SUBJECT: Business Trunks - Installation And Maintenance Responsibilities

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TO: Distribution Services Personnel (Testing and I&M)

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Route a little better explanation on the above — Jm

Background - Special Circuit Responsibilities

A plan was drafted in 1985 to have the Special Services Division eventually take over full provisioning and maintenance responsibilities for all "designed" special service circuits. In conjunction with this plan a "de-specialization" project was formulated which would remove non-designed circuits from the Circuit Provision Center WORD document process. Switched and non-switched circuits that do not require loop gain equipment and work in only one central office area are candidates for de-specialization. Distribution Services would assume full provisioning and maintenance responsibility for "non-designed" circuits.

The Special Circuit responsibility and de-specializing process is planned to occur in four phases:

Phase I - Local voice specials (Tie Line, Foreign Exchange, Voice Private Line, Radio Land Line) were transferred to Special Services in October of 1985 (WT 85-29-05 Revised).

Phase II - De-specialize PBX trunks and have Special Services assume full provisioning and maintenance for designed trunks and Distribution Services assume full provisioning and maintenance for non-designed trunks. This process will implement on March 26, 1986.

Phase III - De-specialize simple alarm and local specials. Special Services would assume full provisioning and maintenance for designed and Distribution Services would assume full provisioning and maintenance for non-designed.

Phase IV - Transfer inter-office and designed Centrex/Business circuits to Special Services. At this time, there are no potential candidates identified in this group that can be de-specialized.

Background - PBX Trunks

Prior to December, 1982, PBX trunks were handled like IMB service, i.e. LAC assigned orders (no routing to CPC), Business I&M installed and maintained, RSBs answered, tested and dispatched. If poor transmission was detected on installation or repair activity, the trunk was reviewed by the CPC, had gain equipment installed, was entered in the TIRKS system and put on a WORD (SSWO) document. A Common Language Telephone circuit number was not always

assigned in CRIS during this process. These trunks were considered designed because they had gain equipment installed. Many trunks still worked strictly on cable pairs with no gain equipment.

After December, 1982, all new PBX trunks were routed to the CPC for design review. The increasing number of CPE PBX systems with various loop transmission requirements brought about this change in handling trunks. This is how the procedure worked:

- If the cable pair met a -4 DB transmission requirement, no gain equipment was installed. The trunk was entered in TIRKS, had a WORD document issued and was always assigned a Common Language Telephone (CLT) circuit number in CRIS.

- If the cable pair did not meet a -4 DB transmission requirement, gain equipment was installed. The trunk was entered in TIRKS, had a WORD document issued and was always assigned a Common Language Telephone (CLT) circuit number in CRIS.

You can see that many trunks which were installed prior to December of 1982 were really handled just like 1MBs were. Also, a good majority of trunks installed after December of 1982 were still handled "like" a 1MB but were run through the CPC WORD document process. This is a costly procedure and also increased the due date to 13 days. It was decided in 1985 that those customers who required a designed trunk (transmission loss no greater than -4 DB) should pay for the design review and WORD document process. This decision led to the de-specialization of PBX trunks.

<u>De-Specialized PBX Trunks (Effective 3-26-86)</u>

General

A PBX Trunk Reclassification Tariff has been approved by the Public Service Commission of Wisconsin with an implementation date of 3-26-86 for I&M personnel, which will work in conjunction with trunk "de-specialization." The highlights of the tariff list as follows:

1. Change description of PBX Trunks to Business Trunks.

2. Create two categories of Business Trunks offered to the customer:

   A. Type I Business Trunks will be handled "like" simple Business lines, there will be no CLT circuit identification, design review or WORD document.

   B. Type II Business Trunks will be handled like designed CLT Special Circuits, as is done today. There will always be a design review, a WORD document, and the standard due date remains at 13 business days.

3. Apply a one-time charge of $200 per service order for new/additional Type II Business Trunk requests. (Future tariffs may propose higher monthly rates for Type II trunks in addition to the special one-time $200 charge.)

Briefly, Type I Business Trunks will be comparable to 1MB service with ground start features available. Type II Business Trunks will be reviewed by the CPC, entered in TIRKS and be on a WORD document. Gain equipment will be installed if the loop does not need a -4 DB transmission level.

NOTE: Attachment I describes Business Trunk Technical Parameters. Attachment 2 lists Business Trunk descriptions, line USOCs and main Classes Of Service.

New/Additional Trunk Activity

Customers will choose either Type I or Type II trunk service. A mixture of Type I and Type II service for the same CPE system at the same location will not be offered due to the differences in transmission grade which may present a service problem.

Embedded Base Trunks

Existing trunks that have gain equipment will be classified as Type II, the remaining trunks with no gain equipment will be classified as Type I.

Distribution Services will have full provisioning and maintenance responsibility for Type I trunks. Special Services will have full provisioning responsibility but partial maintenance responsibility for Type II trunks. (Distribution Services will continue to answer repair calls and have overall testing control.)

The Eau Claire district will continue to be responsible for Type II trunks as is done today for all Special Services work.

Conversion of Existing Trunks (Type I)

All Business Trunks that do not have gain equipment provided by Wisconsin Bell will be classified as Type I. These trunks will be converted as follows:

- The CLT circuit identification will be removed from CRIS, MAC and LMOS (except for DID trunks - See DID Procedures on Page 5).
- The Circuit Provision Center (CPC) will remove these trunks from TIRKS (except DID trunks). This process is expected to be completed within two months.
- The MAC circuit chaining FID "SSWO" and its data content will be removed from MAC.
- The CRIS line USOC and MAC class of service will remain the same.
- A new FID "ZCNC" will be entered in CRIS for all Type I embedded trunks to readily identify those existing trunks that were classified as Type I service.

- A letter will be sent to Business Trunk customers explaining the new offering. Large customers will be notified by their Marketing representative.

Conversion of Type I trunks in CRIS and LMOS will take place the evening of March 25, 1986. Type I trunks will be converted in MAC through a batch program between March 25 and March 31, 1986. MAC cannot be used to determine Type I versus Type II trunks until after March 31, 1986.

NOTE: For non-MAC offices, no conversion of the LAC manual records (ECCR and DPAC) will take place. These trunks will be converted at the time of the MAC conversion.

Conversion of Existing Trunks (Type II)

All Business Trunks that have gain equipment provided by Wisconsin Bell will be classified as Type II Trunks. The majority of these trunks are presently identified by a Common Language Telephone Number (CLT) in the CRIS and TIRKS systems. Some trunks, however, presently do not have a CLT identifier in CRIS and will not after the conversion. The business office will establish CLT identification for these trunks only upon service order activity.

All CRIS line USOCs and MAC classes of service will be changed at conversion time to identify all gain equipped trunks as Type II.

Conversion of the CRIS line USOCs and LMOS will take place on the evening of March 25, 1986. The MAC classes of service will be converted through a batch program between March 25 and March 31, 1986. MAC cannot be used to determine Type I versus Type II trunks until after March 31, 1986.

NOTE: The key to determining Type I versus Type II trunks is the CRIS line USOC (or MAC class of service), which is unique for Type I and Type II trunks (refer to Attachment 2).

Installation Procedures - Type I Trunks

Distribution Services will have full installation responsibility for Type I Business Trunk orders applied for after March 25, 1986. (Procedures for handling "transition" service orders are discussed later in this section.)

Type I Business Trunk orders (except Direct Inward Dial) will be handled "like" simple business:

- SORD routing = NN or NV.
- Assigned by MAC or manual LACs.
- 5 business day due date (up to 10 lines), for more than 10 lines follow central office line due date in network interval schedule - see Dispatch Completion Handbook.

- Central office work and assistance done by regular switching forces.

- Special Services switching forces assist for DID Trunks.

- Wilcom 136 B test to be done on all lines.

- Completion same as simple or complex business.

For those situations where the customer or vendor is not satisfied with the Type I service, the existing order should be "A" copied to change service to Type II trunks - (Due date should be negotiated with business office, CPC and Special Services I&M). A subsequent "C" order may also be issued for changing trunk type dependent on the situation.

(Type I DID Trunks)

Direct Inward Dial Type I trunks will follow a different flow due to procedures required to account for the special trunk equipment in the central office:

- Order routed NV and FA.

- Due date will be 13 business days.

- Central office trunk group equipment assigned in TIRKS. Loop remains non-designed (no gain equipment).

- WORD document issued.

- Distribution Services reports TIRKS jeopardy information and completions to Special Services.

- Distribution Services uses WORD for their assignments.

- Distribution Services works with Special Services switching forces for installation and testing (136 B testing).

- Distribution Services does service order completion.

All Type I trunks with ground start that are assigned in a SLC system will utilize "SPOTS" plugs. The Outside Plant Engineer will issue a Master Work Order to have the plug-in installed by construction forces. Replacement of the SPOTS plug for maintenance will be done by Distribution Services personnel trained for SLC systems.

Attachment 3 illustrates Type I Business Trunk service orders.

Transition Service Orders

At the time of conversion in the CRIS system, Business Trunk service orders which are pending in SORD must be updated. These transition service orders will be handled as follows:

- All Business Trunk service orders which are completed in SORD on March 25, 1986 or earlier, but have not been updated in the CRIS system, will be updated manually by the Error Correction Group. These updates will be passed to MAC and LMOS during the Business Trunk conversion.

- All Business Trunk service orders (Type I) which were applied for prior to March 26, 1986, and due prior to April 7, 1986, will be completed by Special Services I&M forces. "A" copy procedures will be initiated by Special Services so that CRIS, MAC and LMOS records are updated appropriately for Type I and Type II identification.

- All Business Trunk service orders (Type I) which were applied for prior to March 26, 1986, and due April 7, 1986 and after, will be done by Distribution Services forces. Special Services will initiate "A" copies with the COG office to have orders rerouted to Distribution Services (NV). CPC will remove orders from TIRKS (except DID). Distribution Services in MAC areas should pull Field Work Tickets for these transferred orders.

- These "A" copy revision orders will retain the "FA" routing code and will carry a Remark: "A copy to convert Pre-Tariff order to Type I/II Trunk."

  NOTE: Eau Claire district must have "A" copies issued for all orders applied for prior to March 26, 1986 and completed after March 26, 1986 to ensure that CRIS, MAC and LMOS records correctly identify Type I versus Type II trunks. Those with gain equipment will be Type II, those without gain equipment will be Type I.

Maintenance Procedures - Type I Trunks

Effective March 26, 1986, Distribution Services will have full maintenance responsibility for Type I Business Trunks.

- CRSAB answers trouble reports.

- LMOS handles "like" simple/complex business.

- CRAB bureaus must utilize CRIS (line USOC) or MAC (class of service) to determine Type I versus Type II.

- RSB/DSOC tests, analyzes and refers to appropriate group for resolution (RCC, SCC, Special Services switching if DID, Distribution Services Dispatch).

- RSB strokes TREAT class of service as 06 PBX.

- LMOS accounts for TREAT class of service as 06 PBX.

- Distribution Services dispatches to resolve trouble (must take 136 B readings).

- RSB/DSOC closes trouble in TREAT.

Type I ground start trunks will be serviced by SPOTS plugs. Embedded base Type I ground start trunks with D4 plugs should be replaced with SPOTS on a maintenance basis.

Maintenance Procedures - Type II Trunks

Distribution Services will continue to be maintenance control for Type II Business Trunks at this time due to a capacity problem with the Special Services mechanized trouble report system. Special Services expects to take over responsibility in the 3rd quarter of 1986. Maintenance procedures for Type II trunks list as follows:

- CRSAB answers trouble reports.
- Troubles will route to DSOC LMOS printer. LMOS record will indicate "Dispatch to Special Services Forces."
- CRAB bureaus must utilize CRIS (line USOC) or MAC (class of service) to determine Type I versus Type II.
- RSB/DSOC tests, analyzes and refers to appropriate group for resolution (RCC, Special Services Central Office or Regular Switching - dependent on area, Special Services Dispatch).
- RSB strokes TREAT class of service as 20 KEY.
- LMOS accounts for TREAT class of service as 20 KEY.
- RSB/DSOC refers to Special Services if dispatch required.
- Special Services reports dispatched clearance to RSB/DSOC.
- RSB/DSOC closes trouble in TREAT.

For Joseph J. Metzler
District Staff Manager -
Distribution Services Methods

FS:skc

Attachments

TECHNICAL PARAMETERS - BUSINESS TRUNKS

- Business Trunks - Type I

Minimum loop current	: 20 milliamps
Maximum loop resistance	: 1750 ohms
Maximum transmission loss	: -8.5 db
Central office voltage	: 48 v. nominal
Bandwidth	: 300 -3,000 hz.
Signaling	: Loop start/dial pulse (ground start optional)

- Business Trunks - Type II

Minimum loop current	: 20 milliamps
Maximum loop resistance	: 1750 ohms
Maximum transmission loss	: -4 db (+/- 1 db)
Central office voltage	: 48 v. nominal
Bandwidth	: 300 -3,000 hz.
Signaling	: Loop start/dial pulse (ground start optional)

BUSINESS TRUNK RECLASSIFICATION - CRIS IDENTIFIERS

Trunk Description	Line USOC (Type I)	Line USOC (Type II)	Main Class of Service
Business Message Rate	TMB+X	TWN+X	XMBXX = Dial XF9XX = Manual FOF = Official Service
Business Message Rate (1 Way Optional)	1TB+X	TWQ+X	XMBXX = Dial XF9XX = Manual FOF = Official Service
Business Message Rate Shared Tenant Service (New Tariff Offering)	SM3+X	TWS+X	RK2XX
Residence Message Rate	TMR+X	T6S+X	XMRXX = Dial XMSXX = Manual
Residence Flat Rate	TFR+X	T6H+X	2LCXX = Dial 2LAXX = Manual
Toll Terminated (Hotel/Motel)	TTT++	TZT++	XMHXX = Dial AHXXX = Manual
Toll Terminated (FX Service)	Not Available	TZW++	XMHXX = Dial AHXXX = Manual
Business Message Rate (FX Service)	Not Available	TWY+X	FXSTS = Dial
Radio Common Carrier Message Rate	MMK	MW8	RCCM* = Mobile RCCP* = Paging RCCR* = Maritime

NOTE: The following suffixes are used for Trunk Line USOCs where a + appears:

C = Combination (Incoming and Outgoing)
1 = Inward only
0 = Outward only
XA = Toll Terminated - Customer Dials 1 + Number (DDD) or 0 + to TSPS
XB = Toll Terminated - Customer Dials 8 + Number (DDD) or 8 + 0 to TSPS
None = Toll Terminated - All calls route to TSPS

NOTE: The following suffixes are used for Radio Common Carrier Trunk Main Class of Services where a * appears:

L = Intrastate Interexchange
M = Interstate Interexchange

* Refer to Section 3, Part P of Service Codes and Rates for additional information.

BUSINESS TRUNK DESCRIPTIONS

Business Trunk - Local exchange service provided to a customer who has a PBX or Key System with a PBX registration classification.

Message Rate - Customer is billed on a per call basis.

Flat Rate - Customer is billed a set rate and can make an unlimited amount of calls.

1 Way Optional - Calls can be placed into a specified area and no toll charge is generated. Customer is billed a particular flat rate for this service.

Toll Terminated - Toll calls originated from Hotel/Motel premises route on the specific trunk/s to a ATTCOM TSPS operator or into the DDD network.

Shared Tenant - Building owner/manager resells trunks to building tenants (usually through a PBX or an electronic key system).

Combination Trunk - Customer can originate or receive calls on the same trunk. "Like" simple business service.

Inward Dial Trunk - Calls placed to a specific block of "DID" telephone numbers route to trunk group equipment which selects an idle DID trunk and completes to the customer's PBX. The PBX recognizes the last 4 digits of the dialed number and routes it to a specific PBX extension/s as programmed by the customer.

Dial tone cannot be drawn on these trunks. Battery will be drawn when a short is placed on the line. The test board must place a test shoe on the trunk to test with the field technician. The RCC is responsible for the line translations and the SCC is responsible for the Trunk Equipment Group translations. The central office may be required to put the trunk/s up on the ESS test panel to isolate a trouble.

Outward Dial Trunk - Customer can only originate calls on these trunks. No incoming calls can be received. Dial tone can be drawn with a short on the line. Shoe testing should be done with the field technician.

Loop Start - Dial tone can be drawn by placing a short on the line.

Ground Start - Dial tone can be drawn by placing a short on the line and a momentary ground on the ring side of the line.

Wilcom 136B meter readings should be taken on all installation and repair visits for business trunks.

SERVICE ORDER FORM 7401-37-40-2 (5-83) A

Type I COMBINATION TRUNKS

```
---  S&E
 I   TMBCX/TN 1500/P1C288C
     /GST <---GROUND START
 I   TMBCX/TN 1501/P1C288C
     /GST
 I   TMBCX/TN 1502/P1C288C
     /GST
 I   TMBCX/TN 1503/P1C288C
     /GST
```

LI TN	
LI STA	
ASGM	OAB
DIST. CABLE	LEAD PAIR
DIST. TERM ADDRESS	
STAT	
/SWO	
/NI	
/RI	/RCO
/RF	/LIC
/LIF	/WSR
/OCB	
/HRS	
/CD	
START TIME	LA
WC ID	
CA	
LST	WO
CDP	BP(
RE	RT(
SOD	ODI
SS	
ERR	
TRANSMISSI	
MEASUREMI	
MA =	
NOISE =	
BALANCE =	
CODE	
+	
+	
+	
+	
COMP CLERK	

SERVICE ORDER FORM 7401-37-40-2 (5-83) A

DIRECT INWARD DIAL Type I TRUNKS

```
---  S&E
 I   TMB1X/TN 6500/P1C DUD
     1CLT 74.DINA.414.747.6500
 I   TMB1X/TN 04012/P1C DUD
     1CLT 74.DINA.414.747.6500
          .04012
 I   TMB1X/TN 04112/P1C DUD
     1CLT 74.DINA.414.747.6500
          .04112
 I   TMB1X/TN 04212/P1C DUD
     1CLT 74.DINA.414.747.6500
          .04212
```

LI TN	
LI STA	
ASGM	OAB
DIST. CABLE	LEAD PAIR
DIST. TERM ADDRESS	
STAT	
/SWO	
/NI	
/RI	/RCO
/RF	/LIC
/LIF	/WSR
/OCB	
/HRS	
/CD	
START TIME	COMP TIME
LATIS DATA	
WC ID	
CA	PR
LST	WOL BCT
CDP	BPC CIR
RE	RTC
SOD	ODF OAC
SS	NO
ERR	EPR
TRANSMISSION/NOISE MEASUREMENT	
MA =	LOSS =
NOISE =	PI =
BALANCE =	
CODE HRS	ITEMS
+	+
+	+
+	+
+	+
COMP CLERK	OK TIME

SERVICE ORDER FORM 7401-37-40-2 (5-83) A

Type I OUTWARD DIAL TRUNKS

S&E
I TMBOX/TN 6500/P1C222
/LST ← LOOP START

I TMBOX/TN 6501/P1C222
/LST

I TMBOX/TN 6502/P1C222
/LST

LI TN
LI STA
ASGM | OAB
DIST. CABLE | LEAD PAIR
DIST. TERM ADDRESS
STAT
/SWO | /NI
/RI | /RCO
/RF | /LIC
/LIF | /OCB
/HRS
/CD
START TIME
WC ID
CA
LST W
CDP B
RE R
SOD C
SS
ERR
TRANSMIS
MEASURE
MA =
NOISE =
BALANCE =
CODE
+
+
+
+
COMP CLERK

SERVICE ORDER FORM 7401-37-40-2 (5-83) A

Type I TOLL TERMINATED TRUNKS

S&E
I TTTXA/LCC XX/TN732
5501/P1C288

I TTTXA/LCC XX/TN732
5502/P1C288

I TTTXA/LCC XX/TN732
5503/P1C288

LI TN
LI STA
ASGM | OAB
DIST. CABLE | LEAD PAIR
DIST. TERM ADDRESS
STAT
/SWO | /NI
/RI | /RCO
/RF | /LIC
/LIF | /WSR
/OCB
/HRS
/CD
START TIME | COMP TIME
LATIS DATA
WC ID
CA PR
LST WOL BCT
CDP BPC CIR
RE RTC
SOD ODF OAC
SS NO
ERR ERR
TRANSMISSION/NOISE MEASUREMENT
MA = | LOSS =
NOISE = | PI =
BALANCE =
CODE | HRS | ITEMS
+ +
+ +
+ +
+ +
COMP CLERK | OK TIME