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June 1, 1983

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Dear Ruth:

I thought I had sent my last R.I.L., but from time to time people let me know that certain information is not available but needed. Ergo, number 43 covering mundane items to keep the present day network viable and nothing divestiture related. R.I.L. 44 will have to go into that.

Although I've not mentioned anything lately about the conference operator satellite avoidance (COSA _____) loop around service, it is still with us. We are losing 2 serving offices and as usual I'm lagging the need for information by about 5 months. San Bernardino and Norway will be discontinued in the very near future 6/25/83 and 7/2/83 respectively. It therefore behooves us to find a couple of switching systems to handle this traffic so that the conference service may be continued with reasonably good transmission.

It also seems appropriate to make the necessary changes all at one time, so plan for this to be done on 6/25/83.

1. Atlanta, Dallas, and Denver Region toll switching offices should not have any changes to make as conference operators in those Regions do not use the 191+ dialing procedure.
2. San Bernardino Region toll switching offices should revert to standard routing for 191 just as for any unassigned 000 to 199 code in the NPA. The only 191+ calls will be generated at the SOST board in L.A. All conference calls originated there will be 7 or 10D and handled via traveling class mark on CCIS. Arrangements must be made with Operator Services in L.A.

3. The toll switching offices in the other Regions, will route the 191 + NPA(s) of the Atlanta, Dallas, Denver, and San Bernardino regions to their home region 191 serving office, i.e., the codes 179, 205, 208, 213, 214, 303, 305, 307, 318, 404, 406, 409, 504, 505, 512, 601, 602, 615, 619, 704, 713, 714, 801, 803, 805, 806, 809, 813, 817, 901, 904, 912, 915, and 919, in addition to the codes 191+, 209, 215, 401, 419, and 618 which are those NPA(s) in which the 191 serving offices are physically located.
4. The Toll switching offices in the White Plains, Wayne, Pittsburgh, Chicago/Norway, St. Louis, and Sacramento region should route the 191+ traffic (other than that covered above and 191+ home region NPA(s)) as follows:

<u>Region</u>	<u>191 Serving Office</u>	<u>191 + NPA(s)</u>
White Plains	PRVDRIGR04T	201, 203, 207, 212, 315, 413, 516, 518, 603, 607, 617, 716, 802, 914
Wayne	FTWSPAFW41T	202, 301, 302, 609, 703, 717, 804
Pittsburgh	TOLDOH2101T	216, 304, 313, 412, 513, 517, 606, 614, 814
Chicago St. Louis	COVL1LCL41T	217, 218, 219, 308, 309, 312, 314, 316, 317, 319, 402, 405, 414, 417, 501, 502, 507, 515, 605, 608, 612, 616, 701, 712, 715, 812, 815, 816, 906, 913, 918
Sacramento	SKTNCA0110T	206, 209, 408, 415, 503, 509, 702, 707, 808, 907, 916

That should take care of all the assigned NPA codes and with luck (and no errors), the 191 + NPA routing for the rest of the year.

The second item for discussion is on teleconferencing. Doris Harman (LL Headquarters-Routing) on 201-234-6462, has provided the following for your information and guidance.

Attached are the Routing Instructions for the Network Audio and Audio-graphics Teleconferencing Service which will be offered to the public in October, 1983.

Implementation of the code assignments in the host 4ESS offices should be coordinated with the installation of the Network Services Complexes (NSCs). The NPA + .OXX (Special InWATS code (SIC)) assignments should be implemented per data from the Integrated Routing Assignment System (IRAS).

Trunk groups between the host 4ESS and NSCs are to be marked as satellite facilities; therefore, limiting satellite trunks to the connection between the originator and the host 4ESS. Trunk numbering, however, will start with one (1) as though it were a terrestrial group.

Please call me on 201 221-4759 for any questions.

Bill

W. B. Plossl
District Manager - Routing

cc: To all NRG Addressees

NETWORK AUDIO AND AUDIO - GRAPHICS TELECONFERENCING
SERVICE - ROUTING INSTRUCTIONS

I GENERAL

II NETWORK ARCHITECTURE

III OPERATION

IV DIALING PROCEDURES

- A. Customer Direct Dialed
- B. Operator Assistance - Customer Initiated
- C. Teleconferencing Operator
- D. Operator Assistance - NSC Initiated

V ROUTING

ATTACHMENT	1	CHCG IL CL57T
ATTACHMENT	2	DLLS TX TL34T
ATTACHMENT	3	LSAN CA 0292T
ATTACHMENT	4	WHPL NY 0504T

I GENERAL

The network audio and audio-graphics Teleconferencing service is scheduled for introduction in October, 1983.

Customers with TOUCH-TONE™ equipment who are served by a Traffic Service Position System (TSPS) will be able to establish audio only and audio-graphics conferences on a direct dialed basis. Operator assistance supported by the Teleconferencing Operator Support System (TOSS) will be located in Riverchase, Ala. which is served by the Birmingham No. 4ESS office. Rotary dial customers and TOUCH-TONE™ customers not served by TSPS must always be served by the Teleconferencing operators. At some later date, service can be provided on a pre-arranged or reserved basis utilizing the services of the Teleconferencing operator.

II NETWORK ARCHITECTURE

Teleconferencing service will utilize the existing Stored Program Controlled (SPC) network and a micro-processor controlled network bridging system called a Network Services Complex (NSC).

There are three types of NSCs, each providing a specific service to the customer as follows:

- . audio (voice) only
- . audio-graphics
- . graphics only (voiceband)

The NSCs are designed to interact with a host SPC system (No. 4ESS Generic 7 or higher equipped with CAMA - also know as an Action Control Point - ACP). For the initial service, the host SPC systems and their related Special Inwats Code (SIC) will be:

CHCG IL CL57T	312+001
DLIS TX TL34T	214+025
LSAN CA 0292T	213+080
WHPL NY 0504T	914+042

III OPERATION

On customer dialed calls, the call goes to a TSPS which routes the call to the appropriate Originating Screening Office (OSO) and then to the InWATS Data Base (IDB). Information provided by the IDB routes the call to the proper host No. 4ESS where the micro-processor controlled NSC is accessed. The NSC passes dialing instructions back to the customer to enable the customer to establish the desired conference arrangement. Operator assistance is automatically provided as indicated by dialing irregularities or as requested by the customer.

If customer is rotary dial or non TSPS TOUCH-TONE™, the customer places a call to the Teleconferencing operator where the call is established with operator assistance. The operator dials the bridging locations over the DDD network and establishes the appropriate connections.

IV DIALING PROCEDURES

A. Customer direct dialed (Customers with TOUCH-TONE™ equipment served by TSPS)

1. Customer dials 0+700+456+ $X_1X_2X_3X_4$

- Zero (0) directs the call to the TSPS.

- 700+456 identifies the call to the TSPS as a Network Audio-graphics Teleconferencing Service request.

- $X_1X_2X_3X_4$ designates the type of service and bridging location.

X_1X_2 identifies the type of service requested by the customer.

10 = audio (voice) only

20 = both audio and protocol (CCITT Group 4 facsimile) graphics type

30 = non-protocol voiceband graphics only (Bell System Gemini® 100 Electronic Blackboard, slow scan television, etc.)

X_3X_4 identifies the bridging location selected by the customer. Each bridging location has been assigned a unique 2-digit number between 01-49 which is recognized by the IDB. If the last 2 digits are zeros, indicating that the customer does not want to select a bridging location, the IDB routes the call to the bridging location assigned to serve the originating NPA.

2. The TSPS receives 700+456-XXXX and converts the 700+456 to 800+050 and sends 800+050 plus the last 4 digits dialed by the customer to its OSO.
3. The OSO transmits the 800+050+XXXX together with the originating NPA to the appropriate IDB.
4. The IDB converts the 800+050+XXXX to a 10 digit POTS number (NPA+SIC-XXXX). With the exception of when the last 2 digits dialed by the customer are zeros, the last 4 digits are kept intact. If the last 2 digits dialed by the customer are zeros, the IDB changes the digits 00 to 50 to identify that the bridging location was selected by the IDB rather than the customer.
5. The OSO routes the call to or toward the host No. 4ESS using the normal routing pattern and translations.
6. The host No. 4ESS receives the SIC-XXXX and performs translations. (See attachments 1-4)

B. Operator assistance - customer initiated

- Operator assistance is required for:

- . Customers with rotary dial equipment.
- . Customers with non-TSPS served TOUCH-TONE™ equipment.
- . Customers requesting Reserved service. (future offering)

- Teleconferencing operators located at Riverchase, Ala. (Birmingham No. 4ESS) can be reached as follows:

1. Customer dials 800+855-5000 which is routed to an OSO and thence to the IDB.
2. The IDB converts 800+855-5000 to 205+028-519X and returns it to the OSO.
3. The OSO routes 205+028-519X to or towards Birmingham No. 4ESS for completion to the Riverchase, Ala. Teleconferencing Operator.

C. Teleconferencing operator

There are two types of operator provided Teleconferencing services. In both cases the customer has the option of selecting the bridging location.

- Demand - Operator places call for customer at time of customer's request.
- Reserved - Operator reserves Teleconferencing bridge ports for future time or date ensuring completion of conference at desired time. (This is a future offering)

The Teleconferencing operator places a Teleconferencing call by dialing the NPA+SIC-XXXX directly into the network as a POTS number without accessing the IDB.

1. Demand - Operator dialed

• Operator dials NPA=SIC-X₁X₂X₃X₄

- NPA+SIC = host No. 4ESS

- X_1X_2 identifies type of service requested by the operator.

11 = audio (voice) only

21 = both audio and protocol (CCITT Group 4 facsimile) graphics type

31 = non-protocol voiceband graphics only (Bell System Gemini[®] 100 Electronic Blackboard, slow scan television, etc.)

- X_3 = 0 or 1
0 indicates forward search of NSCs at host No. 4ESS
1 indicates reverse search of NSCs at host No. 4ESS

- X_4 = always a zero (0)

2. Reserved - Operator dialed

Operator dials NPA+SIC- $X_1X_2X_3X_4$

- NAP+SIC = host No. 4ESS

- X_1 = identifies type of service requested by the Teleconferencing operator.

1 = audio (voice) only

2 = both audio and protocol (CCITT Group 4 facsimile) graphics type

3 = non-protocol voiceband graphics only (Bell System Gemini[®] 100 Electronic Blackboard, slow scan television, etc.)

- X_2 = identifies operator request for a reserved NSC (always 2 thru 9)
- X_3 = In conjunction with X, identifies reserved NSC (always 2 thru 9)
- X_4 = Used internally by the NSC to identify bridge number (always zero or 1)

D. Operator Assistance - NSC Initiated

- Operator assistance is automatically provided as required on customer dialed calls under the following conditions:
 1. Customer is slow responding to prompts and times out.
 2. Customer makes three consecutive dialing errors during call setup.
 3. Customer requests operator for assistance.
 4. Controller of conference is dropped from the bridge during call setup or during the conference.
 5. The Teleconferencing operator is dropped from the bridge while assisting the customer.
- The affected NSC outpulses 205+028-519X to the host No. 4ESS which routes directly through the network to or toward the Birmingham No. 4ESS. (See Section V)

V ROUTING

1. At all Toll Switching Offices -

<u>CODE</u>	<u>ROUTE</u>
312+001-XXXX	To or toward CHCG IL CL57T
214+025-XXXX	To or toward DLLS TX TL34T
213+080-XXXX	To or toward LSAN CA 0292T
914+042-XXXX	To or toward WHPL NY 0504T
205+028-XXXX	To or toward BRHM AL MT01T

2. At BRHM AL MT 01T

<u>CODE</u>	<u>ROUTE</u>	<u>DELETE</u>	<u>PREFIX</u>
028+519X	To Riverchase, Ala. as locally directed	3	987

3. At Host 4ESS offices -

CHCG IL CL57T see attachment 1
DLLS TX TL34T see attachment 2
LSAN CA 0292T see attachment 3
WHPL NY 0504T see attachment 4

Host No. 4ESS: CHCG IL CL57T

NSCs: 4 Audio only
2 Audio graphics

TSGs: CHCG IL CLA01
CHCG IL CLA02
CHCG IL CLA03
CHCG IL CLA04
CHCG IL CLG05
CHCG IL CLG06

SIC: 001

ROUTING: Audio or voice band graphics

<u>CODE</u>	<u>BTFN</u>	<u>ROUTE</u>	<u>DELETE</u>	<u>PREFIX</u>
001+105	1	CHCG IL CLA01	6	100
	1	CHCG IL CLA02		
	1	CHCG IL CLA03		
	1	CHCG IL CLA04		
		RDBFHT = BT		
001+305	1	CHCG IL CLA01	6	300
	1	CHCG IL CLA02		
	1	CHCG IL CLA03		
	1	CHCG IL CLA04		
		RDBFHT = BT		
001+100	1	CHCG IL CLA01	3	
001+110	1	CHCG IL CLA02		
001+300	1	CHCG IL CLA03		
001+310	1	CHCG IL CLA04		
		RDBFHT = BT		

<u>CODE</u>	<u>BTFN</u>	<u>ROUTE</u>	<u>DELETE</u>	<u>PREFIX</u>
001+111	1	CHCG IL CLA04	3	
001+311	1	CHCG IL CLAU3		
	1	CHCG IL CLA02		
	1	CHCG IL CLAU1		
		RDBFHT = BT		

ROUTING: Audio-graphics

<u>CODE</u>	<u>BFTN</u>	<u>ROUTE</u>	<u>DELETE</u>	<u>PREFIX</u>
001+205	1	CHCG IL CLG05	6	200
	1	CHCG IL CLG06		
		RDBFHT = BT		
001+200	1	CHCG IL CLG05	3	
001+210	1	CHCG IL CLG06		
		RDBFHT = BT		
001+211	1	CHCG IL CLG06	3	
	1	CHCG IL CLG05		
		RDBFHT = BT		

Host No. 4ESS: DLLS TX TL34T

NSCs: 2 Audio only

TSGs: DLLS TX TLA01
DLLS TX TLA02

SIC: 025

ROUTING: Audio or voice band graphics

<u>CODE</u>	<u>BTFN</u>	<u>ROUTE</u>	<u>DELETE</u>	<u>PREFIX</u>
025+105	1	DLLS TX TLA01	6	100
	1	DLLS TX TLA02		
		RDBFHT = BT		
025+305	1	DLLS TX TLA01	6	300
	1	DLLS TX TLA02		
		RDBFHT = BT		
025+100	1	DLLS TX TLA01	3	
025+110	1	DLLS TX TLA02		
025+300		RDBFHT = BT		
025+310				
025+111	1	DLLS TX TLA02	3	
025+311	1	DLLS TX TLA01		
		RDBFHT = BT		

Host No. 4ESS: LSAN CA 0292T

NSCs: 2 Audio only
2 Audio-graphics

TSGs: LSAN CA 02G01
LSAN CA 02G02
LSAN CA 02A03
LSAN CA 02A04

SIC: 080

ROUTING: Audio or voice band graphics

<u>CODE</u>	<u>BTFN</u>	<u>ROUTE</u>	<u>DELETE</u>	<u>PREFIX</u>
080+105	1	LSAN CA 02A03	6	100
	1	LSAN CA 02A04		
		RDBFHT = BT		
080+305	1	LSAN CA 02A03	6	300
	1	LSAN CA 02A04		
		RDBFHT = BT		
080+100	1	LSAN CA 02A03	3	
080+110	1	LSAN CA 02A04		
080+300		RDBFHT = BT		
080+310				
080+111	1	LSAN CA 02A04	3	
080+311	1	LSAN CA 02A03		
		RDBFHT = B		

ROUTING: Audio-graphics

<u>CODE</u>	<u>BTFN</u>	<u>ROUTE</u>	<u>DELETE</u>	<u>PREFIX</u>
080+205	1	LSAN CA 02G01	6	200
	1	LSAN CA 02G02		
		RDBFHT = BT		
080+200	1	LSAN CA 02G01	3	
080+210	1	LSAN CA 02G02		
		RDBFHT = BT		
080+211	1	LSAN CA 02G02	3	
	1	LSAN CA 02G01		
		RDBFHT = BT		

Host No. 4ESS: WHPL NY 0504T

NSCs: 3 Audio only

TSGs: WHPL NY 05A01
 WHPL NY 05A02
 WHPL NY 05A03

SIC: 042

ROUTING: Audio or voice band graphics

<u>CODE</u>	<u>BTFN</u>	<u>ROUTE</u>	<u>DELETE</u>	<u>PREFIX</u>
042+105	1	WHPL NY 05A01	6	100
	1	WHPL NY 05A02		
	1	WHPL NY 05A03 RDBFHT = BT		
042+305	1	WHPL NY 05A01	6	300
	1	WHPL NY 05A02		
	1	WHPL NY 05A03 RDBFHT = BT		
042+100	1	WHPL NY 05A01	3	
042+110	1	WHPL NY 05A02		
042+300	1	WHPL NY 05A03		
042+310		RDBFHT = BT		
042+111	1	WHPL NY 05A03	3	
042+311	1	WHPL NY 05A02		
	1	WHPL NY 05A01 RDBFHT = BT		