DSL Forum
Technical Report
TR-052

(Formerly WT-071v2)

DSL Anywhere Addendum to
DSL Service Flow-Through Fulfilment
Management Interface

August 2002

Abstract:

This document is an addendum to TR-47 - **DSL Service Flow-Through Fulfilment Management Interface**.

This document identifies the additional data elements required to accommodate the DSL Anywhere solutions.

This document incorporates, references and uses certain field names, definitions and associated values from the Local Service Ordering Guidelines (LSOG) Issue 5 (dated August 2000). The LSOG is developed and maintained by the Alliance for Telecommunications Industry Solutions (ATIS) sponsored Ordering and Billing Forum (OBF) through an industry issue resolution process. The field names, definitions and associated values incorporated into this DSL Forum document may be revised or updated in subsequent versions of the LSOG. The current version of the LSOG or other information regarding the document or the OBF may be found at: www.atis.org/atis/clc/obf/obfhom.htm, or obtained by calling 202-628-6380. The DSL Forum has received specific permission from ATIS to incorporate, reference and use the information from the LSOG.

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1. Introduction

DSL implementation, like many other technologies, requires add-on products in order to overcome loops length & quality barriers. The DSL forum had documented and published the available long reach technologies in the document: DSL Anywhere (**DSLForum2001.114.0**).

This document defines the concepts of the DSL Anywhere, in order to allow DSL services with good quality regardless the customer location.

This addendum to TR-47 reflects the changes required in order to allow the DSL Anywhere solutions within the Service flow-thru fulfilment management.

ITU-T G.991.2 (G.SHDSL) Draft Impact

The standard defines:

SRU - *signal regenerator Unit* - input voltages from 80 V to 200 V (Local / remote)
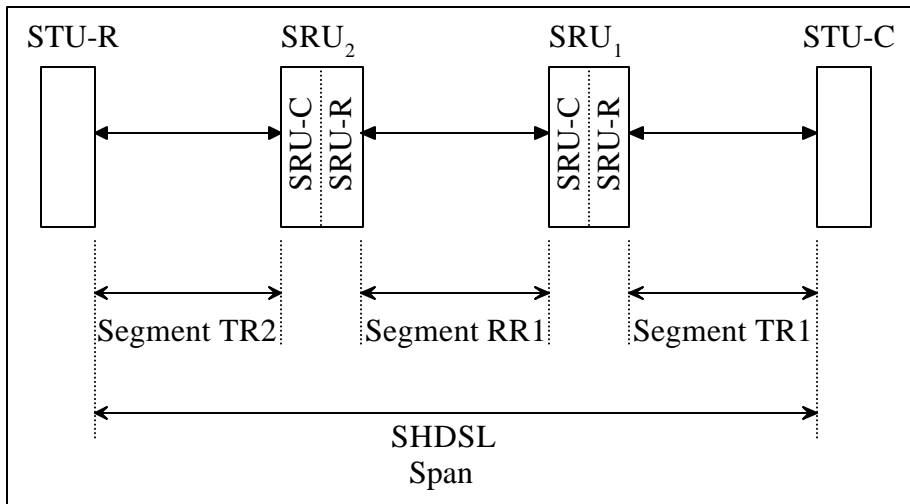
The Access provider owns the DSLAM i.e. also the SRU powering (in case of remote powering)

Access Provider should inform the Loop Provider:

Inform the LP whether Span Powering is available for the xRU and optionally if Wetting Current is available.

Loop Provider in turn should inform the Access Provider:

Whether Span Powering or Wetting Current is required. Access Provider should use this information for consideration of ordered CPEs from CPE Provider.

Because of safety & operational reasons, Field Installer also should be aware of regenerators/repeaters existence as a source of potential **dangerous/hazardous voltage** mistakenly present on the line

The following table summarizes the changes / adding to data elements in TR-47:

Table/ Parag.	Table/Paragraph Title	Change description
39	Physical DSL Service Configuration Information	Added values: • DSLAT (DSL Anywhere extension (Not-) allowed) • POTSA (POTS Availability)
40	Loop Service Configuration Information	Added values: • DSLAT (DSL Anywhere extension (Not-) allowed • NLP– Number of Loop Pairs • POTSA (POTS Availability) • Span remote feed • Span remote wetting Current
4.1.3.5.2	Order Physical DSL Service Response	**Table 95**: Added values: • DSLAT
4.1.3.5.4	Physical DSL Service Response	**Table 97**: Added values: • DSLAT
4.1.3.5.5	Physical DSL Service Status Notification	**Table 98**: Added values: • DSLAT

Table/ Parag.	Table/Paragraph Title	Change description
4.1.3.6.2	Order Loop Service Response	**Table 100**: - Added values: • Span remote feed • Span remote wetting Current • NLP– Number of Loop Pairs
4.1.3.6.4	Loop Status Response	**Table 102**: - Added values: • DSLAT • PAMU ID • Span remote feed • Span remote wetting Current • NLP– Number of Loop Pairs
4.1.3.6.5	Loop Status Notification	**Table 103**: - Added values: • DSLAT • PAMU ID • Span remote feed • Span remote wetting Current • NLP– Number of Loop Pairs
4.1.3.8.1	Order Installation Request	**Table 109**: - Added values: • DSLAT
4.1.4.2.2	Change Loop Order Response	**Table 117**: - Added values: • Span remote feed • Span remote wetting Current • NLP– Number of Loop Pairs

Table/ Parag.	Table/Paragraph Title	Change description
4.1.6.6.2	Change Loop Response	**Table 141**: - Added values: • Span remote feed • Span remote wetting Current • NLP– Number of Loop Pairs
4.1.7.6.1	Disconnect Physical DSL Service Response	**Table 152**: - Added values: • DSLAT • NLP– Number of Loop Pairs
A.3	Loop Characteristics	**Table 203**: - Added values: • DSLAT • RPL – Repeater Location • RPID – Repeater ID • SPCTM – Spectrum Management • POTSA – POTS Availability • MLTA - Metallic Loop Availability
A.7	PAMU (Powering Administration and Management Unit) Termination Information	**Added a new table: Table 209:** Fields: • PAMU ID • PAMU Port ID • PAMU Rack • PAMU Shelf • PAMU Slot • PAMU Port Number

2. Complex Base Data Types - DSL Anywhere Data Elements

The following data elements replace the existing data elements in TR-047, in order to support the DSL Anywhere solutions.

2.1 Physical DSL Service Configuration Information (TR-047 – Table 39)

	Field Name	Description	Data Type	Data Charac-teristics	Usage	Usage Notes
39	**Physical DSL Service Configuration Information**					
39.1	Central Office		National Central Office	See Table 15 ; Also, see Tables in Section A.2 for central office informa-tion on a per locale basis.	Required	
39.2	Service Level Agreement	Defines the guaranteed level of service.	free-form text	1-150 chars	Optional	
39.3	Conditioning Level	The level of conditioning provided by the service provider.	alpha/ numeric, allow hyphens and spaces	1-40 chars	Optional	
39.4	CPE Configurer ID	Identifies the provider who is expected to configure the CPE at Layer 1 for the end user.	Provider Informa-tion	See Table 47;	Conditional	May be auto-con-figuration, in which case this data ele-ment is not applicable.

39.5	Layer 1 CPE Configuration Information	Information necessary to configure the CPE for this layer.	Layer 1 CPE Con-figuration Informa-tion	See Table 42;	Required	
39.6	DSLAT	DSL Anywhere solution type	enumara-tion	Valid Val-ues are: - Loop extension - Mid-span Repeater - G.SHDSL	optional	
39.7	POTSA	POTS Availability	boolean	Y/N	Required	
39.8	Requested Service Start Date	Date when requestor desires service to be up and available.	Date	See Table 1;	Optional	Usage is based on business relationship.

2.2 Loop Service Configuration Information (TR-47 – Table 40)

	Field Name	Description	Data Type	Data Charac- teristics	Usage	Usage Notes
40	**Loop Service Configuration Information**					
40.1	Ordering Code List	A list of ordering codes (universal service ordering codes - USOCs - for example) defining configuration of the service.				
40.2	Ordering Code	An ordering code identifying a loop feature.	alpha/ numeric	1-40 chars	Required	
40.3	Line Sharing Requested	An indicator of whether the orderer desires line sharing.	boolean		Required	
40.4	DSLAT	DSL Anywhere solution type	enumara- tion	Valid Val- ues are: - Loop extension - Mid-span Repeater - G.SHDSL	optional	
40.5	POTSA	POTS Availability	boolean	Y/N	required	
40.6	SPAN remote feed	Span remote feed required/available	boolean	Y/N	Optional	
40.7	Span Wetting Current	Span wetting current required/available	boolean	Y/N	Optional	
40.8	NLP	Number of Loop Pairs	Integer	1-2 chars	Optional	Bind loops
40.9	Requested Service Start Date	Date when requestor desires service to be up and available.	Date	See Table 1;	Optional	Usage is based on business relationship.

3. Interaction Data Elements - DSL Anywhere Data Elements

3.1 Order Physical DSL Service Response (TR-47 – Table 95)

	Field Name	Description	Data Type	Data Charac-teristics	Usage	Usage Notes
1	**Response Identification**	Identification of this particular response.	Response Identifica-tion	See Table 6;	Required	
2	**Result Attributes**					
2.1	Result Type	Defines the result and subsequent action.	enumera-tion	Valid values are defined in Section 5.4.	Required	
2.2	Order Result Code	Various vendors will pro-vide current values. Can be either error or success, which might even indicate that an appointment was scheduled--i.e. multiple success results possible.	alpha/ numeric	1-40 chars Example values are defined in Section .5.8	Required	
2.3	Description	A textual description of the order result.	free-form text	1-150 characters	Optional	
3	**Success Attributes**	Success implies that the required speed is possibly confirmed, but not necessarily so.			Condi-tional	Required if Result Type indicates success.
3.1	Order Received Times-tamp	The date and time the request was received by the service provider.	Date and Time	See Table 3;	Required	
3.2	Due Date	Returned by the service provider to indicate earliest possible service activation, to convey workload.	Date	See Table 1;	Optional	
3.3	ATUC Termination Information	Information about the ATUC termination for the physical DSL service.	ATUC Ter-mination	See Table 48;	Required	

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			Informa-tion			
3.4	Physical DSL Service ID	Identifies the service which is being provisioned.	alpha/ numeric	1-40 chars	Required	
3.5	DSLAT	Identifies the DSL Any-where solution type	enumera-tion	Valid Val-ues are: - Loop extension - Mid-span Repeater - G.SHDSL	optional	
3.6	Provider ID	Identifies the provider of the service identified by Physical DSL Service ID	Provider Informa-tion	See Table 47;	Required	
3.7	Provider Information List	Identifies other providers involved in providing the Physical DSL Service.				
3.8	Provider Information		Provider Informa-tion	See Table 47;	Required	
3.9	Service Location Appointment Availability	Identifies availability for on-site installation. May be different than availability information included in request. Used to narrow down to an agreed upon time between requestor and responder.	Availability Infor-mation	See Table 30;	Optional	

3.2 Physical DSL Service Response (TR-47 – Table 97)

	Field Name	Description	Data Type	Data Charac-teristics	Usage	Usage Notes
1	**Response Identification**	Identification of this particular response.	Response Identifica-tion	See Table 6;	Required	
2	**Result Attributes**					
2.1	Result Type	Defines the result and subsequent action.	enumera-tion	Valid val-ues are defined in Section 5.4.	Required	
2.2	Order Result Code	Various vendors will pro-vide current values. Can be either error or success, which might even indicate that an appointment was scheduled--i.e. multiple success results possible.	alpha/ numeric	1-40 chars Example values are defined in Section 5.9.	Required	
2.3	Description	A textual description of the order result.	Free-form text	1-150 character s	Optional	
3	**Success Attributes**	Success implies that the required speed is possibly confirmed, but not necessarily so.			Condi-tional	Required if Result Type indicates success.
3.1	Order Received Times-tamp	The date and time the request was received by the service provider.	Date and Time	See Table 3;	Required	
3.2	Due Date	Returned by the service provider to indicate earliest possible service activation, to convey workload.	Date	See Table 1;	Optional	
3.3	ATUC Termination Information	Information about the ATUC termination for the physical DSL service.	ATUC Ter-mination Informa-tion	See Table 48;	Required	
3.4	Physical DSL Service ID	Identifies the service which is being provisioned.	alpha/ numeric	1-40 chars	Required	

3.5	DSLAT	Identifies the DSL Any-where solution type	Enumera-tion	Valid Val-ues are: - Loop extension - Mid-span Repeater - G.SHDSL	optional	
3.6	Provider ID	Identifies the provider of the service identified by Physical DSL Service ID	Provider Informa-tion	See Table 47;	Required	
3.7	Provider Information List	Identifies other providers involved in providing the Physical DSL Service.				
3.8	Provider Information		Provider Informa-tion	See Table 47;	Required	
3.9	Service Location Appointment Availability	Identifies availability for on-site installation. May be different than availability information included in request. Used to narrow down to an agreed upon time between requestor and responder.	Availability Infor-mation	See Table 30;	Optional	

3.3 Order Loop Response (TR-47 – Table 100)

	Field Name	Description	Data Type	Data Characteristics	Usage	Usage Notes
1	**Response Identification**	Identification of this particular response.	Response Identification	See Table 6;	Required	
2	**Result Attributes**					
2.1	Result Type	Defines the result and subsequent action.	enumeration	Valid values are defined in Section 5.4.	Required	
2.2	Order Result Code	Various vendors will pro-vide current values. Can be either error or success, which might even indicate that an appointment was scheduled--i.e. multiple success results possible.	alpha/ numeric	1-40 chars Example values are defined in Section 5.8.	Required	
2.3	Description	A textual description of the order result.	free-form text	1-150 characters	Optional	
3	**Success Attributes**				Conditional	Required if Result Type indicates success.
3.1	Order Received Timestamp	The date and time the request was received by the service provider.	Date and Time	See Table 3;	Required	
3.2	Due Date	Returned by the service provider to indicate earliest possible service activation, to convey workload.	Date	See Table 1;	Optional	
3.3	Loop Circuit ID	Identifies the service which is being provisioned.	alpha/ numeric	1-40 chars	Required	
3.4	Provider ID	Identifies the provider of the service identified by Loop Circuit ID	Provider Informa-tion	See Table 47;	Required	
3.5	Provider Infor-	Identifies other providers involved in providing the Loop Service.				

	mation List					
3.6	Provider Information		Provider Information	See Table 47;	Required	
3.7	Service Location Appointment Availability	Identifies availability for on-site installation. May be different than availability information included in request. Used to narrow down to an agreed upon time between requestor and responder.	Availability Information	See Table 30;	Optional	
3.8	SPAN remote feed	Span requires remote feed	boolean	Y/N	Optional	
3.9	Span Wetting Current	Span requires wetting current	boolean	Y/N	Optional	
3.10	NLP	Number of Loop Pairs	Integer	1-2 chars	Optional	Bind loops

3.4 Loop Status Response (TR-47 – Table 102)

	Field Name	Description	Data Type	Data Charac-teristics	Usage	Usage Notes
1	**Response Identification**	Identification of this particular response.	Response Identifica-tion	See Table 6;	Required	
2.	**Result Attributes**					
2.1	Result Type	Defines the result and subsequent action.	enumerat ion	Valid val-ues are defined in Section .5.4;	Required	
2.2	Status Result Code	Various vendors will provide current values. Can be either error or success, which might even indicate that an appointment was scheduled--i.e. multiple success results possible.	alpha/ numeric	1-40 chars Example values are defined in Section .5.9	Required	
2.3	Description	A textual description of the status result.	free-form text	1-150 characters	Optional	
3	**Success Attributes**				Conditional	Required if Result Type indicates success.
3.1	Order Received Timestamp	The date and time the request was received by the service provider.	Date and Time	See Table 3;	Required	
3.2	Due Date	Returned by the service provider to indicate earliest possible service activation, to convey workload.	Date	See Table 1;	Optional	
3.3	Loop Circuit ID	Identifies the service which is being provisioned.	alpha/ numeric	1-40 chars	Required	
3.4	DSLAT	Identifies the DSL Any-where solution type	enumera-tion	Valid Val-ues are: - Loop extension	optional	

				- Mid-span Repeater - G.SHDSL		
3.5	PAMU ID	Identifies the PAMU termination Information	PAMU termination Information type	See Table 209	Optional	
3.6	SPAN remote feed	Span requires remote feed	boolean	Y/N	Optional	
3.7	Span Wetting Current	Span requires wetting current	boolean	Y/N	Optional	
3.8	NLP	Number of Loop Pairs	Integer	1-2 chars	Optional	Bind loops
3.9	Provider ID	Identifies the provider of the service identified by Loop Circuit ID	Provider Information	See Table 47;	Required	
3.10	Provider Information List	Identifies other providers involved in providing the Loop Service.				
3.11	Provider Information		Provider Information	See Table 47;	Required	
3.12	Service Location Appointment Availability	Identifies availability for on-site installation. May be different than availability information included in request. Used to narrow down to an agreed upon time between requestor and responder.	Availability Information	See Table 30;	Optional	

3.5 Loop Status Notification (TR-47 – Table 103)

	Field Name	Description	Data Type	Data Characteristics	Usage	Usage Notes
1	**Notification Identification**	Identifies the originator of this notification.	Notifica-tion Iden-tification	See Table 7;	Required	
2	**Success Attributes**	Success implies that the required speed is possibly confirmed, but not necessarily so.				
2.1	Order Received Timestamp	The date and time the request was received by the service provider.	Date and Time	See Table 3;	Required	
2.2	Due Date	Returned by the service provider to indicate earliest possible service activation, to convey workload.	Date	See Table 1;	Optional	
2.3	Loop Circuit ID	Identifies the service which is being provisioned.	alpha/ numeric	1-40 chars	Required	
2.4	DSLAT	DSL Anywhere solution type	enumara-tion	Valid Values are: - Loop extension - Mid-span Repeater - G.SHDSL	optional	
2.5	PAMU ID	Identifies the PAMU termination Information	PAMU ter-mination Informa-tion type	See Table 209;	Optional	
2.6	SPAN remote feed	Span requires remote feed	boolean	Y/N	Optional	
2.7	Span Wetting Current	Span requires wetting current	boolean	Y/N	Optional	
2.8	NLP	Number of Loop Pairs	Integer	1-2 chars	Optional	Bind loops
2.9	Provider ID	Identifies the provider of the service identified by Loop Circuit ID	Provider Informa-tion	See Table 47;	Required	
2.10	Provider	Identifies other providers involved in providing the Loop Service.				

	Information List				
2.11	Provider Information		Provider Information	See Table 47;	Required
2.12	Service Location Appointment Availability	Identifies availability for on-site installation. May be different than availability information included in request. Used to narrow down to an agreed upon time between requestor and responder.	Availability Information	See Table 30;	Optional

3.6 Order Installation Request (TR-47 – Table 109)

	Field Name	Description	Data Type	Data Characteristics	Usage	Usage Notes
1	**Request Identification**	Identification of this particular request.	Request Identifica-tion	See Table 5;	Required	
2	**Own Rent Lease**	Indicates whether the service address is owned, rented or leased by the end user.	enumera-tion	Valid values are: own rent lease	Required	
3	**Number of Lines In Service**	The number of telephone lines currently in service at the service address.	integer	1-2 chars	Required	
4	**Service Line Entry**	Indicates how the tele-phone wiring is laid.	enumera-tion	Valid val-ues are: aerial, under-ground	Required	
5	**Install Type (service location information)**	Indicates whether the service address is a residence or business.	alpha/numeric	1-40 chars Example values are defined in Section 5.44	Required	
6	**Landlord**	Name of landlord.	Free Form Name	See Table 12;	Conditional	Required if OwnRentLe-ase=rent
7	**Landlord Telephone**	Telephone number of landlord.	Tele-phone Number	See Table 10;	Conditional	Required if OwnRentLe-ase=rent
8	**ISDN Number**	Indicates whether there is ISDN installed at the service location.	Tele-phone Number	See Table 10;	Optional	
9	**Insurance Information**		Insurance Informa-tion	See Table 49;	Required	
10	**Inside Wiring Authorized**	Indicates whether inside wiring is authorized.	boolean		Required	
11	**Inside Wiring**	Indicates who is responsi-	alpha/	1-40 chars	Required	

	Responsibility	ble for any necessary inside wiring.	numeric	Example values are defined in Section .5.25		
12	**DSLAT**	Identifies the DSL Any-where solution type	enumera-tion	Valid Val-ues are: - Loop extension - Mid-span Repeater - G.SHDSL	optional	
13	**CPE Configuration Information List**	For each CPE being installed at the premise, include information about how the CPE shall be configured				
13.1	CPE Configura-tion Information	Information about how to configure the CPE.	CPE Con-figuration Informa-tion	See Table 41;	Conditional	Required when the installer is configuring the CPE.
14	**NID Location**	Location of Network Interface Device.	alpha/ numeric	1-40 chars Example values are defined in Section 5.29	Required	
15	**Building Type**	The type of building.	alpha/ numeric	1-40 chars Example values are defined in Section .5.30	Required	
16	**Service Location Information**	Information about the service location.	Service Location Informa-tion	See Table 28;	Optional	
17	**Service Location Appointment Availability**	Identifies availability for on-site installation.	Availability Infor-mation	See Table 30;	Optional	

3.7 Change Loop Order Response (TR-47 – Table 117)

	Field Name	Description	Data Type	Data Characteristics	Usage	Usage Notes
1	**Response Identification**	Identification of this particular response.	Response Identification	See Table 6;	Required	
2	**Result Attributes**					
2.1	Result Type	Defines the result and subsequent action.	enumeration	Valid values are defined in Section 5.4.	Required	
2.2	Order Result Code	Various vendors will provide current values. Can be either error or success, which might even indicate that an appointment was scheduled--i.e. multiple success results possible.	alpha/numeric	1-40 chars Example values are defined in Section .5.8	Required	
2.3	Description	A textual description of the status result.	free-form text	1-150 characters	Optional	
3	**Service Location Appointment Availability**	Identifies availability for on-site installation. May be different than availability information included in request. Used to narrow down to an agreed upon time between requestor and responder.	Availability Information	See Table 30;	Optional	
4	**SPAN remote feed**	Span requires remote feed	boolean	Y/N	Optional	
5	**Span Wetting Current**	Span requires wetting current	boolean	Y/N	Optional	
6	**NLP**	Number of Loop Pairs	Integer	1-2 chars	Optional	Bind loops

3.8 Change Loop Response (TR-47 – Table 141)

	Field Name	Description	Data Type	Data Characteristics	Usage	Usage Notes
1	**Response Identification**	Identification of this particular response.	Response Identifica- tion	See Table 6;	Required	
2	**Result Attributes**					
2.1	Result Type	Defines the result and subsequent action.	enumera- tion	Valid val- ues are defined in Section .5.4	Required	
2.2	Order Result Code	Various vendors will pro- vide current values. Can be either error or success, which might even indicate that an appointment was scheduled--i.e. multiple success results possible.	alpha/ numeric	1-40 chars Example values are defined in Section .5.8	Required	
2.3	Description	A textual description of the status result.	free-form text	1-150 characters	Optional	
3	**Service Location Appointment Availability**	Identifies availability for on-site installation. May be different than availability information included in request. Used to narrow down to an agreed upon time between requestor and responder.	Availability Infor- mation	See Table 30;	Optional	
7	**SPAN remote feed**	Span requires remote feed	boolean	Y/N	Optional	
8	**Span Wetting Current**	Span requires wetting current	boolean	Y/N	Optional	
9	**NLP**	Number of Loop Pairs	Integer	1-2 chars	Optional	Bind loops

3.9 Disconnect Loop Request (TR-47 – Table 152)

	Field Name	Description	Data Type	Data Characteristics	Usage	Usage Notes
1	**Request Identification**	Identification of this particular request.	Request Identifica-tion	See Table 5;	Required	
2	**Loop Circuit ID**	Identifies the loop service being disconnected.	alpha/numeric	1-40 chars	Required	
3	**DSLAT**	Identifies the DSL Any-where solution type	enumera-tion	Valid Values are: - Loop extension - Mid-span Repeater - G.SHDSL	optional	
4	**NLP**	Number of Loop Pairs	Integer	1-2 chars	Optional	Bind loops
5	**Discontinue Billing Effective Date**	Date when billing for ser-vice should cease.	Date	See Table 1;	Required	
6	**Disconnect Reason Code**	Code identifying why ser-vice disconnect is being requested.	alpha/numeric	1-40 chars Example values are defined in Section .	Required	
7	**Disconnect Description**	A textual description of the disconnect reason.	free-form text	1-150 chars	Optional	
8	**Notes**	Any remarks associated with the request.	free-form text	1-150 chars	Optional	
9	**Service Location Appointment Availability**	Identifies availability for on-site installation.	Availability Infor-mation	See Table 30;	Optional	

4. Appendix A – Adding of DSL Anywhere Data Elements

A.3 Loop Characteristics

United States Loop Characteristics - (TR-47 – Table 203)

	Field Name	Description	Data Type	Data Characteristics	Usage	Usage Notes
203	**United States Loop Characteristics**	Fields through come from the Local Service Ordering Guidelines (LSOG) Issue 5, Pre-Order Process (POP) Transaction Guide (120).				
203.1	AFT	Address Format Type.	enumera-tion	Valid values are: - Rural route and/or box number, - Unnum-bered, - Provider assigned house number, Descriptive	Optional	
203.2	Parsed Address	The end user's service address.	US Parsed Address	See Table 198;	Required	
203.3	AVD	Available Date. Identifies the date the pending ser-vice/feature is expected to be available.	Date	See Table 1;	Optional	
203.4	BTQ	Bridge Tap Quantity. The number of bridge taps on the line. Indicates the number of times the following two fields repeat.	integer		Optional	
203.5	BTL	Bridge Tap Location. Identifies location of bridge tap on the loop	alpha/numeric	1-11 chars	Conditional	Present if BTQ is greater than 0, repeating for

		from end user's location to the wire center. Value includes length and unit of measure.				the number of times indicated by BTQ.
203.6	BTLEN	Bridge Tap Length. Identifies the length of bridge tap associated with the loop from the end user location to the wire center.	alpha/ numeric	1-11 chars	Conditional	Present if BTQ is greater than 0, repeating for the number of times indicated by BTQ.
203.7	DLCTYPE	DLC Type. Identifies the type of Digital Loop Carrier on the loop.	alpha/ numeric	1-20 chars	Optional	
203.8	DSSCP	DSSC Presence. Identifies the presence of Digital Sin-gle Subscriber Carrier on the loop.	enumera-tion	Valid values are: -actual -estimated	Optional	
203.9	ELL	Equivalent Loop Length. Identifies the 26 gauge equivalent loop length for the total distance from the end user location to the wire center. Value includes unit of measure.	alpha/ numeric	1-11 chars	Optional	
203.10	F1DL	F1 Disturber Location. May repeat. Identifies the proximity of the disturber within the feeder facility or facilities.	enumera-tion	Valid values are: -Adjacent binder group -Same binder group	Optional	
203.11	F1DT	F1 Disturber Type. May repeat. Identifies the type of disturber present in the feeder facility or facilities.	enumera-tion	Valid values are: -HDSL -IDSN -DS1 -ADSL -HDSL2	Optional	

203.12	F1LPCP	F1 Loop Composition. Identifies the composition of the loop material (serving technology type) of the feeder facility or facilities.	enumera-tion	Valid values are: -Coaxial -Copper -Fiber	Optional	
203.13	F2DL	F2 Disturber Location. May repeat. Identifies the proximity of the disturber within the distribution facility or facilities.	enumera-tion	Valid values are: -Adjacent binder group -Same binder group	Optional	
203.14	F2DT	F2 Disturber Type. May repeat. Identifies the type of disturber present in the distribution facility or facilities.	enumera-tion	Valid values are: -HDSL -IDSN -DS1 -ADSL -HDSL2	Optional	
203.15	F2LPCP	F2 Loop Composition. Identifies the composition of the loop material (serving technology type) of the distribution facility or facilities.	enumera-tion	Valid values are: -Coaxial -Copper -Fiber	Optional	
203.16	ILD	Insertion Loss in Decibels. Identifies the amount of signal loss on the loop.	decimal	1-6 chars	Optional	
203.17	LCQ	Load Coil Quantity. Indicates the number of times the following two fields repeat.	integer	1 char	Optional	
203.18	LCL	Load Coil Location. Identifies the location of load coils from the end user location to the wire center. Value includes unit of mea-sure.	alpha/ numeric	1-11 chars	Optional	

203.19	LCT	Load Coil Type. Identifies the type of load coil(s) present on the loop. Position 1 represents the load coil spacing for loaded cables in feet. Positions 2-5 represent a variable length code that represents load coil inductance in millihenries for loaded cable. Values for Load Coil Spacing and Load Coil Inductance Codes are outlined in Tel-cordia Technologies practice BR 795-450-201.	alpha/ numeric	2-5 chars	Optional	
203.20	LL	Loop Length. Identifies the distance from the end user location to the wire center. Value includes unit of measurement.	alpha/ numeric	1-11 chars	Optional	
203.21	LLT	Loop Length Type. Identifies the process used to determine the loop length.	enumera-tion	Valid values are: Actual Estimated Electrical	Conditional	Optional if LL is populated, oth-erwise prohibited.
203.22	LLG	Loop Length by Gauge. May repeat. Identifies the segment loop length(s) by gauge for the total distance from the end-user location to the wire center. Value includes gauge, length and unit of measurement for length.	alpha/ numeric	1-14 chars	Optional	

203.23	LOOPSTAT	Loop Status. May repeat. Identifies the status of the loop qualification.	enumera- tion	See LSOG 5 for valid values.	Optional	
203.24	LPAC	Loop Product Available Code. Identifies which products are available for resale based on the loop length.	alpha/ numeric	1-5 chars	Optional	
203.25	LSA	Loop Speeds Available. Identifies the specific upstream/downstream xDSL speeds that are available.	alpha/ numeric	1-50 chars	Optional	
203.26	LST	Local Service Termination. Identifies the CLLI code of the end office switch from which service is being provided.	alpha/ numeric	11 chars	Optional	
203.27	NPA/NXX	NPA/NXX. Identifies a specific NPA/NXX within the local service office.	numeric	6 chars	Optional	
203.28	PGPRES	Pair Gain/DLC Presence. Identifies the presence of pair gain/ Digital Loop Car- rier on the loop. Pair gain may represent either analog loop carrier or digital loop carrier.	enumera- tion	Valid values are: -actual -estimated	Optional	
203.29	RSUIND	Remote Switch Unit Indicator. Identifies the loop originates from a remote switching unit.	boolean		Optional	
203.30	SMC	Spectrum Management Classes. Identifies the attributes the correspond to different types of xDSL technologies. SMCs represent the	enumera- tion	See A.6.2 for reference to valid values.	Optional	

		speed of data transmission and whether the data is transmitted in a symmetrical vs. asymmetrical manner.				
203.31	WCN	Wire Center Name. Identifies the location where the service provider terminates subscriber outside cable plant; i.e., their local lines with the necessary testing facilities to maintain them. Usually the same location as a Class 5 central office. Any CLLI code representing the wire center name should be returned in the LST field.	alpha/ numeric	1-25 chars	Optional	
203.32	TC	Taper Code. A reference number that identifies the loop between the central office and a serving terminal.	integer	6 chars	Optional	
203.33	Actual Upstream Rate	Rate in kbps	integer	1-6 chars	Optional	
203.34	Actual Down-stream Rate	Rate in kbps	integer	1-6 chars	Optional	
203.35	Potential Upstream Rate without Impairments	Rate in kbps	integer	1-6 chars	Optional	
203.36	Potential Downstream Rate without Impairments	Rate in kbps	integer	1-6 chars	Optional	
203.37	DSL Standard employed in train		enumera-tion	Valid values are: T1.413 G.922.1 G.922.2	Optional	

						etc.		
203.38	CO Device Type	Silicon vendor, product	alpha/ numeric		Optional	
203.39	CO Code Version	Firmware version	alpha/ numeric		Optional	
203.40	CPE Device Type	Silicon vendor, product	alpha/ numeric		Optional	
203.41	CPE Code Ver- sion	Firmware version	alpha/ numeric		Optional	
203.42	Bridge Tap Rate Reduction	Rate reduction in kbps.	integer	1-6 chars	Optional	Only present if BTQ is greater than one. May be supplied for each Bridge Tap.
203.43	Wire Gauge Calculation Confidence	% confidence	integer		Optional	
203.44	AM Disturber 1 Frequency	Frequency of disturber in kHz	integer		Optional	
203.45	AM Disturber 1 Power	Power of disturber in dBm/ Hz	integer		Optional	
203.46	AM Disturber 1 Rate Reduction	Rate reduction in Kbps	integer	1-6 chars	Optional	
203.47	AM Disturber 2 Frequency	Frequency of disturber in kHz	integer		Optional	
203.48	AM Disturber 2 Power	Power of disturber in dBm/ Hz	integer		Optional	
203.49	AM Disturber 2 Rate Reduction	Rate reduction in Kbps	integer	1-6 chars	Optional	
203.50	T1 Disturber Power	Power of disturber in dBm/ Hz	integer		Optional	
203.51	T1 Disturber Rate Reduction	Rate reduction in Kbps	integer	1-6 chars	Optional	
203.52	SDSL Disturber Power	Power of disturber in dBm/ Hz	integer		Optional	
203.53	SDSL Disturber Rate Reduction	Rate reduction in Kbps	integer	1-6 chars	Optional	

203.54	HDSL Disturber Power	Power of disturber in dBm/ Hz	integer		Optional	
203.55	HDSL Disturber Rate Reduction	Rate reduction in Kbps	integer	1-6 chars	Optional	
203.56	ADSL Disturber Power	Power of disturber in dBm/ Hz	integer		Optional	
203.57	ADSL Disturber Rate Reduction	Rate reduction in Kbps	integer	1-6 chars	Optional	
203.58	Unknown Disturber Rate Reduction	Rate reduction in Kbps	integer	1-6 chars	Optional	
203.59	Phone Disturber Rate Reduction	Rate reduction in Kbps	integer	1-6 chars	Optional	
203.60	Alarm Disturber Rate Reduction	Rate reduction in Kbps	integer	1-6 chars	Optional	
203.61	EMI Disturber Rate Reduction	Rate reduction in Kbps	integer	1-6 chars	Optional	
203.62	HPNA Disturber Rate Reduction	Rate reduction in Kbps	integer	1-6 chars	Optional	
203.63	DSLAT - DSL Anywhere solution type	The used DSL Anywhere solution	enumeration	Valid Values are: - Loop extension - Mid-span Repeater - G.SHDSL	Optional	
203.64	RPQ	Repeaters quantity. Indicates the number of times the following 3 fields repeat.	integer		Conditional	Mandatory for Loop extension or Mid-span
203.65	RPL	Repeater Location Identifies the rpeater location from the Central Office. Value includes unit of measure.	alpha/ numeric	1-11	Conditional	Only present if RPQ is greater then zero.
203.66	RPID	Repeater ID.	alpha/	1-11	Conditional	Only present if

		Identifies the repeater unit	numeric			RPQ is greater then zero.
203.67	SPCTM	Spectrum Management Adaptation Parameter(s)	alpha/ numeric	1-80	Conditional	Only present if RPQ is greater then zero.
203.68	POTSA	POTS Availablability	boolean	Y/N		
203.69	MLTA	Metallic Loop Test Availability	boolean	Y/N		

A.7 PAMU Termination Information

In cases that the xRU (Repeaters/regenerators) Powering and Management Unit is separated from the DSLAM, it is required to identify the PAMU (Powering Administration and Management Unit) termination information in addition to the DSLAM information.

Table 209: **PAMU Termination Information**

	Field Name	Description	Data Type	Data Characteristics	Usage	Usage Notes
209	**PAMU termination Information**	The codes are used to send an unbundled loop request to an Loop Provider.				
209.1	PAMU ID	11 character code of the PAMU (Powering & Management Unit) in the Central Office.	alpha/numeric	11 chars	optional	Used in DSL Anywhere mid- span repeater solution
209.2	PAMU Port ID	Identifies the particular port on the PAMU. Format depends on DSLAM vendor.			conditional	Required if the PAMU is defined
209.3	PAMU Rack	Rack identifier	integer	1-10 chars	conditional	Required if the PAMU is defined
209.4	PAMU Shelf	Shelf identifier	integer	1-10 chars	conditional	Required if the PAMU is defined
209.5	PAMU Slot	Slot identifier	integer	1-10 chars	conditional	Required if the PAMU is defined
209.6	PAMU Port Number	Port identifier	integer	1-10 chars	conditional	Required if the PAMU is defined