service order provisioning cycle and batch processed. This interface is known as Order Entry.

In addition, SWBT has evaluated the Open Systems Interconnect (OSI) Electronic Trouble Management Interface specification and continues to develop T1M1.5 complaint interface.<sup>9</sup> SWBT worked with two interexchange carriers and implemented this interface in 1995. This interface allows the customers' internal trouble management systems to communicate via a transport level protocol on an application to application basis with various SWBT OSSs. This capability allows transparent management of trouble related issues across SWBT and provides more timely input of trouble directly into SWBT OSSs. In addition, this interface provides proactive status change notification to the customers, and is sufficiently robust

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<sup>9</sup> For additional information on T1M1.5 standards work, see the discussion in the following Section I. Of this report.

to add other features as customer needs dictate. This interface is known as Trouble Administration.

SWBT has also developed a proprietary interface for Repair and Maintenance. This is a Graphical User Interface (GUI) that allows for trouble reporting, checking status on trouble reports and provides the ability to perform Mechanized Loop Test (MLT) on Plain Old Telephone Services (POTS). While it utilizes part of the T1M1.5 standards for Trouble Administration, it does not provide proactive status change notification to the user. Trouble Administration was developed as part of the CNA platform.

Both the order Entry and the Trouble Administration applications have been rewritten to operate on the Southwestern Bell Toolbar. The Southwestern Bell Toolbar (Toolbar) became available in March, 1997 and has replaced the CNA service. Like the CNA service, the Toolbar provides real-time access to SWBT's OSSs by providing a single launching point for, and allowing access to multiple applications from a single standard logon id and password. The Toolbar also has additional capabilities:

- **Electronic Software Distribution** When enhancements or changes were made to the CNA software, SWBT would send the customer the new distribution via diskettes. The user would then have to 'reload' the CNA system from these diskettes. The Toolbar provides electronic software distribution. When a new version of an application is available, the user is prompted with a notification message and instructed to 'download' the new software. The customer only needs to load diskettes with the initial installation of the Toolbar software. Enhancements to any application on the Toolbar, or enhancements to the Toolbar itself, are sent to the user electronically.
- **Individual Toolbar Configuration** The Toolbar is configurable by user - i.e., if a user only wants access to one of the functions on the Toolbar, only this function is presented to the user. Therefore, the billing groups can access only the Billing function if necessary, and the ordering group can access only the ordering functions, for example.

- **Application Segregation** Previously, if any piece of the system was enhanced or modified, the entire system had to be reloaded. Now, the customer only needs to perform an upgrade (when necessary), on the function that has been changed.

Other applications can be launched from the Toolbar other than the aforementioned Order Entry and Trouble Administration applications. Interexchange Customer On-Line Data Exchange (**ICODE**) provides multiple Primary Interexchange Carrier (PIC) functions, including PIC Verification, PIC Order Edit, PIC Order Submit, Billing Name and Address (BNA), Data Gathering, and a Toll Fraud Inquiry feature. Billing Information (**Bill Info**) provides real-time access to Southwestern Bell OSSs making it possible to view both exchange and access billing data and other information regarding services purchased from Southwestern Bell. **Order Status** allows the user to view both pending and posted service orders. **Verigate** allows customers to verify channel information for a facility and look up Network Channel / Network Channel Interface (NC/NCI) codes. There are over 125 companies actively utilizing the Southwestern Bell Toolbar.

In January, 1997, the Toolbar switched to a new modem bank, known as the 'External Remote Access System (External RAS)'. This new modem bank allows for more than twice as many concurrent connections and provides greater bandwidth. The old modem bank only allowed connections of up to 14.4 kbps. The new modem bank allows for up to 28.8 kbps connections, and has provisions for growth and ISDN capabilities.

## **I. PROGRESS ON THE UNIFORM PROVISION OF OSS SERVICES**

The BOC ONA Further Amendment Order requires annual reports on BOC

progress on the uniform provision of OSS services. Annual reports on implementation of IILC resolutions that have already been adopted are also requested.<sup>10</sup>

In previous reports, SWBT has provided its annual update on IILC issue 003-Technical Working Committee (TWC), “ESP/Customer Access to BOC Network Management Systems (OSSs)”. Also, IILC issue 039, “ESP Needs for OSS Capabilities Associated with End-User Complementary Network Services,” was addressed and consensus resolution reached in 1994. Findings and recommendations resulting from this issue indicate that a variety of needs exist for access to OSS capabilities for CNSs and that the four criteria (i.e., utility to ESPs, technical feasibility, cost feasibility and market demand) for ONA services should serve as a guide when evaluating any of these needs.

SWBT recognizes that uniform provision of OSS services is a complex issue. Many systems having functionalities which ESPs may currently find useful have evolved over long periods of time and utilize different architectures, programming language, etc. Efficient, uniform provisioning of OSS services to mature and distinctly different systems will require well-defined standards and transparent capability to communicate with the OSS itself.

In an ongoing effort to develop uniform provision of OSS services, SWBT continues its active role in the Accredited Standard Committee T1 Technical Subcommittee T1M1. In particular, SWBT is helping to develop the Architecture, Interface and Protocol standards of Working Group T1M1.5. These standards address Operation System (OS) interfaces with Network Elements (NEs), and OSs being operated by other entities or network providers, as well as the human-machine interface (HMI) to the OSs. Communications between

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<sup>10</sup> BOC ONA Further Amendment Order, para. 49.

OSS in different network entities is essential to permit external access to SWBT's OSSs. SWBT fully supports: (1) completion of standard which addresses the functional set of messages for performing fault management-type services between OSSs across a network boundary; (2) progress on a standard addressing the security services needed to prevent unauthorized access across a network boundary; and (3) development of specifications on service ordering and billing interface(s).

**J. BSEs USED IN THE PROVISION OF SWBT ENHANCED SERVICES**

The BOC ONA Further Amendment Order requires that each BOC continue to report annually on the BSEs used in providing its own enhanced services. SWBT-affiliated enhanced services today use the following BSEs and BSAs, as Special Access ordered from FCC Tariff 73, Section 7:

- Category 3, Type C - Dedicated Voice Grade BSA, Special Access – Voice Grade;
- Category 3, Type G - Dedicated High Capacity digital (1.544 Mbps) BSA, Special Access – High Capacity (1.544 Mbps);
- Multiplexing – Digital, Multiplexing;

**K. UNBUNDLING RELATED TO NEW TECHNOLOGIES**

In SWBT's first annual report on unbundling related to new technologies filed July 15, 1993, SWBT explained its view that the term "unbundling," as defined through the Commission's ONA proceedings, refers to the unbundling of services and/or facilities. The information offered by SWBT in this report is consistent with that view.

SWBT continues to be willing to work on issues spawned from the closed IILC Issue 026 – Long Term Unbundling and Network Evolution (See Section F).

**1. ISDN TECHNOLOGY**

For a background on the status of SWBT's unbundling activities as related to

ISDN technology, SWBT incorporates by reference pages 4-9 of its February 14, 1992, Fifth ONA Plan Amendment. This describes in detail SWBT's ISDN-based DigiLine and SmartTrunk services. Other SWBT ISDN-based services include Select Data, Select Video Plus and ISDN capabilities which are in the process of being incorporated into all of SWBT's Plexar offerings. SWBT submits that the manner in which its ISDN services have been designed is in compliance with the applicable Commission ONA unbundling requirements.

SWBT completed the initial deployment of ISDN overlay provisioning plans throughout its five state territory during 1996. The completion of these plans provided SWBT the capability to provide ISDN overlay provisioning plans throughout its five state territory. The completion of these plans provided SWBT the capability to provide ISDN based services to all of its customers on either a local or loop extension basis. The overlays consist of an ISDN host switch(s) with ISDN remote(s) collocated in selected central offices within a local exchange. SWBT's deployment of ISDN emphasizes National ISDN with full interconnection for circuit and packet switched traffic.

The services offered via ISDN technology are DigiLine, SmartTrunk, Plexar with ISDN capability, Select Data, and SelectVideo Plus. As mentioned above, a description of DigiLine and SmartTrunk is provided in SWBT's Fifth ONA Plan Amendment. Plexar with ISDN is the capability to serve ISDN services to customers within a private customer grouping (known as CENTREX). Select Data is an option of SelectVideo Plus Service in Texas, which provides ISDN PRI functionality for digital data transport on a single channel bases at speeds up to 64 kbps. SelectVideo Plus (SVP) is a SWBT term for an end user service, which uses an ISDN Primary Rate service to provide bandwidth to an ISDN-technology end user on an NX64

Kbps basis (up to 1.536 Mbps). SVP is used to provide a switched video channel associated with ISDN end user applications.

## **2. SS7 TECHNOLOGY**

For information on the status of SWBT's unbundling activities as related to SS7 technology, SWBT refers to the above discussion of SS7 and CCS7 (derived services in Section E). In addition, SWBT reports on its activities related to interconnection with the cellular/wireless industry.

Within SWBT's service areas, SWBT provides interconnection with the cellular/wireless industry using SS7 signaling capability. SWBT interconnects with the wireless industry using SS7 for Type 2A (tandem) interconnections, for Mobile-to-Land direction of type 2B (end office) interconnections and for the Land-to-Mobile direction of Type 1 (end office) interconnections. Basic service components available per the SS7 technology include sending the calling party number parameter and the charge number parameter to the cellular customer.

SWBT provides a service feature that allows a telecommunications service provider to query the SWBT calling name information database using SS7. This is used by providers who offer "Calling Name" service.

SWBT provides the SS7 signaling network so that telecommunications providers may transmit ISDN User Part (ISUP) and Transaction Capability Application Part (TCAP) SS7 messages between and among providers.

### **3. IN TECHNOLOGY**

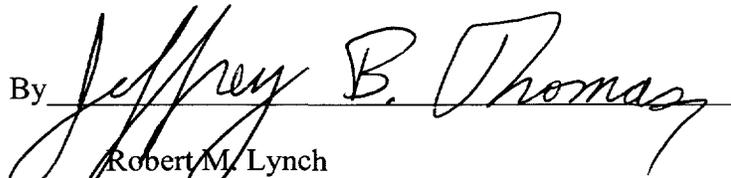
Since the last ONA report, SWBT has deployed multiple Advanced Intelligent Network (AIN) services. Specifics on each of the services may be found above in Section E.3. SWBT is continuing to work with various vendors to further deploy AIN-based services but has learned that creating AIN-based services with individualized switch software to produce a uniform service is a monumental challenge.

**III. CONCLUSION**

SWBT's Annual Report complies with all Commission requirements.

Respectfully submitted.

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