Qwest
ride the light

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This letter is in response to your escalation of your CLEC Change Request Form, number PC101201-1 dated January 15, 2002 – Shared Loop Data Parameters.

Since the scope of the original Change Request has changed significantly, it is prudent to review its history. Provided below in the "Background" section is a summary of the original change request. The "Formal Change Request Response" provides insight into Qwest's original response. Finally, Qwest responds to Covad's new requests in the section titled "Formal Response to Change Request Escalation."

Background

In its Change Request submitted October 11, 2001, Covad requested the following three items be addressed:

- Qwest engage in a collaborative with Covad and other CLECs to develop metallic loop provisioning test parameters for unbundled loops and line sharing HUNEs (High-frequency Unbundled Network Elements);
- Qwest standardize provisioning and repair testing of unbundled loops and line shared loops utilizing CEMR MLT and 77S test sets; and,
- Qwest perform Line and Station Transfers (LSTs) to "acceptable loops" where the voice is working and the data is not.

During the December 2001 Change Management Process (CMP) meeting, Covad provided information to Qwest that Covad was not satisfied with the quality of the metallic loops provided by Qwest, and that a low level of quality blocked Covad's data transmission. Covad believes that by entering into a

collaborative effort with Qwest, the CLEC community may develop test parameters that will ensure the delivery of the HUNE on a metallic loop.

Covad's Mike Zulevic also indicated during the December 2001 CMP meeting that Covad is also requesting access to Qwest's Metallic Loop Test (MLT) on a pre-order basis. The purpose of this testing is to perform loop pre-qualification for xDSL services.

Qwest Change Request Response

Metallic Loop Test Parameter Collaborative

As Qwest stated in its initial response to this Change Request, Qwest relies upon industry fora to develop standards. Test parameters for metallic loops are developed in the American National Standards Insitute's (ANSI) Committee T1E1.3. Both Qwest and Covad are members of this committee. Also, the FCC has charged the National Reliability and Interoperability Council (NRIC) to address spectral compatibility issues. Both Qwest and Covad participate in NRIC. Indeed, the FCC is supportive of Qwest's position:

> *"We reiterate our general belief that industry standards bodies can, **and should**, create acceptable standards for deployment of xDSL based and other advanced services."*[1]
> (emphasis added)

Standards development, as described by Covad in this Change Request, is best developed in the appropriate industry standards setting body.

Qwest's reasoning is twofold. First, Metallic loop transmission parameters, and the resulting "test to" parameters, have already been developed by T1E1.3. Should Qwest initiate such a collaborative outside of the appropriate industry standards body, the result would likely conflict with T1E1.3. Covad and Qwest have publicly supported T1E1.3, and development of conflicting standards or development of one-off processes to accommodate standards developed through the collaborative are not practical or efficient use of CLEC or Qwest resources. Second, xDSL technology is constantly evolving. The dynamic nature of xDSL technology creates very specific and unique requirements on the metallic loop that vary by vendor. Development of a "standard" in this environment is very difficult, requiring constant monitoring and update. Industry standards setting bodies are already equipped to deal with these nuances and have the resources to monitor and update the standards based on changes in technology. While Qwest denies the request to work independently with the CLECs on an additional set of minimum standards for metallic loop transmission parameters, Qwest has

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[1] *FCC Line Sharing Order*, FCC 99-335, V.A.¶182

been and is more than willing to work collaboratively with the CLEC community and other industry participants to develop a single set of national standards in the appropriate industry forum.

Standardized Provisioning and Repair Testing

With regard to Covad's request for Qwest to standardize its use of the "77S" test set for provisioning and CEMR MLT for repair, Qwest's position is that it already utilizes these capabilities in a standardized manner.

Qwest currently utilizes the 77S, or equivalent (e.g., H88), test set for provisioning testing of line shared loops and unbundled loops that are sensitive to load coils on a standardized basis. In Qwest's shared loop provisioning process, the 77S, or equivalent, provides the central office technician with information regarding the presence of load coils. An example of the test parameters associated with unbundled loop can be found in Qwest Technical Publication 77384.

MLT tests performed by Qwest, or by the CLEC through Qwest's CEMR electronic interface, provides repair test results. These tests are standardized as well utilizing Lucent Loop Test System (LTS) and Directly Connected Test Unit (DCTU) testheads. Neither LTS nor DCTU has the capability to directly measure noise which is a Covad identified hindrance for data transmission. Also, neither MLT nor the 77S will detect the presence of bridged tap, additional Covad test requirements.

Line and Station Transfers (LSTs)

Covad bases its request for Qwest to perform LSTs on the mistaken belief that Qwest performs LSTs for Qwest DSL retail customers in order to ensure that the Qwest DSL data transmission works on a specific copper pair. Qwest does not, and currently has no plans to, perform LSTs for retail Qwest DSL provisioning. If Qwest DSL retail fails to work on a copper pair due to electrical impedances during the provisioning process, Qwest cancels that Qwest DSL retail order. Qwest does not have an existing provisioning process to perform such activity for Qwest DSL retail or wholesale shared loops. However, Qwest does have a repair process in place for CLECs that will "cut to clear", or move a customer to a working pair, if electronic hindrances such as load coils and bridged tap are found to exist after the completion of the line shared loop.

Should Qwest modify its retail Qwest DSL provisioning process to include LSTs, Qwest will also modify its Shared Loop provisioning process to provide the same capability under similar terms and conditions.

Pre-Order MLT

Qwest has already addressed the issue of pre-order access to its MLT repair tool on numerous occasions in 271 checklist workshops covering 12 of its 14 incumbent LEC territory. Commissions and their staffs have consistently supported Qwest's position with regard to this type of OSS access. The following is a summary of the ongoing dialog regarding this issue.

It is Qwest's position that MLT is a repair tool that is ill suited for pre-order or provisioning purposes to qualify a loop for xDSL. MLT capabilities vary depending upon the deployed software program generic, testhead type, and features purchased. Therefore, MLT capability will vary across Incumbent Local Exchange Carriers (ILECs). What is presented below is a representation of MLT as Qwest has deployed in its network today utilizing Lucent Loop Test System (LTS) and Directly Connected Test Unit (DCTU) testheads.

MLT was designed to measure the capability of a copper pair to carry standard telephone POTS service. To this end, MLT "looks" for DC and AC faults and measures capacitive balance on a specific copper pair, comparing the test results against the end user customer's line record in Loop Maintenance Operations System (LMOS).

MLT "looks" for a properly configured customer line relay (i.e., the battery is on the proper side of the line) and attempts to draw dialtone from the switch and, then, to break dialtone. DC faults include shorts, grounds, and foreign battery. The switch provided battery on the copper pair is removed from the line when the line is accessed by MLT. This prevents any switch provided signaling (i.e., off hook, on hook, ringing, etc.) from occurring during the test.

The loop length of a copper pair is calculated from the AC capacitance of the line and may be adversely affected by non-standard CPE, bridged tap, and loop makeup. Because of this limitation, loop length derived from MLT is at best an estimate. Qwest has found that the MLT variance from actual loop length can be as much as one mile.

MLT, as currently deployed by Qwest, is incapable of identifying load coils or bridged tap, and neither narrowband nor wideband noise measurements are conducted. It is an excellent repair tool for voiceband service over POTS lines but, other than estimating loop length, it is incapable of performing loop qualification for designed services such as unbundled loops and xDSL services provided over line shared loops. Indeed, were MLT reliably capable of loop prequalification, Qwest would use it for retail Qwest DSL.

Additionally, utilizing MLT on a pre-order basis creates the opportunity for an increase in repair report rate. Since MLT is a repair tool, the customer is normally out of service during the test. Inserting a MLT test in this scenario

poses little risk of taking a customer out of service. However, initiating an MLT on a working line may cause dialtone loss during the test. If a customer goes off hook during an MLT and receives no dialtone, the result will be an unnecessary trouble report.

Change Request Summary

Qwest has rejected Covad's request for development of metallic loop test parameters on the basis that industry standards setting bodies are the appropriate mechanism for developing industry standards. Additionally, the type of test standards Covad is requesting have been developed through ANSI T1E1.3 and NRIC V Focus Group 3 with full participation by Covad.

Qwest has rejected Covad's request for pre-order CEMR MLT access on the basis that the results from MLT, particularly loop length, are no better than the tools already provided to the CLEC community for the purpose of loop xDSL qualification. Additionally, Qwest is concerned that the intrusiveness of the test cause an end user customer to percieve an out of service condition, and will lead to unnecessary trouble reports.

Formal Response to Change Request Escalation

In the request for escalation, Covad provided three additional requests on the premise that Qwest is obligated to provide "loops for Line Sharing that are free from electrical defects…" To clarify, Qwest is obligated, for a fee,[2] to remove load coils, bridge taps, filters, range extenders, and similar devices to allow CLEC access to the high frequency portion of the loop[3] to the extent that removal of such devices do not degrade the voice signal.[4] With this in mind, the three requests included in the escalation are that:

- Qwest loops provided to CLECs should meet or exceed Colorado performance standards rules as defined in (4 CCR) 723-2-18;
- Qwest's Raw Loop Data Tool loop information reflect the outside plant as it is found in the field; and,
- Qwest perform a "pre-delivery" MLT test either repairing any deficiencies or delivering the service on another cable pair that meets standards defined by Colorado rules.

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[2] Id., at para 87
[3] Id., at para 83
[4] Id., at para 84

Colorado Loop Service Quality Rules

In its Change Request escalation, Covad introduces for the first time a requirement that Qwest "deliver loops that meet Rule (CCR) 723-2-18 of the Colorado Rules Regulating Telecommunications Service Providers and Telephone Utilities and ensure that all loops delivered for line sharing meet these requirements prior to delivery to CLECs." In apparent recognition of ANSI as the appropriate standards setting body Covad goes on to state, "These standards should be used throughout Qwest until satisfactory ANSI standards are developed."

As an initial matter, Qwest does not feel that Colorado rules are directly applicable to data transmission. Colorado rules are directed toward voice (300-3000 Hertz) whereas ANSI T1E1.3 standards have been developed to support the needs of all providers. It also appears that, in many respects, ANSI standards as defined in T1E1.3, are less stringent than those offered by Colorado rules. For example, there are no parameters identified in the Colorado rules associated with foreign voltage or foreign longitudinal voltage.

As such, Qwest posits that ANSI T1E1.3 standards (approved at the November 9, 2001 plenary) already address pass/fail test parameters for metallic loops rendering the Covad request to implement Colorado rules outside of Colorado moot. Indeed, Covad has already agreed to these same metallic loop pass/fail test standards developed and approved by the NRIC V full council on January 4, 2002. Covad was a participant in both Focus Group 3 and the full NRIC V council. The T1E1.3 metallic loop pass/fail criteria are contained in Annex A of NRICVFG3_2001_066R12 and are recreated below:

Table 1 – Pass/Fail Criteria for Metallic Loops

Test Type	Loop Parameter	Pass/Fail Criteria
End – to - End	LS/GS dc Current Or dc Loop Resistance (Note 1)	Greater than or equal to 20mA
		Less than or equal to 1300 ohms (Note 2)
	C-Message Metallic Noise	Less than or equal to 30 dBrnC
	1004 Hz Transducer Loss	Less than or equal to 10.5 dB (Note 2)

	Dc Insulation Resistance	Greater than or equal to 100k ohms T-G, R-G, or T-R
Single - Ended	Foreign dc voltage	Less than or equal to 6Vdc T-G, R-G, or T-R With 100k ohm voltmeter
	Foreign Longitudinal ac Voltage	Less than or equal to 25 Vrms T-G or R-G With 100k ohm voltmeter
	Capacitive Balance T-G and R-G	Greter than or equal to 95%

Note 1: The dc Loop Current test is applicable to loops that are used in connection with loop-start or ground-start voice service as in the case of Line Sharing. The dc Loop resistance test is applicable to all other loops.

Note 2: The dc Loop Resistance and 1004 Hz Transducer Loss criteria are based on Non-Loaded Resistance Design guidelines. If a loop was originally designed using other design guidelines such as Uniguage Design, Loaded Resistance Design, or Long Route Design and the load coils were removed to support an advanced service, then the values shown in the table for the dc Loop Resistance and 1004 Hz Transducer Loss criteria would not be applicable.

Raw Loop Data Tool Accuracy

Raw Loop Data Tool (RLDT) accuracy is a reflection of the data in Qwest's Loop Facility Assignment and Control System (LFACS). LFACS is the system Qwest uses to provision its loop facilities for its retail and wholesale customers. Qwest also successfully uses the underlying data in LFACS for prequalifying its own Qwest DSL service.

Since LFACS is a computer system with human interface, there is opportunity for the data resident in LFACS, and hence RLDT, to be or become inaccurate. Qwest continually strives to ensure that the information contained within LFACS is as accurate as possible. To this end, when Covad encounters errors in LFACS, Qwest welcomes Covad corrective input as an opportunity to improve the system. Unfortunately, due to the variables inherent in any computer system, Qwest may never be able to warrant that the data contained in LFACS matches conditions in the field 100% of the time.

Pre-Delivery MLT

Qwest is unaware of the "best practice" employed by either Verizon or SBC that performs a pre-delivery MLT test for a shared loop or unbundled loop. If Covad

can provide specific documentation or a web site that provides a description of either company's pre-delivery MLT best practice, Qwest would be happy to evaluate such a process in terms of current systems and process capabilities.

Additionally, to reiterate Qwest's position, MLT does not provide measurements that identify load coils or bridged tap. Nor does it generally provide an accurate measure of loop length. MLT provides a loop length estimate based on capacitance measurements that can be affected by bridged tap, cable makeup, and CPE. Because of this, MLT generally overestimates loop length. Finally, MLT is a repair tool requiring specific skill sets to utilize and interpret test information. These skill sets are found in Qwest's repair processes, not provisioning. As such, Qwest does not believe MLT to be adequate or appropriate for shared loop/unbundled loop "test and turn up" activities.

Sincerely,

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