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ANSI T1.231-1993, American National Standard for Telecommunications - Digital Hierarchy - Layer 1 In-Service Digital Transmission performance monitoring

ANSI T1.403-1989, Carrier to Customer Installation, DS1 Metallic Interface Specification

ANSI T1.404-1994, Network-to-Customer Installation - DS3 Metallic Interface Specification

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Bellcore GR-820-CORE, Generic Transmission Surveillance: DS1 & DS3 Performance

Bellcore GR-253-CORE, Synchronous Optical Network Systems (SONET); Common Generic Criteria

Bellcore TR-NWT 000507, Transmission, Section 7, Issue 5 (Bellcore, December 1993). (A module of LSSGR, FR-NWT-000064.)

Bellcore TR-NWT-000776, Network Interface Description for ISDN Customer Access

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ANSI T1.111.4
ANSI T1.112
ANSI T1.112.4
ANSI T1.118
ANSI T1.111.6
ANSI T1.112.5

GR-2863-CORE, CCS Network Interface Specification Supporting Advanced Intelligent Network (AIN)

GR-2902-CORE, CCS Network Interface Specification (CCSNIS) Supporting Toll-Free Service Using Advanced Intelligent Network (AIN)

Bellcore GR-905-CORE, Common Channel Signaling Network Interface Specification (CCSNIS) Supporting Network Interconnection, Message Transfer Part (MTP), and Integrated Services Digital Network User Part (ISDNUP)

Bellcore GR-1432-CORE, CCS Network Interface Specification (CCSNIS) Supporting Signaling Connection Control Part (SCCP) and Transaction Capabilities Application Part (TCAP)

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ANSI T1.111A-1994, American National Standard for Telecommunications - Signaling System Number 7 (SS7) - Message Transfer Part (MTP) Supplement

ANSI T1.112-1992, American National Standard for Telecommunications - Signaling System Number 7 (SS7) - Signaling Connection Control Part (SCCP)

ANSI T1.115-1990, American National Standard for Telecommunications - Signaling System Number 7 (SS7) - Monitoring and Measurements for Networks

ANSI T1.116-1990, American National Standard for Telecommunications - Signaling System Number 7 (SS7) - Operations, Maintenance and Administration Part (OMAP)

ANSI T1.118-1992, American National Standard for Telecommunications - Signaling System Number 7 (SS7) - Intermediate Signaling Network Identification (ISNI)

Bellcore GR-905-CORE, Common Channel Signaling Network Interface Specification (CCSNIS) Supporting Network Interconnection, Message Transfer Part (MTP), and Integrated Services Digital Network User Part (ISDNUP)

Bellcore GR-1432-CORE, CCS Network Interface Specification (CCSNIS) Supporting Signaling Connection Control Part (SCCP) and Transaction Capabilities Application Part (TCAP)

<u>Service Control Points (SCPs)/Call-Related Databases</u>

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GR-246-CORE, Bell Communications Research Specification of Signaling System Number 7, ISSUE 1 (Bellcore, December 1995)

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GR-954-CORE, CCS Network Interface Specification (CCSNIS) Supporting Line Information Database (LIDB) Service 6, Issue 1, Rev. 1 (Bellcore, October 1995)

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GR-1429-CORE
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Bellcore TR-NWT-000418, Issue 2, December 1992, Generic Reliability Assurance Requirements For Fiber Optic Transport Systems
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Bellcore TR-NWT-000505, Issue 3 , May 1991, LSSGR Section 5, Call Processing
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Bellcore Technical Advisory TA-TSY-000120, "Customer Premises or Network Ground Wire"
Bellcore Generic Requirement GR-49-CORE, "Generic Requirements for Outdoor Telephone Network Interface Devices"
Bellcore Technical Requirement TR-NWT-00239, "Indoor Telephone Network Interfaces"
Bellcore Technical Requirement TR-NWT-000937, "Generic Requirements for Outdoor and Indoor Building Entrance"

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GR-394-CORE, Switching System generic requirements for Interexchange Carrier Interconnection Using the Integrated Services Digital Network User Part (ISDNUP), Bellcore, February, 1994

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ANSI T1.112

ANSI T1.113

Bellcore GR-905-CORE, Common Channel Signaling Network Interface Specification (CCSNIS) Supporting Network Interconnection, Message Transfer Part (MTP), and Integrated Services Digital Network User Part (ISDNUP)

Bellcore GR-1428-CORE, CCS Network Interface Specification (CCSNIS) Supporting Toll-Free Service

Bellcore GR-1429-CORE, CCS Network Interface Specification (CCSNIS) Supporting Call Management Services

Bellcore GR-1432-CORE, CCS Network Interface Specification (CCSNIS) Supporting Signaling Connection Control Part (SCCP) and Transaction Capabilities Application Part (TCAP)

ANSI T1.110-1992, American National Standard Telecommunications - Signaling System Number 7 (SS7) - General Information;

ANSI T1.111-1992, American National Standard for Telecommunications - Signaling System Number 7 (SS7) - Message Transfer Part (MTP)

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ANSI T1.113-1995, American National Standard for Telecommunications - Signaling System Number 7 (SS7) - Integrated Services Digital Network (ISDN) User Part

ANSI T1.114-1992, American National Standard for Telecommunications - Signaling System Number 7 (SS7) - Transaction Capabilities Application Part (TCAP)

ANSI T1.115-1990, American National Standard for Telecommunications - Signaling System Number 7 (SS7) - Monitoring and Measurements for Networks

ANSI T1.116-1990, American National Standard for Telecommunications - Signaling System Number 7 (SS7) - Operations, Maintenance and Administration Part (OMAP)

ANSI T1.118-1992, American National Standard for Telecommunications - Signaling System Number 7 (SS7) - Intermediate Signaling Network Identification (ISNI)

Bellcore GR-905-CORE, Common Channel Signaling Network Interface Specification (CCSNIS) Supporting Network Interconnection, Message Transfer Part (MTP), and Integrated Services Digital Network User Part (ISDNUP)

Bellcore GR-954-CORE, CCS Network Interface Specification (CCSNIS) Supporting Line Information Database (LIDB) Service

Bellcore Special Report SR-TSV-002275, BOC Notes on the LEC Networks-Signaling

Ameritech Supplement AM-TR-OAT-000069, Common Channel Signaling Network Interface Specifications

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ANSI Standard T1.206

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Bellcore Technical Publication TR-INS-000342, High Capacity Digital Special Access Service, Transmission Parameter Limits and Interface Combinations;

Ameritech Technical Publication TR-NIS-000111, Ameritech 0C3, 0C12 and 0C48 Service Interface Specifications; and

Ameritech Technical Publication AM-TR-NIS-000133, Ameritech 0C3, 0C12 and 0C48 Dedicated Ring Service Interface Specifications.

Collocation

Bellcore Network Equipment Building Systems (NEBS) standards TR-EOP-000063 National Electrical Code (NEC) use latest issue

TA-NPL-000286, NEBS Generic Engineering Requirements for System Assembly and Cable Distribution, Issue 2 (Bellcore, January 1989)

TR-EOP-000063, Network Equipment-Building System (NEBS) Generic Equipment Requirements, Issue 3, March 1988

TR-NWT-000840, Supplier Support Generic Requirements (SSGR), (A Module of LSSGR, FR-NWT-000064), Issue 1 (Bellcore, December 1991)

TR-NWT-001275 Central Office Environment Installations/Removal Generic Requirements, Issue 1, January 1993

Institute of Electrical and Electronics Engineers (IEEE) Standard 383, IEEE Standard for Type Test of Class 1 E Electrical Cables, Field Splices, and Connections for Nuclear Power Generating Stations

National Electrical Code (NEC) use latest issue

TA-NPL-000286, NEBS Generic Engineering Requirements for System Assembly and Cable Distribution, Issue 2 (Bellcore, January 1989)

TR-EOP-000063, Network Equipment-Building System (NEBS) Generic Equipment Requirements, Issue 3, March 1988

TR-EOP-000151, Generic Requirements for 24-, 48-, 130- and 140- Volt Central Office Power Plant Rectifiers, Issue 1 (Bellcore, May 1985)

TR-EOP-000232, General Requirements for Lead-Acid Storage Batteries, Issue 1 (Bellcore, June 1985)

TR-NWT-000154, General Requirements for 24-, 48-, 130-, and 140- Volt Central Office Power Plant Control and Distribution Equipment, Issue 2 (Bellcore, January 1992)

TR-NWT-000295, Isolated Ground Planes: Definition and Application to Telephone Central Offices, Issue 2 (Bellcore, July 1992)

TR-NWT-000840, Supplier Support Generic Requirements (SSGR), (A Module of LSSGR, FR-NWT-000064), Issue 1 (Bellcore, December 1991)

TR-NWT-001275, Central Office Environment Installations/Removal Generic Requirements, Issue 1, January 1993

Underwriters' Laboratories Standard, UL 94

SCHEDULE 3.8

AMERITECH INTERCONNECTION PERFORMANCE BENCHMARKS

1.0 Trunk Provisioning Intervals

1.1 Number of End Office

Trunks Per Order Per Day	Interval
1-48	14 days
49-96	15 days
97 +	Negotiated

1.2 New Trunk Groups to Tandem(s) — Negotiated

2.0 Trunking Grade of Service

Blocking Standards

Traffic Type	Measurement
Exchange Access Final Trunk Group Traffic via Tandems	1/2 of 1% (0.005)
All Other Final Trunk Group Traffic	1% (0.01)

3.0 Trunk Restoral

Type of Outage	Interval
Service Affecting	within 1 hour
Non-Service Affecting	within 24 hours

The Parties agree that additional Interconnection Performance Benchmarks may be agreed upon by the Implementation Team. However, if any additional Interconnection Performance Benchmarks require a Party to maintain records which it then does not maintain, the Party requesting such new or additional benchmarks shall utilize the Bona Fide Request process with respect to such records.

SCHEDULE 3.9

9-1-1 SERVICE

1.0 Standard Features

1.1. Forced Disconnect. Enables the PSAP attendant to release a connection on a 9-1-1 call, even if the calling party remains off-hook. The time required to effect the forced disconnect varies as a function of the office type.

1.2. Default Routing. Default Routing is activated when an incoming 9-1-1 call cannot be selectively routed due to an ANI failure, garbled digits or other causes. Such incoming calls are routed from the 9-1-1 Control Office to a default PSAP if requested by the primary PSAP. Each incoming 9-1-1 facility group to the Control Office is assigned to a designated default PSAP. Default ANI and ALI data is provided when a call is Default Routed to indicate such routing has taken place.

1.3. Alternate Routing. Alternate Routing allows 9-1-1 calls to be routed to a designated alternate location if (a) all 9-1-1 Service Lines to the Primary PSAP are busy, or (b) the Primary PSAP closes down for a period (e.g., night service).

1.4. Central Office Transfer Arrangements:

1.4.1. Manual transfer enables the PSAP attendant to transfer an incoming call by depressing the switchhook of the associated telephone or the "add" button on the Display and Transfer Unit and dialing either a 10-digit telephone number, a 7-digit telephone number or a 2-digit speed calling code.

1.4.2. Fixed transfer enables a PSAP attendant to transfer incoming 9-1-1 calls to Secondary PSAPs by use of a single button on the Display and Transfer Unit.

1.4.3. Selective transfer provides the PSAP with the ability to transfer an incoming call to another responding agency by depressing a single button labeled with the type of agency (e.g., "FIRE") on the Display and Transfer Unit. Selective transfer is only available when Selective Routing is provided.

2.0 9-1-1 Meet Points For Primary And Diverse Routes

The point of Interconnection for AT&T's Primary and Diverse Routes to the mux/co-location and 9-1-1 Control Offices is at the Ameritech Central Office. AT&T shall pay tariff charges for Diverse routes. AT&T will be responsible for determining the proper quantity

of trunks from its End Office(s) to the Ameritech Central Office(s). Trunks between the Ameritech Central Office and the Ameritech Control Office shall be delivered by Ameritech within twenty (20) Business Days following order by AT&T. Following delivery, AT&T and Ameritech will cooperate to promptly test all transport facilities between AT&T's network and the Ameritech Control Office to assure proper functioning of the 9-1-1 service.

SCHEDULE 6.0

MEET-POINT BILLING RATE STRUCTURE

A. Interstate access - Terminating to or originating from AT&T Customers served from an AT&T local exchange End Office.

Rate Element	Billing Company
CCL	AT&T
Local Switching	AT&T
Interconnection Charge	AT&T
Local Transport (Tandem) Termination	50% Ameritech 50% AT&T
Local Transport (Tandem) Facility	This will be calculated based on NECA tariff No. 4 filings for each Party
Tandem Switching	Ameritech
Entrance Facility	Ameritech

B. Intrastate access - Terminating to or originating from AT&T Customers served from an AT&T local exchange End Office.

Rate Element	Billing Company
CCL	AT&T
Local Switching	AT&T
Interconnection Charge	AT&T
Local Transport (Tandem) Termination	50% Ameritech 50% AT&T
Local Transport (Tandem) Facility	This will be calculated based on NECA tariff No. 4 filings for each Party
Tandem Switching	Ameritech
Entrance Facility	Ameritech

SCHEDULE 9.2.1

LOCAL LOOPS

Subject to Section 1.1 of Schedule 9.5, Ameritech shall allow AT&T to access the following Loop types (in addition to those Loops available under applicable tariffs) unbundled from local switching and local transport.

"2-Wire Analog Voice Grade Loop" or **"Analog 2W,"** which supports analog transmission of 300-3000 Hz, repeat loop start, loop reverse battery, or ground start seizure and disconnect in one direction (toward the End Office Switch), and repeat ringing in the other direction (toward the Customer) and terminates in a 2-Wire interface at both the central office MDF and the customer premises. Analog 2W includes Loops sufficient for the provision of PBX trunks, pay telephone lines and electronic key system lines. Analog 2W will be provided in accordance with the specifications, interfaces, and parameters described in Technical Reference AM-TR-TMO-000122, Ameritech Unbundled Analog Loops.

"4-Wire Analog Voice Grade Loop" or **"Analog 4W,"** which supports transmission of voice grade signals using separate transmit and receive paths and terminates in a 4-wire electrical interface at both ends. Analog 4W will be provided in accordance with the specifications, interfaces, and parameters described in Technical Reference AM-TR-TMO-000122, Ameritech Unbundled Analog Loops.

"2-Wire ISDN 160 Kbps Digital Loop" or **"BRI-ISDN"** which supports digital transmission of two 64 kbps bearer channels and one 16 kbps data channel (2B+D). BRI-ISDN is a 2B+D Basic Rate Interface-Integrated Services Digital Network (BRI-ISDN) Loop which will meet national ISDN standards and conform to Technical Reference AM-TR-TMO-000123, Ameritech Unbundled Digital Loops (including ISDN).

"2-Wire ADSL-Compatible Loop" or **"ADSL 2W"** is a transmission path which facilitates the transmission of up to a 6 Mbps digital signal downstream (toward the Customer) and up to a 640 kpbs digital signal upstream (away from the Customer) while simultaneously carrying an analog voice signal. An ADSL-2W is provided over a 2-Wire, non-loaded twisted copper pair provisioned using revised resistance design guidelines and meeting ANSI Standard T1.413-1995 and AM TR--TMO-000123. An ADSL-2W terminates in a 2-wire electrical interface at the Customer premises and at the Ameritech Central Office frame. ADSL technology can only be deployed over Loops which extend less than 18 Kft. from Ameritech's Central Office. ADSL compatible Loops are available only where existing copper facilities can meet the ANSI T1.413-1995 specifications.

"2-Wire HDSL-Compatible Loop" or **"HDSL 2W"** is a transmission path which facilitates the transmission of a 768 kbps digital signal over a 2-Wire, non-loaded twisted copper pair meeting the specifications in ANSI T1E1 Committee Technical Report Number 28. HDSL compatible Loops are available only where existing copper facilities can meet the T1E1 Technical Report Number 28 and AM-TR-TMO-000123 specifications.

"4-Wire HDSL-Compatible Loop" or **"HDSL 4W"** is a transmission path which facilitates the transmission of a 1.544 Mbps digital signal over two 2-Wire, non-loaded twisted copper pairs meeting the specifications in ANSI T1E1 Committee Technical Report Number 28 and AM TR-TMO-000123. HDSL compatible Loops are available only where existing copper facilities can meet the T1E1 Technical Report Number 28 specifications.

"4-Wire 64 Kbps Digital Loop" or **"4-Wire 64 Digital"** is a transmission path which supports transmission of digital signals of up to a maximum binary information rate of 64 Kbps and terminates in a 4-Wire electrical interface at both the Customer premises and on the MDF in Ameritech's Central Office. 4-Wire 64 Digital will be provided in accordance with the specifications, interfaces and parameters described in AM-TR-TMO-000123.

"4-Wire 1.544 Mbps Digital Loop" or **"1.544 Mbps Digital"** is a transmission path which supports transmission of digital signals of up to a maximum binary information rate of 1.544 Mbps and terminates in a 4-Wire electrical interface at the Customer premises and on the DSX frame in Ameritech's Central Office. 1.544 Mbps Digital will be provided in accordance with the specifications, interfaces and parameters described in AM-TR-TMO-00023.

SCHEDULE 9.2.2

UNBUNDLED ACCESS TO NETWORK INTERFACE DEVICES

Ameritech's Network Interface Device ("NID") is a Network Element that utilizes a cross-connect device to connect loop facilities to inside wiring.

Ameritech will permit AT&T to connect AT&T's loop to the inside wiring of the Customer's premises through Ameritech's NID, where necessary. AT&T must establish the connection to Ameritech's NID through an adjoining NID which serves as the network interface or demarcation for AT&T's loop.

Maintenance and control of premises (inside wiring) is under the control of the Customer. Any conflicts between service providers for access to the Customer's inside wire must be resolved by the Customer.

SCHEDULE 9.2.3

SWITCHING CAPABILITY

1.0 Local Switching. The local switching capability of a Network Element is defined as:

(1) line-side facilities, which include the connection between a Loop termination at the Main Distribution Frame and a switch line card:

(2) trunk-side facilities, which include the connection between trunk termination at a trunk-side cross- connect panel and a switch trunk card: and

(3) all features, functions, and capabilities of the switch available from the specific port type (line side or trunk side port), which include:

(a) the basic switching function of connecting lines to lines, lines to trunks, trunks to lines, and trunks to trunks, as well as the same basic capabilities made available to Ameritech's Customers, such as a telephone number, white page listing, and dial tone;

(b) access to operator services, directory assistance and 9-1-1; and

(c) all other features that the switch provides, including custom calling, CLASS features and Centrex, as well as any technically feasible customized routing functions available from such switch.

When local switching is provided by Ameritech, AT&T will receive Customer Usage Data and billing information in accordance with the requirements of Section 10.16.

2.0 Tandem Switching.

2.1 The Tandem Switching Capability Network Element is defined as:

(1) an unbundled Network Element in Ameritech's Class 4 non-TOPS digital Tandem Switches, which includes Interconnection with the trunk at the Tandem Distribution Frame ("TDF") and the Tandem Switch trunk ports;

(2) the basic switching function of creating a temporary transmission path that connects AT&T's trunks to the trunks of Ameritech, IXCs, ICOs, CMRS, and other LECs interconnected to the Tandem Switch.

2.2 Interconnecting trunk types which can be switched include FGB, FGC, FGD and Type II. Signaling support includes Rotary, MF, and SS7 and any signaling conversions between these signaling formats.

2.3 Variations in Tandem Switching equipment used to provide service in specific locations may cause differences in the operation of certain features.

2.4 The unbundled Tandem Switching Network Element will provide to AT&T all available basic Tandem Switching functions and basic capabilities that are centralized in the Tandem Switch (and not in End Office Switches), including the following functions Ameritech makes available to its Customers:

1. Routing of calls from an inbound trunk to an outbound trunk based on destination digits.

2. Routing of Equal Access or Operator Service calls from an inbound trunk to an outbound trunk based on the CIC forwarded by the inbound trunk.

2.5 Translations, screening, blocking, and route indexing are provided if technically feasible under the standard switching translations and screening in use in that switch. A request for translations, screening, blocking, route indexing other than what is available (i.e., features that the switch is capable of providing) in that switch will be provided where technically feasible as a Bona Fide Request. Ameritech will provide these features if technically feasible and upon agreement by AT&T to pay the applicable recurring and nonrecurring costs of developing, installing, providing and maintaining the capability. Variations in the Tandem Switching equipment or translation and screening used to provide service in specific locations may cause differences in the operation of the element.

SCHEDULE 9.2.4

INTEROFFICE TRANSMISSION FACILITIES

Interoffice Transmission Facilities are Ameritech transmission facilities dedicated to a particular Customer or carrier, or shared by more than one Customer or carrier, used to provide Telecommunications Services between Wire Centers owned by Ameritech or AT&T, or between Switches owned by Ameritech or AT&T.

1. Ameritech provides several varieties of unbundled transport facilities:

1.1. Unbundled dedicated interoffice transport facility (**"Dedicated Transport"**) is a dedicated facility connecting two Ameritech Central Offices buildings via Ameritech transmission equipment. In each Central Office building, AT&T will Cross-Connect this facility to its own transmission equipment (physically or virtually) Collocated in each Wire Center, or to other unbundled Network Elements provided by Ameritech to the extent the requested combination is technically feasible and is consistent with other standards established by the FCC for the combination of unbundled Network Elements. All applicable digital Cross-Connect, multiplexing, and Collocation space charges apply at an additional cost.

1.2. "Unbundled dedicated entrance facility" is a dedicated facility connecting Ameritech's transmission equipment in an Ameritech Central Office with AT&T's transmission equipment in AT&T's Wire Center for the purposes of providing Telecommunications Services.

1.3. Shared transport transmission facilities (**"Shared Transport"**) are a billing arrangement where two (2) or more carriers share the features, functions and capabilities of transmission facilities between the same types of locations as described for dedicated transport in Sections 1.1 and 1.2 preceding and share the costs.

2. Ameritech shall offer Interoffice Transmission Facilities in each of the following ways:

2.1. As a dedicated transmission path (e.g., DS1, DS3, OC3, OC12 and OC48) dedicated to AT&T.

2.2. As a shared transmission path as described in Section 1.3 above.

3. Where Dedicated Transport or Shared Transport is provided, it shall include (as appropriate):

3.1. The transmission path at the requested speed or bit rate.

3.2. The following optional features are available; if requested by AT&T, at additional cost:

3.2.1. Clear Channel Capability per 1.544 Mbps (DS1) bit stream.

3.2.2. Ameritech provided Central Office multiplexing:

(a) DS3 to DS1 multiplexing; and

(b) DS1 to Voice/Base Rate/128, 256, 384 Kpbs Transport multiplexing.

3.3. If requested by AT&T, the following are available at an additional cost:

3.3.1. 1+1 Protection for OC3, OC12 and OC48.

3.3.2. 1+1 Protection with Cable Survivability for OC3, OC12 and OC48.

3.3.3. 1+1 Protection with Route Survivability for OC3, OC12 and OC48.

4. Technical Requirements.

This Section sets forth technical requirements for all Interoffice Transmission Facilities:

4.1. When Ameritech provides Dedicated Transport as a circuit, the entire designated transmission facility (e.g., DS1, DS3, and where available, STS-1) shall be dedicated to AT&T designated traffic.

4.2. Ameritech shall offer Dedicated Transport in all then currently available technologies including DS1 and DS3 transport systems, SONET Bi-directional Line Switched Rings, SONET Unidirectional Path Switched Rings, and SONET point-to-point transport systems (including linear add-drop systems), at all available transmission bit rates, except subrate services, where available.

4.3. For DS1 facilities, Dedicated Transport shall, at a minimum, meet the performance, availability, jitter, and delay requirements specified for Customer Interface to Central Office "CI

to CO" connections in the applicable technical references set forth under Dedicated and Shared Transport in the Technical Reference Schedule.

4.4. For DS3 and, where available, STS-1 facilities and higher rate facilities, Dedicated Transport shall, at a minimum, meet the performance, availability, jitter, and delay requirements specified for Customer Interface to Central Office "CI to CO" connections in the applicable technical references set forth under Dedicated and Shared Transport in the Technical Reference Schedule.

4.5. When requested by AT&T, Dedicated Transport shall provide physical diversity. Physical diversity means that two circuits are provisioned in such a way that no single failure of facilities or equipment will cause a failure on both circuits.

4.6. When physical diversity is requested by AT&T, Ameritech shall provide the maximum feasible physical separation between intra-office and inter-office transmission paths (unless otherwise agreed by AT&T).

4.7. Any request by AT&T for diversity shall be subject to additional charges.

4.8. Upon AT&T's request and its payment of any additional charges, Ameritech shall provide immediate and continuous remote access to performance monitoring and alarm data affecting, or potentially affecting, AT&T's traffic.

4.9. Ameritech shall offer the following interface transmission rates for Dedicated Transport:

4.9.1. DS1 (Extended SuperFrame - ESF, D4, and unframed applications (if used by Ameritech));

4.9.2. DS3 (C-bit Parity and M13 and unframed applications (if used by Ameritech) shall be provided);

4.9.3. SONET standard interface rates in accordance with the applicable ANSI technical references set forth under Dedicated and Shared Transport in the Technical Reference Schedule. In particular, where STS-1 is available, VT1.5 based STS-1s will be the interface at an AT&T service node.

4.10. Upon AT&T's request, Ameritech shall provide AT&T with electronic provisioning control of an AT&T specified Dedicated Transport through Ameritech Network Reconfiguration Service (ANRS) on the rates, terms and conditions in F.C.C. Tariff No. 2.

4.11. Ameritech shall permit, at applicable rates, AT&T to obtain the functionality provided by DCS together with and separate from dedicated transport in the same manner that Ameritech offers such capabilities to IXCs that purchase transport services. If AT&T requests additional functionality, such request shall be made through the Bona Fide Request process.

SCHEDULE 9.2.5

SIGNALING NETWORKS AND CALL-RELATED DATABASES

1.0 Signaling Transfer Points.

A Signaling Transfer Point (STP) is a signaling network function that includes all of the capabilities provided by the signaling transfer point switches (STPSs) and their associated signaling links which enable the exchange of SS7 messages among and between switching elements, database elements and signaling transfer point switches.

1.1. Technical Requirements.

1.1.1. STPs shall provide access to all other Network Elements connected to Ameritech SS7 network. These include:

1.1.1.1. Ameritech Local Switching or Tandem Switching;

1.1.1.2. Ameritech Service Control Points/Databases:

1.1.1.3. Third-party local or tandem switching systems; and

1.1.1.4. Third-party-provided STPSs.

1.1.2. The connectivity provided by STPs shall fully support the functions of all other Network Elements connected to the Ameritech SS7 network. This explicitly includes the use of the Ameritech SS7 network to convey messages which neither originate nor terminate at a Signaling End Point directly connected to the Ameritech SS7 network (i.e., transient messages). When the Ameritech SS7 network is used to convey transient messages, there shall be no alteration of the Integrated Services Digital Network User Part (ISDNUP) or Transaction Capabilities Application Part (TCAP) user data that constitutes the content of the message.

1.1.3. If an Ameritech Tandem Switch routes calling traffic, based on dialed or translated digits, on SS7 trunks between an AT&T local switch and third party local switch, the Ameritech SS7 network shall convey the TCAP messages that are necessary to provide Call Management features (Automatic Callback, Automatic Recall, and Screening List Editing) between the AT&T local STPSs and the STPSs that provide connectivity with the third party local switch, even if the third party local switch is not directly connected to the Ameritech STPSs, based on the routing instruction provided in each message.

1.1.4. STPs shall provide all functions of the MTP as specified in ANSI T1.111. This includes:

1.1.4.1. Signaling Data Link functions, as specified in ANSI T1.111.2:

1.1.4.2. Signaling Link functions, as specified in ANSI T1.111.3; and

1.1.4.3. Signaling Network Management functions, as specified in ANSI T1.111.4.

1.1.5. STPs shall provide all functions of the SCCP necessary for Class 0 (basic connectionless) service, as specified in ANSI T1.112. In particular, this includes Global Title Translation (GTT) and SCCP Management procedures, as specified in T1.112.4. In cases where the destination signaling point is an Ameritech local or tandem switching system or database, or is an AT&T or third party local or tandem switching system directly connected to the Ameritech SS7 network, STPs shall perform final GTT of messages to the destination and SCCP Subsystem Management of the destination. In all other cases, STPs shall perform intermediate GTT of messages to a gateway pair of STPSs in an SS7 network connected with the Ameritech SS7 network, and shall not perform SCCP Subsystem Management of the destination.

1.1.6. STPs shall also provide the capability to route SCCP messages based on ISNI, as specified in ANSI T1.118, when this capability becomes available on Ameritech STPSs.

1.1.7. STPs shall provide all functions of the OMAP commonly provided by STPSs. This includes:

1.1.7.1. MTP Routing Verification Test (MRVT); and

1.1.7.2. SCCP Routing Verification Test (SRVT).

1.1.8. In cases where the destination signaling point is an Ameritech local or tandem switching system or database, or is an AT&T or third party local or tandem switching system directly connected to the Ameritech SS7 network, STPs shall perform MRVT and SRVT to the destination signaling point. In all other cases, STPs shall perform MRVT and SRVT to a gateway pair of STPSs in an SS7 network connected with the Ameritech SS7 network. This requirement shall be superseded by the specifications for Internetwork MRVT and SRVT if and when these become approved ANSI standards and available capabilities of Ameritech STPSs.

1.1.9. STPs shall be equal to or better than the following performance requirements:

1.1.9.1. MTP Performance, as specified in ANSI T1.111.6; and

1.1.9.2. SCCP Performance, as specified in ANSI T1.112.5.

1.2. Signaling Link Transport.

1.2.1. Definition. Signaling Link Transport is a set of two (2) or four (4) dedicated 56 Kbps transmission paths between AT&T-designated Signaling Points of Interconnection (SPOI) that provides appropriate physical diversity.

Technical Requirements.

1.2.2. Signaling Link Transport shall consist of full duplex mode 56 Kbps transmission paths.

1.2.3. Of the various options available, Signaling Link Transport shall perform in the following two (2) ways:

a) As an "A-link" which is a connection between a switch or SCP and a Signaling Transfer Point Switch (STPS) pair; and

b) As a "D-link" which is a connection between two (2) STP mated pairs in different company networks (e.g., between two (2) STPS pairs for two Competitive Local Exchange Carriers (CLECs)).

1.2.4. Signaling Link Transport shall consist of two (2) or more signaling link layers as follows:

a) An A-link layer shall consist of two (2) links.

b) A D-link layer shall consist of four (4) links.

1.2.5. A signaling link layer shall satisfy a performance objective such that:

a) There shall be no more than two (2) minutes down time per year for an A-link layer; and

b) There shall be negligible (less than two (2) seconds) down time per year for a D-link layer.

1.2.6. A signaling link layer shall satisfy interoffice and intraoffice diversity of facilities and equipment, such that:

a) No single failure of facilities or equipment causes the failure of both links in an A-link layer (i.e., the links should be provided on a minimum of two (2) separate physical paths end-to-end); and

b) No two (2) concurrent failures of facilities or equipment shall cause the failure of all four (4) links in a D-link layer (i.e., the links should be provided on a minimum of three (3) separate physical paths end-to-end).

1.2.7. Interface Requirements. There shall be a DS1 (1.544 Mbps) interface at the AT&T-designated SPOI. Each 56 Kbps transmission path shall appear as a DS0 channel within the DS1 interface.

2.1. Toll Free Database Services.

2.1.1. Call Routing Service. The Call Routing Service provides for the identification of the carrier to whom a call is to be routed when a toll-free (1+800-NXX-XXXX or 1+888-NXX-XXXX) call is originated by Customer. This function uses the dialed digits to identify the appropriate carrier and is done by screening the full ten digits of the dialed number. The Call Routing Service may be provided in conjunction with a Customer's InterLATA or IntraLATA Switched Exchange Access Service.

When 800 Call-Routing service is provided, an originating call is suspended at the first switching office equipped with a Service Switching Point (SSP) component of the SSC/SS7 Network. The SSP launches a query over signaling links (A-links) to the Signal Transfer Point (STP), and from there to the SCP. The SCP returns a message containing the identification of the carrier to whom the call should be routed and the call is processed.

AT&T's SS7 network is used to transport the query from its End Office to the Ameritech SCP. Once AT&T's identification is provided, AT&T may use the information to route the toll-free traffic over its network. In these cases, Ameritech Switched Access services are not used to deliver a call to AT&T. The toll-free carrier ID date may not be stored for AT&T's future use.

2.1.2. Routing Options. In addition to the toll-free service offerings, new routing options are offered. These options are purchased by toll-free service providers to allow their clients to define complex routing requirements on their toll-free service. Toll-free routing options allow the service provider's Customer to route its toll-free calls to alternate carriers and/or destinations based on time of day, day of week, specific dates or other criteria. These routing options are in addition to the basic toll-free call routing requirements which would include the toll-free number, the intraLATA carrier, the interLATA carrier and the Area of Service (AOS).

2.1.3. Carrier Identification. AT&T may choose the 800 Carrier Identification service to obtain toll-free number screening. With this service, AT&T will launch a query to the Ameritech database using its own Service Switching Points (SSPs) network. In contrast to the Call Routing Service described in Section 2.1.1 above, with the 800 Carrier Identification service, no routing is performed.

2.1.4. Number Administration. AT&T, at its option, may elect to use Ameritech's toll-free Service which includes toll-free Number Administration Service (NAS). With this service, Ameritech will perform the Responsible Organization service, which involves interacting with the national Service Management System (SMS/800), on behalf of the Customer. Responsible Organization services include activating, deactivating and maintaining 800/888 number records as well as trouble referral and clearance. If AT&T does not select NAS, AT&T will perform the Responsible Organization service.

2.2. LIDB Database Service.

2.2.1. The Line Information Database (LIDB) Query Response Service is a validation database system. It enables AT&T to offer alternately billed services to its Customers. The database provides an efficient way to validate calling cards and toll billing exception (TBE) (i.e., restricts a collect or third-party billed call). Toll fraud protection and reduced call set up expenses are among the benefits of the service.

2.2.2. Billing information records include the Customer name, phone number security personal identification numbers and third-party acceptance indications. Prior to call completion, a query is launched to the LIDB to determine the validity of the requested billing method. The call is then completed or denied based on the LIDB's response.

2.3. CNDS Database Service.

2.3.1 Caller ID identifies a calling party's telephone number through a switch-based feature installed in Ameritech's Central Office. CNDS is a CCIS/SS7 network based feature that accesses a CNDS database within the LIDB to provide a name associated with the calling party's telephone number. This service is provided using TR1188 protocol.

2.3.2 A Customer who subscribes to Caller ID with Name will see the listed name associated with the calling party's telephone line displayed on his/her Caller ID display unit. The telephone number associated with the telephone line of the calling party will also be displayed.

2.3.3 Ameritech shall charge AT&T for the CNDS Database Service in a similar manner to that which Ameritech charges AT&T for the LIDB Database Service, including a per query charge.

2.4 Local Number Portability.

2.4.1 Ameritech's provision of LNP will utilize LRN switch software based on requirements developed by the workshop participants and concurred in by the Commission. These requirements are fully compliant with the principles adopted by the FCC in its First Report and Order, CC Docket No. 95-116 (the "Number Portability Order"). The detailed description and technical specifications for the planned LRN implementation can be found in various documents produced by the FCC Local Number Portability workshop.

2.4.2 Ameritech is fully prepared to provide LNP database access to AT&T. However, in adopting its Number Portability Order, the FCC referred certain technical and other issues to the North American Numbering Council (NANC) and issued a further notice addressing the recovery of costs associated with LNP implementation. Until these activities are concluded, Ameritech cannot finalize product descriptions and rates for access to its LNP database. Nonetheless, Ameritech is willing to begin discussions with AT&T to discuss AT&T's access to Ameritech's LNP databases in lieu of constructing AT&T's own.

2.5. Unbundled AIN Application Process.

2.5.1. The AIN architecture establishes a network infrastructure in which subscriber services can be defined and implemented independent from End-Office Switches. This is accomplished by a combination of SS7 signaling, interfaces between Network Elements and call-state models through which AIN Network Elements interact.