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1 **Q4. What is the purpose of your rebuttal testimony?**

2  
3 A4. To respond to some of the technical and regulatory issues that rose in the direct  
4 testimony of Ron Williams on behalf of Alltel Communications, LLC. ("Alltel")  
5 in these proceedings. My rebuttal will be primarily focused on Mr. Williams'  
6 testimony regarding Issue 2, "What is the appropriate Percent of InterMTA Use  
7 Factor to be applied to IntraMTA traffic exchanged between the parties."

8 **Q5. Have you read the pre-filed direct testimony of Mr. Williams in these**  
9 **proceedings?**

10  
11 A5. Yes, I have.

12 **Q6. Do you have any general comments regarding Mr. Williams' testimony**  
13 **before you begin?**

14  
15 A6. Yes. Traffic studies are common in the telecommunications industry. Since the  
16 beginning of this industry, it has been necessary to be able to measure and analyze  
17 call records for both network engineering and billing purposes. This is true for  
18 both wireline and wireless carriers. Both types of carriers need this information to  
19 perform necessary operations, such as their own end-user billing. Mr. Williams'  
20 testimony would like the reader to believe that traffic analysis, such as InterMTA  
21 analysis is unreasonable and burdensome. It is my belief that Alltel is making  
22 arguments against performing an interMTA analysis because they do not *want* to  
23 do it as they do not like the results, not that they *cannot* complete the analysis.

24

1   **Q7. Mr. Williams lists three reasons why “negotiated estimates” are used for the**  
2   **exchanged traffic that is compensable as interMTA traffic. For the first**  
3   **reason he states, “no standard methods, labeling, or systems exist in the**  
4   **industry for classification or identification of interMTA traffic”<sup>1</sup>. Do you**  
5   **agree with his first reason? Please explain.**  
6

7   **A7. No, the classification of interMTA traffic is a simple process defined by the FCC**  
8   **in its First Report and Order, paragraph 1044<sup>2</sup>. The LEC is capable of performing**  
9   **this analysis, with the exception that the initial cell site at the start of the call is**  
10   **not available to the LEC unless it is provided to the LEC by the CMRS carrier.**  
11   **The initial cell site is available to the CRMS carrier. One common switch in**  
12   **many wireless carriers’ networks is the Nortel MTX. Exhibit LT-R-1 is a few**  
13   **pages from the Nortel manual showing that the initial cell site at the start of the**  
14   **call is part of the call detail records available on the CMRS carrier’s network.**  
15   **Since there is no field in the SS7 message in which to pass the information**  
16   **regarding the initial cell site at the start of the call, the CMRS carrier would have**  
17   **to provide this information to the LEC as part of their billing records or as part of**  
18   **a special study. In the past, Alltel has provided call detail records (CDRs) that**  
19   **included the initial cell site information for Vantage Point to perform interMTA**  
20   **analysis. A typical process used to process the wireless CDRs can be seen in**  
21   **Exhibit LT-R-2. The exchange of billing records between carriers is not**  
22   **uncommon in the industry. In fact, the LEC often relies on billing records from**  
23   **other carriers to perform their end-user and inter-carrier billing processes. In**  
24   **instances where the CMRS carrier is unwilling to provide the billing records,**

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<sup>1</sup> Mr. Williams Direct Testimony, Page 5, Lines 13-14.

<sup>2</sup> See the FCC First Report and Order, at paragraph 1044.

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1           there are proxies that can be used to provide a reasonable estimate of the  
2           interMTA traffic. One such method is referred to as the telephone numbers  
3           method. Using the telephone numbers method, Vantage Point is able to calculate  
4           an estimate of interMTA traffic terminated to the West River network from Alltel.  
5           If Alltel would provide the CDRs that include the cell site locations, West River  
6           could refine its study with the cell site information, and determine a more accurate  
7           estimate of the interMTA factor.

8   **Q8. Mr. Williams lists his second reason why “negotiated estimates” are used for**  
9   **the exchanged traffic that is compensable as interMTA traffic as “it is**  
10 **generally difficult to accurately measure interMTA traffic since locations of**  
11 **wireless users are dynamic”<sup>3</sup>. Do you agree with his second reason? Please**  
12 **explain.**

13  
14 **A8.** No, I do not agree. The fact that the wireless caller location is “dynamic” is  
15 irrelevant in the determination of an interMTA factor. The FCC recognized the  
16 fact that the wireless customer was mobile, which is why the FCC in its First  
17 Report and Order<sup>4</sup>, stated that the location of the wireless caller was to be  
18 determined by the initial cell site of the wireless caller at the start of the call,  
19 therefore it does not matter if the wireless users are “dynamic”.

20 **Q9. In regards to West River’s proposed interMTA factor, Mr. Williams states,**  
21 **“Petitioner based this figure on very limited October 2005 traffic data, using**  
22 **a method that was acknowledged to be flawed”<sup>5</sup>. Do you agree with his**  
23 **statement? Please explain.**

24  
25 **A9.** If Mr. Williams is arguing that everything that is not perfect is flawed, then I  
26 would have to agree. However, this would lead to the conclusion that every

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<sup>3</sup> Mr. Williams Direct Testimony, Page 5, Lines 14-16.

<sup>4</sup> See the FCC First Report and Order, at paragraph 1044.

<sup>5</sup> Mr. Williams Direct Testimony, Page 7, Lines 15-16.

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1 estimate, no matter how good the estimate may be, is flawed. This is another one  
2 of Mr. Williams' red herrings. Just because an estimate of the traffic is not  
3 perfect, does not mean that it does not provide a reasonable amount of accuracy to  
4 adequately estimate the actual traffic for billing purposes. In Vantage Point's  
5 telephone numbers method, the originating NPA-NXXs of the Alltel customer  
6 were assigned a state and an MTA based on the rate center where the NPA-NXX  
7 was assigned. It should be noted that Vantage Point's interMTA analysis only  
8 included Alltel traffic that was terminated to West River over either direct or  
9 indirect connection with Alltel and excluded any traffic that was delivered to  
10 West River via an IXC. Each of the calls were categorized into  
11 interMTA/interstate, interMTA/intrastate, or IntraMTA using the NPA-NXX of  
12 the Alltel customer as a proxy for the location of the Alltel customer and the rate  
13 center of the West River customer as a proxy of the location of the West River  
14 customer. Exhibit LT-R-3 shows South Dakota and the surrounding MTAs that  
15 were used in the study. Vantage Point then calculated the minutes of use (MOU)  
16 that originated in all MTAs that were different than the MTA of the landline  
17 customer and divided this by the total MOU terminated by Alltel to West River to  
18 determine the interMTA factor. This interMTA study for West River was  
19 completed using SS7 records for October 1-15, 2004 traffic that terminated to a  
20 West River exchange over the Qwest trunk groups and excluded traffic terminated  
21 via an IXC. Vantage Point believes that the telephone numbers method results in  
22 a reasonably accurate estimate to the actual interMTA factor. However, a more  
23 accurate analysis of the interMTA factor could be achieved if Alltel would

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1 provide the location of the initial cell site at the start of the call for each of the call  
2 records in the analysis.

3 Using traffic analysis to determine a billing percentage such as an InterMTA  
4 factor is not unique in the industry. There are many instances in the  
5 telecommunications industry where we use estimated factors for billing purposes.  
6 One example of such factor would be the Percent Interstate Usage (PIU) factor.  
7 This is used to bill terminating records to IXC's if the jurisdiction is not available  
8 on the billing record. The goal of estimating the interMTA factor, as with  
9 estimating any traffic factor, would be to arrive at a factor that is a reasonably  
10 accurate estimate of the actual traffic.

11 **Q10. Do you believe that the 2004 study is representative of the interMTA traffic**  
12 **being terminated to the Alltel network today?**

13  
14 **A10.** I have no reason to believe that they are not reasonably accurate today. The  
15 Wireless carrier can make changes to their network and routing that could  
16 influence the actual interMTA delivered to West River. I am not aware of any  
17 changes that Alltel has made that would significantly change the interMTA factor.  
18 It has been my experience that the interMTA factor tends to increase with time as  
19 the wireless carrier network becomes larger. As the wireless carriers networks  
20 expand, they interconnect their switches with Intermachine Trunks (IMTs). These  
21 IMTs are used to transport calls over larger and larger geographic areas so that the  
22 calls can be delivered to the landline customer without having to use an IXC for  
23 the delivery. This results in a higher interMTA factor. Exhibit LT-R-4A shows a  
24 diagram of a wireless network without IMTs and Exhibit LT-R-4B shows a  
25 wireless network using IMTs.

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1 **Q11. In regards to West River's proposed interMTA factor, Mr. Williams also**  
2 **states, "and purported to examine only interMTA traffic sent from Alltel's**  
3 **network to the Petitioner network but ignored all traffic from the Petitioner**  
4 **network to Alltel customers" <sup>6</sup>. Do you agree with his statement? Please**  
5 **explain.**

6  
7 A11. No, the real problem is that Alltel is terminating access traffic (toll traffic) to  
8 West River either directly or indirectly over trunks that are intended for local  
9 traffic. Because of this, it is necessary to determine that amount of toll traffic that  
10 Alltel delivers to West River intermingled with the local traffic so that West River  
11 can be properly compensated for this traffic. When West River routes traffic to  
12 Alltel, West River determines if the call is local or toll using the landline local  
13 calling scope rules (as it does with all carriers) and properly routes toll traffic to  
14 an IXC for delivery to Alltel. Exhibit LT-R-5 illustrates the local and toll calling  
15 scopes for a landline company. Alltel is misrouting the interMTA traffic, as this  
16 toll traffic is being delivered over the local trunks instead of by an IXC. If Alltel  
17 interMTA traffic was routed to an IXC, there would not be an interMTA issue as  
18 West River would be able to bill the appropriate access for this toll traffic to an  
19 IXC.

20 **Q12. In regards to Mr. Williams above two comments regarding the**  
21 **determination of West River's interMTA factor, he states, "The utilization of**  
22 **a factor developed in this manner would be inappropriate as it is both**  
23 **misrepresentative and asymmetric."**<sup>7</sup> **Do you agree with his statement?**  
24 **Please explain.**

25  
26 A12. No, I do not agree with Mr. Williams' statement. As stated previously, the goal  
27 of an interMTA analysis is to determine the amount of toll traffic that is delivered

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<sup>6</sup> Mr. Williams Direct Testimony, Page 7, Lines 16-18.

<sup>7</sup> Mr. Williams Direct Testimony, Page 7, Lines 18-20.

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1 by Alltel to West River that is delivered using direct or indirect connections,  
2 without the use of an IXC. The fact is that since toll/interMTA traffic is sent  
3 inappropriately to West River on local trunks from Alltel and West River does not  
4 send toll/interMTA traffic to Alltel on local trunks but to an IXC. Therefore, one  
5 would naturally expect that the interMTA factor would be asymmetric.

6 **Q13. Mr. Williams states, "To my knowledge the Petitioner has not attempted to**  
7 **study or account for the level of interMTA traffic that is sent from their**  
8 **network to Alltel network."**<sup>8</sup> **Has West River completed such a study?**  
9 **Please explain why or why not.**

10  
11 **A13.** As explained previously, this is another red herring. West River has no direct  
12 connection and there are no Alltel telephone numbers that a West River customer  
13 can call on a local basis. All traffic originated from a landline West River  
14 customer to an Alltel customer is delivered to an IXC as a toll call. The IXC is  
15 responsible for delivery of the traffic to Alltel. Therefore, West River does not  
16 deliver any interMTA to Alltel.

17 **Q14. In regards to a land to mobile study, as mentioned above, Mr. Williams states**  
18 **that "[If the results] showed that an equivalent amount of interMTA traffic is**  
19 **sent from Petitioner to Alltel, the appropriate net interMTA factor should be**  
20 **zero."**<sup>9</sup> **Do you agree with Mr. Williams' statement? Please explain why or**  
21 **why not.**

22  
23 **A14.** As stated above, there are no Alltel telephone numbers that can be called on a  
24 local basis by a West River customer. All calls from a West River customer to an  
25 Alltel customer are toll calls and are delivered to an IXC. West River does not  
26 deliver any interMTA traffic to Alltel.

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<sup>8</sup> Mr. Williams Direct Testimony, Page 7, Lines 23-24.

<sup>9</sup> Mr. Williams Direct Testimony, Page 7, Line 25 and Page 8, Lines 1-2.



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1 **Q15. Mr. Williams states that “in a 2003 arbitration case the South Dakota RLEC**  
2 **witness, Larry Thompson, submitted surrebutal testimony reflecting his**  
3 **opinion that RLEC originated interMTA traffic was between 10 and 58% of**  
4 **traffic sent to Alltel phone numbers. Obviously, if the volume of land to**  
5 **mobile traffic exceeded mobile to land traffic then Alltel would be owed net**  
6 **compensation.”<sup>10</sup> Do you agree with Mr. Williams’ statement? Please**  
7 **explain why or why not.**

8  
9 **A15.** Just to clarify, the statement that Mr. Williams references was made in my  
10 supplement rebuttal testimony not surrebutal testimony. Mr. Williams is pulling  
11 some numbers out of context and is, in fact, comparing apples with oranges and  
12 consequently arrives at a false conclusion. The referenced percentages were  
13 determined by analyzing all of the land to mobile traffic, which included all traffic  
14 sent to an IXC. The purpose of this study was to further analyze the LEC’s land-  
15 to-mobile (L-M) traffic “in an effort to better estimate the expected InterMTA  
16 mobile-to-land (M-L) traffic.”<sup>11</sup> As stated previously, traffic sent to an IXC is  
17 ignored in an interMTA study. Furthermore, West River does not deliver any  
18 interMTA traffic to Alltel.

19 **Q16. Mr. Williams states that “The Petitioner proposed factor does not recognize**  
20 **any land to mobile traffic even though simple logic indicates that it exists.**  
21 **Clearly such logic and study is fatally flawed.”<sup>12</sup> Do you agree with Mr.**  
22 **Williams’ statement? Please explain why or why not.**

23  
24 **A16.** No, I do not agree with Mr. Williams’ statement for reasons I have stated  
25 previously. The fact remains that Alltel is inappropriately routing interMTA

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<sup>10</sup> Mr. Williams Direct Testimony, Page 8, Lines 2-6.

<sup>11</sup> In The Matter Of the Petition For Arbitration On Behalf Of WWC License L.L.C. With Certain Independent Local Exchange Companies, Docket No. Tc02-176, Pre-Filed Supplemental Rebuttal Testimony Of Larry Thompson, Page 1, Lines 11-12.

<sup>12</sup> Mr. Williams Direct Testimony, Page 8, Lines 6-8.

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1 traffic to West River and the parties should therefore have an interMTA factor  
2 that is representative of the actual traffic.

3 **Q17. Mr. Williams states that "Carriers have attempted to estimate interMTA**  
4 **traffic using different study methods and then extrapolating those study**  
5 **methods to fit a specific situation. The study methods vary in accuracy and**  
6 **in the expense required to perform the study. In my experience interMTA**  
7 **factors are usually negotiated between parties without the use of a formal**  
8 **study."**<sup>13</sup> **Do you agree with Mr. Williams' statement? Please explain why or**  
9 **why not.**

10  
11 **A17.** No, as the goal of any interMTA factor, regardless of negotiations, is to arrive at  
12 factors representative of the actual traffic. The negotiations should represent  
13 reality not fantasy. Any negotiated factor should clearly be determined with  
14 actual patterns for a starting basis of the negotiations. Pulling a number out of the  
15 air is not the way any traffic negotiations should begin. With the state of South  
16 Dakota being included in three (3) different MTAs, its' LECs are likely to have  
17 higher interMTA factors as compared to other states with fewer MTA boundaries.  
18 With the interMTA boundaries and the complexity of networks, a study would  
19 likely be required to determine the interMTA factor. The MTAs in the United  
20 States with the MTAs near South Dakota highlighted can be seen in Exhibit  
21 LT-R-6.

22 **Q18. Does that conclude your rebuttal testimony?**

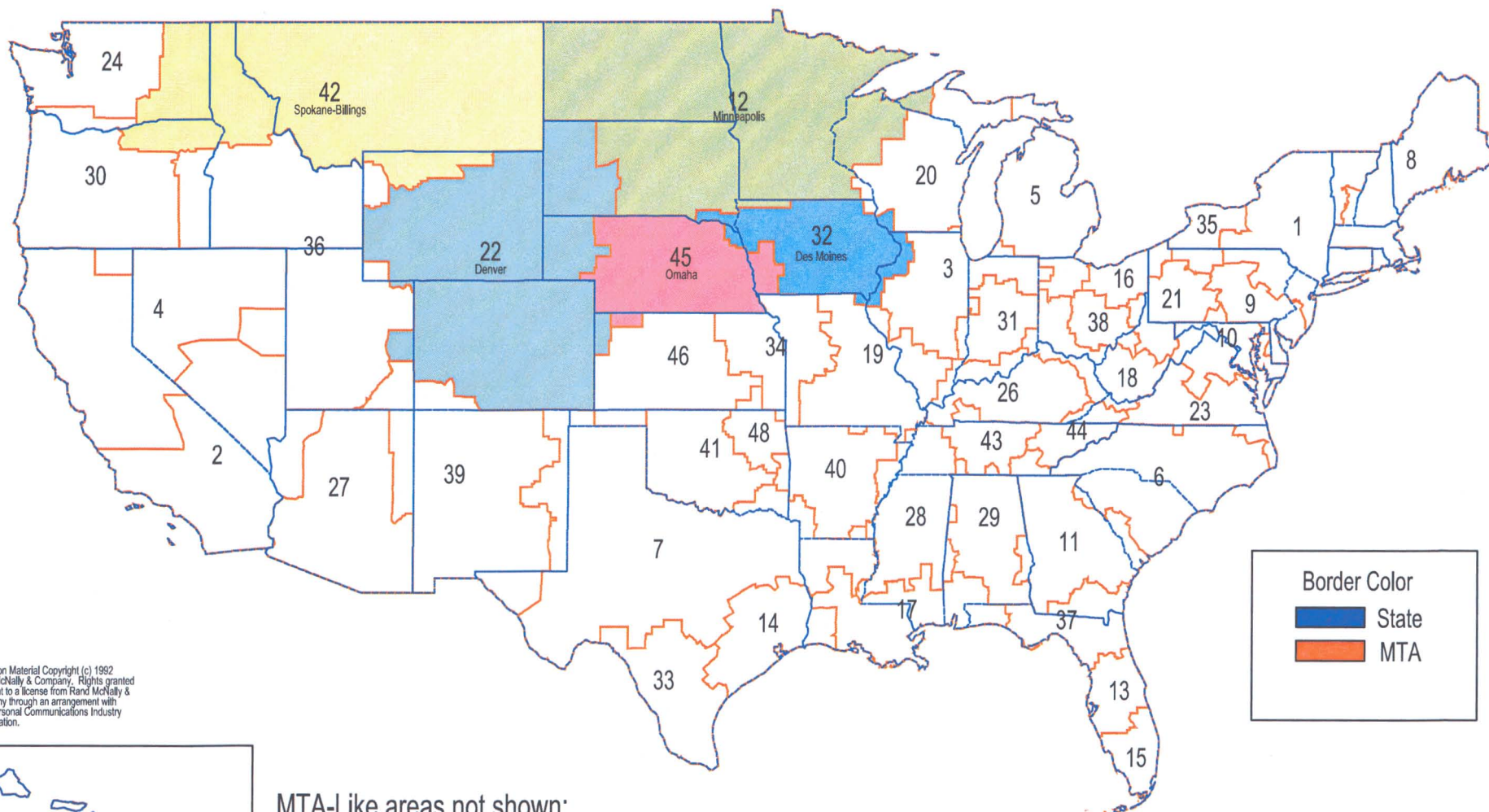
23 **A18.** Yes. However, I wish to reserve the opportunity to supplement this rebuttal  
24 testimony in the future, if necessary.

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<sup>13</sup> Mr. Williams Direct Testimony, Page 8, Lines 11-15.

# The 51 Major Trading Areas (MTAs)

With South Dakota Neighboring MTAs Highlighted



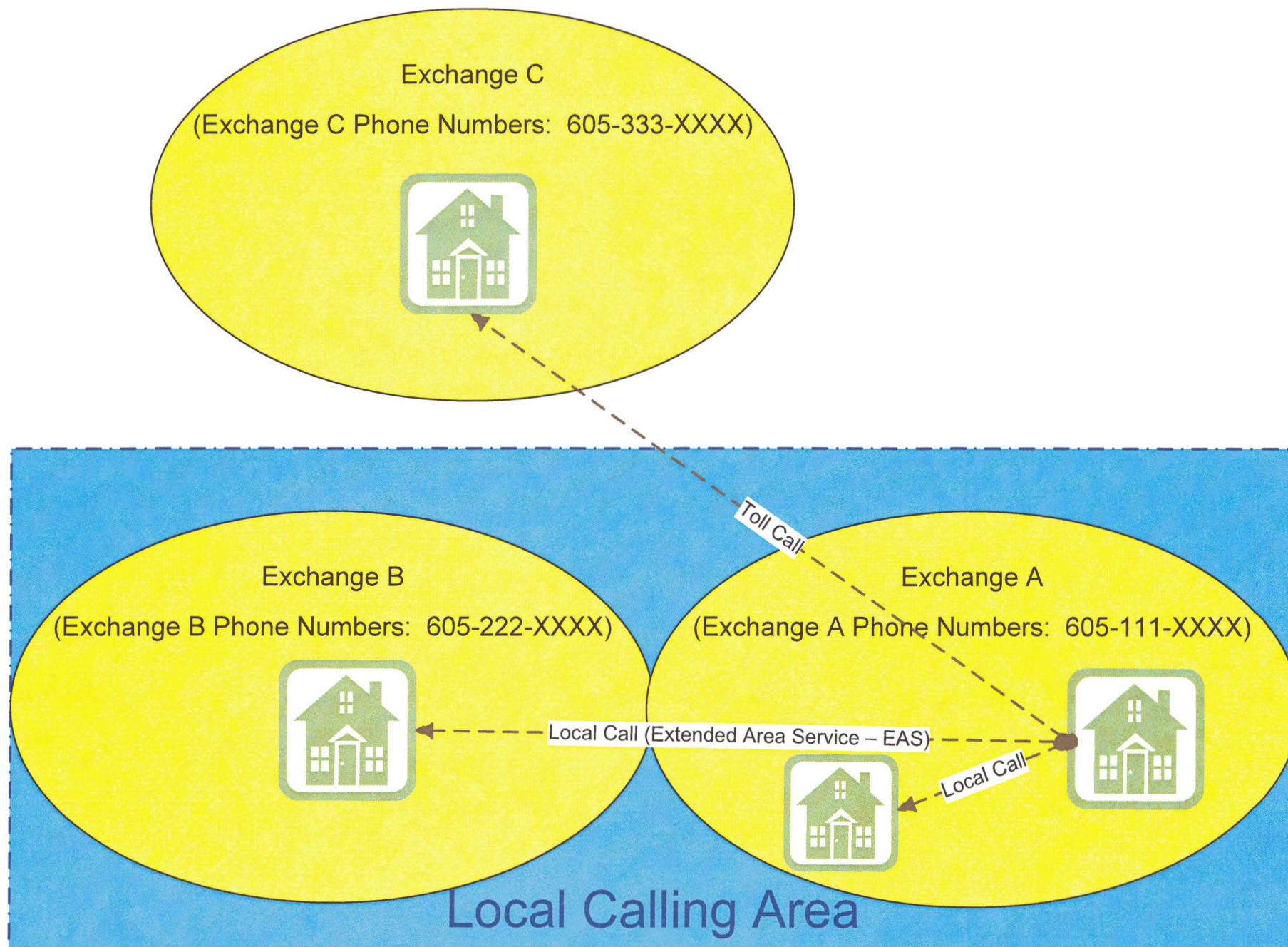
Based on Material Copyright (c) 1992  
Rand McNally & Company. Rights granted  
pursuant to a license from Rand McNally &  
Company through an arrangement with  
The Personal Communications Industry  
Association.

Border Color

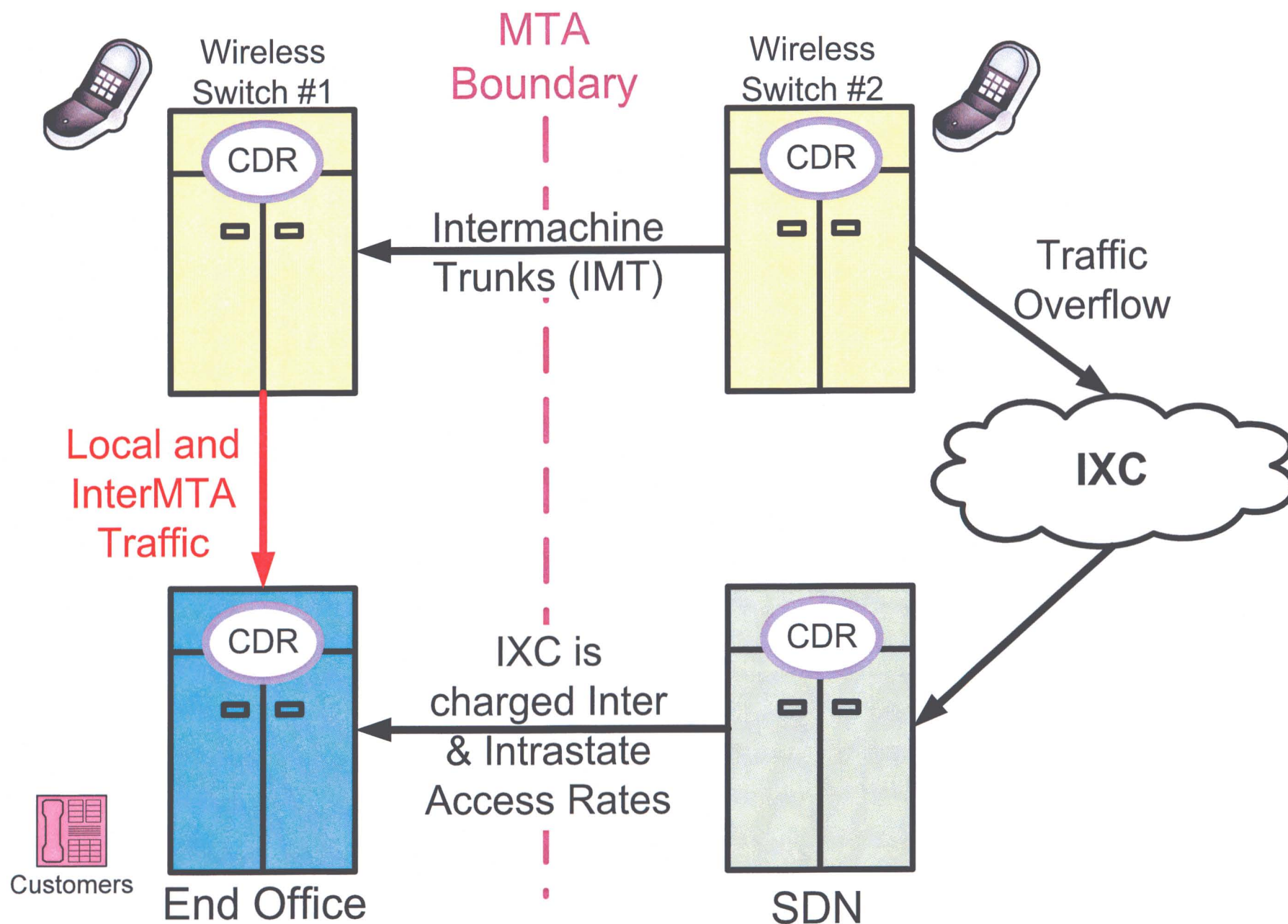
State  
MTA

MTA-Like areas not shown:  
M25 Puerto Rico & US Virgin Islands  
M49 Alaska  
M50 Guam and Northern Mariana Islands  
M51 American Samoa





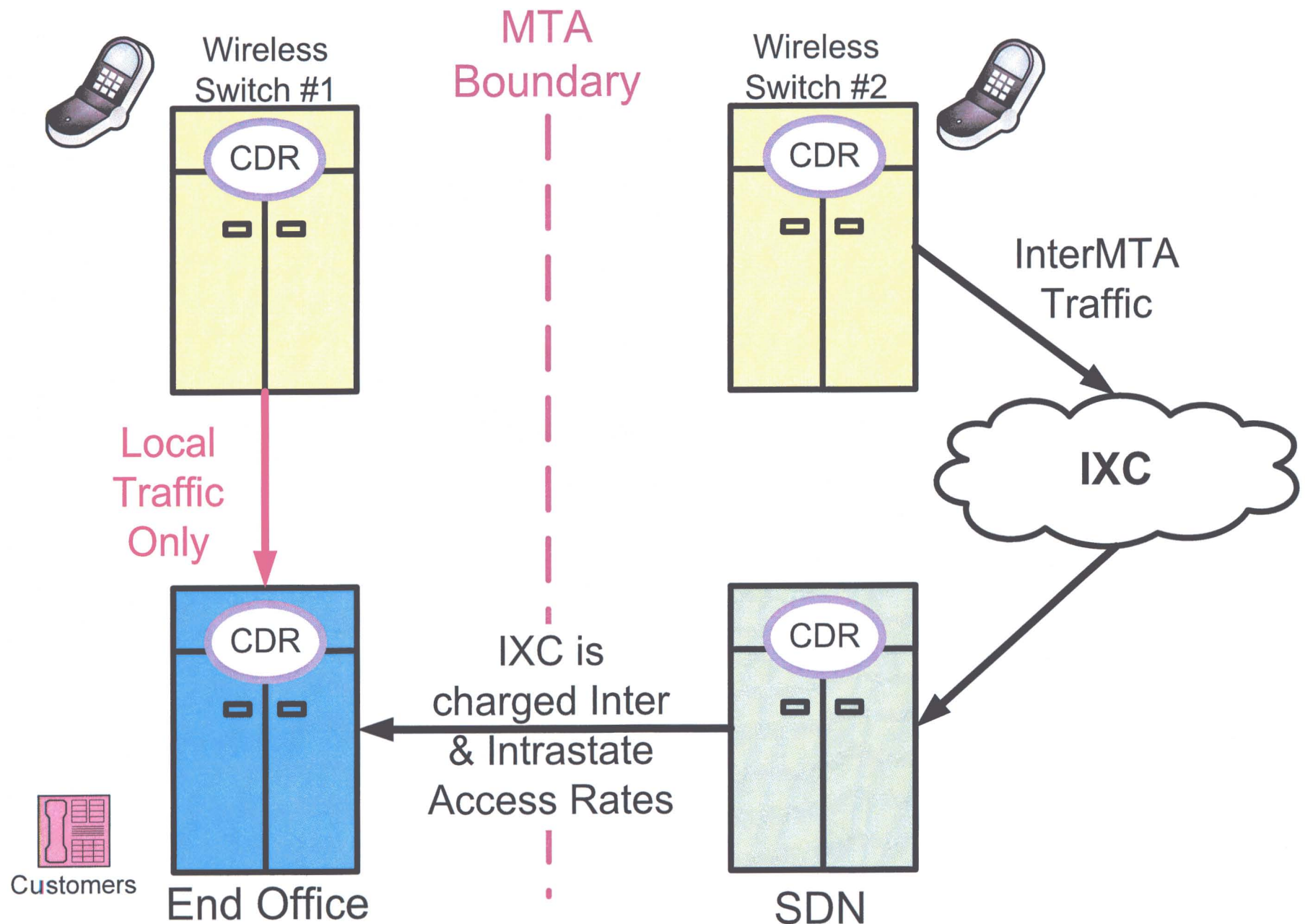
# Wireless Traffic Routing (with IMT)





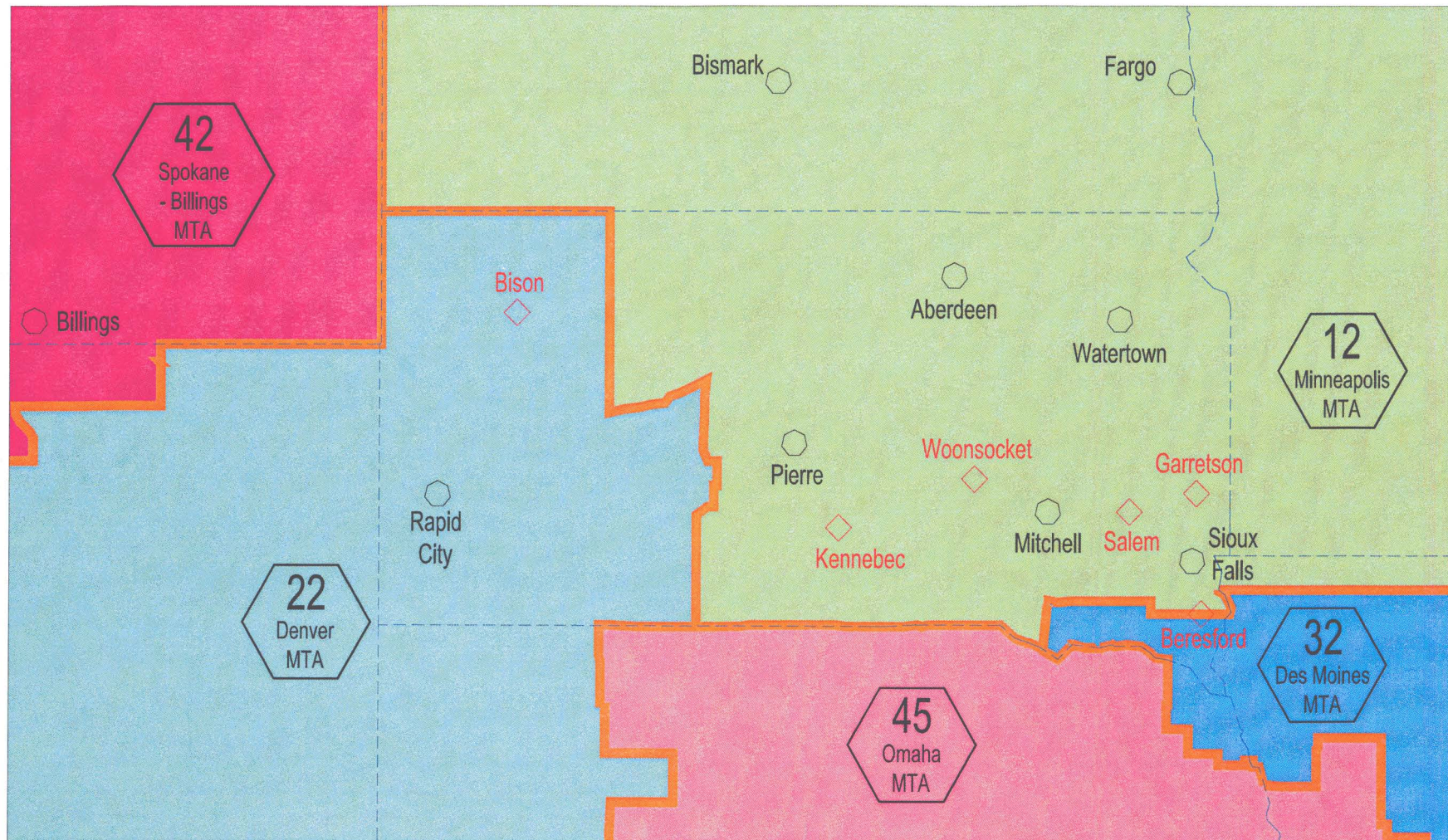
# Wireless Traffic Routing (No IMT)

Exhibit LT-R-4A





# South Dakota Surrounding MTA Calling Scenarios



Exchanges Color

○ Qwest  
◇ RLEC

Border Color

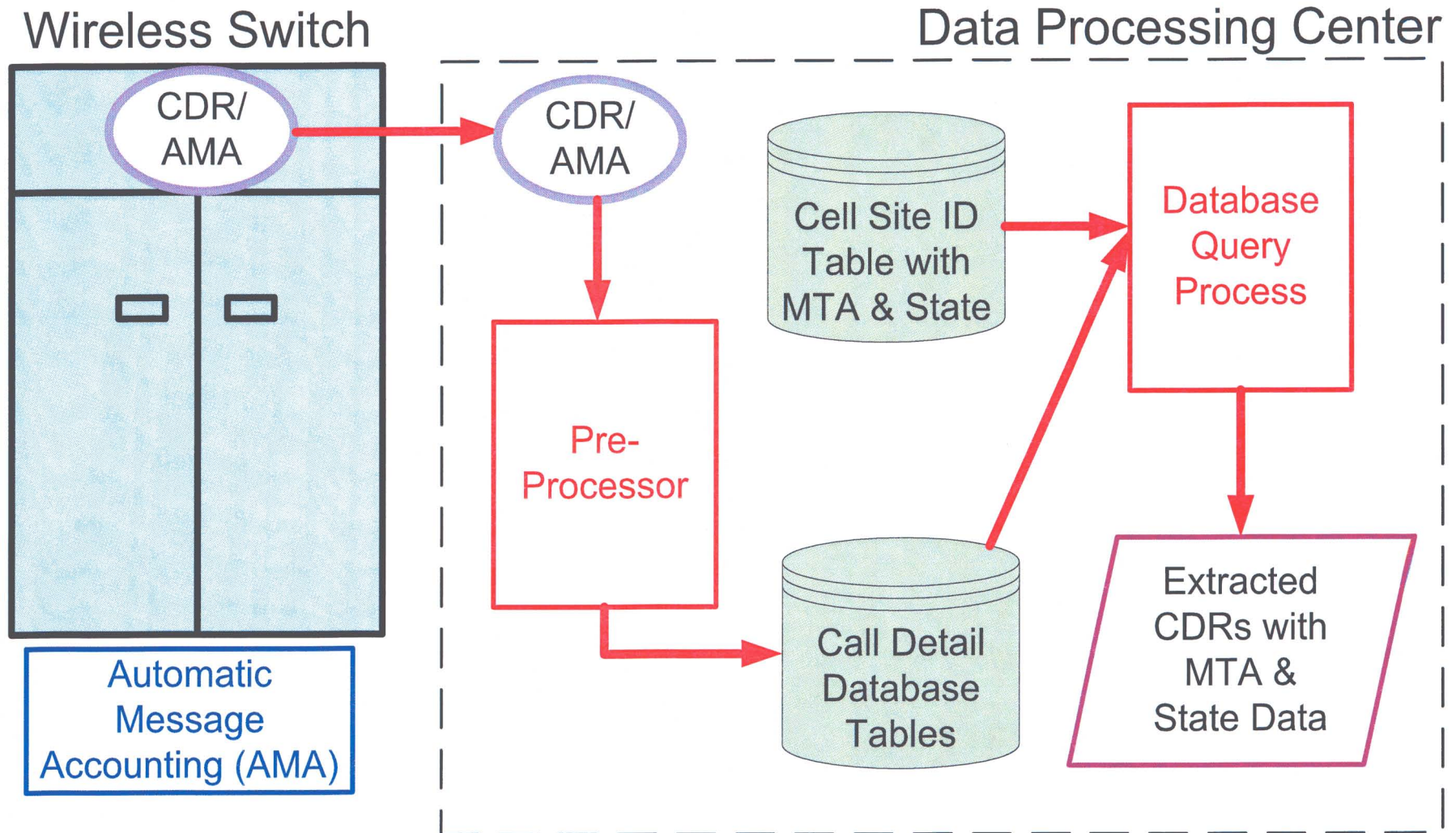
--- State  
— MTA



Vantage Point  
2011 N. Milwaukee St., Mitchell, South Dakota www.vantagepoint.com



# Extracting InterMTA CDRs





411-2131-204

Wireless Solutions

# **DMS-MTX**

## **DMS-MTX CDMA/TDMA Billing Management Manual**

MTX12 Standard 11.11 February 2004

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**NORTEL**  
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- The TMTXCT field is captured for a non-bridged three way call, if the call is answered, when the controller disconnects to perform a call transfer.
- The TMXCT field is captured for call waiting notification to a mobile terminator once it is determined call waiting is allowed and audible ringing is applied to the originator.
- The TMTXCT field is captured for all voice calls terminating on a MTX trunk.
- The TMTXCT field is captured for 1xRTT packet data calls when the Office Parameter MTX\_CDR\_FOR\_3G\_DATA\_CALLS is set to 'Y'.
- The TMXCT field is captured for call waiting repage when re-ringing is applied to the controller.

## First Originating Trunk CLLI

See [Table 6-68](#) for information related to the first originating trunk CLLI.

**Table 6-68**  
**First originating trunk CLLI**

SYMBOLIC FIELD NAME	FORGCLLI (AMPS/TDMA)	FORGCLLI (CDMA)
FIELD POSITION IN CDR	43	43
FIELDVALUE RANGE	0000 to 8191	0000 to 7FF3
FIELD TYPE	BCD	HEX
FIELD SIZE IN NIBBLES	4	4
FIELD MEANING	AMPS/TDMA: Trunk CLLI on which the originator began the call	CDMA: cell and partition in which the originator began the call

### Interpretation of Field Data

The first originating trunk CLLI field is captured for all calls on the DMS-MTX. The data captured in the FORGCLLI field remains constant throughout the duration of the call, regardless of whether any handoffs occur.

For AMPS/TDMA calls, the FORGCLLI field denotes the trunk CLLI on which the originator began the call. The field contents may indicate a voice trunk for mobile originators, a 2 way trunk, incoming trunk or outgoing trunk for land line originators, or a NWK trunk for a mobile who performed a handoff or call delivery.

When the FORGCLLI field displays a NWK trunk, this indicates a mobile terminator has done an intersystem handoff to this switch. This is only possible in a network using NT proprietary messaging (IS-41P), where it is

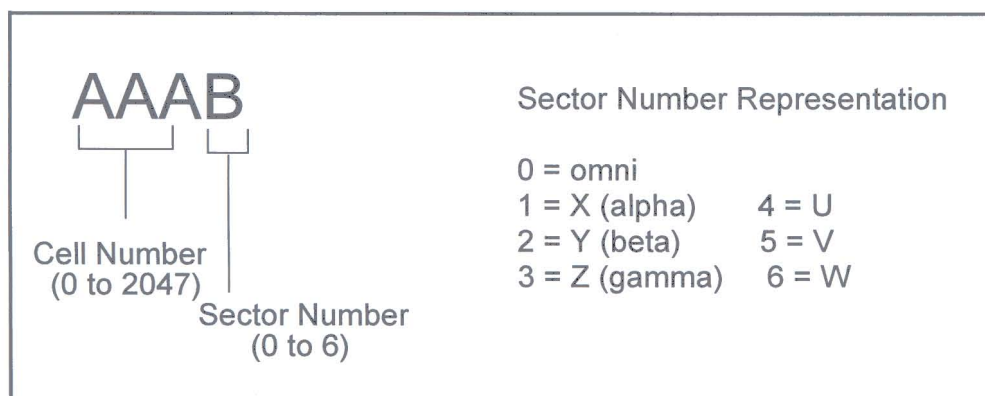
possible to determine that the mobile was a terminator. In a network using IS-41 messaging (IS-41A, IS-41B), the mobile is assumed to be the originator, and the FORGCLLI field always displays the mobile's voice trunk following the handoff. In this case of IS-41 networking, the NWK trunk is always captured in the FTRMCLLI.

For an AMPS/TDMA system, the CLLI name is displayed in this field in the CDR logs, as it is datafilled in table CLLI. The corresponding CLLI number (or cell number/partition) is displayed in the hex AMA file.

To correlate the CLLI names and numbers, a C2C2 record can be generated. See Data Group Records and Format of Data Group Records for details on the C2C2 data group records.

For CDMA systems, the FORGCLLI field indicates the cell and partition in which the originator is located at the time the call began. The data in this field is formatted in the AMA record as follows, where each letter represents a nibble in the AMA hex dump (see .

**Figure 6-16**  
**CDMA Cell/Sector Number representation**



The first 3 nibbles represent the cell number in BCD, while the last nibble represents the sector number. For example, the cell number 123X would be represented in the AMA record as #1231, the cell number 98Z would be represented in the AMA record as #0983, and so on. In the CDR log, the actual cell number and partition is displayed in this field and preceded by the text "CELL" e.g. CELL98Z.

### Related Fields and Parameters

First originating trunk member-The CLLI and member fields are always captured together as a trunk identifier and the individual CLLI and member values are extracted from this information.