



Local Wholesale CLEC Testing Guidelines

Contents

Application-to-Application Interface Testing.....	2
New Release & New Entrant Testing in the CLEC Test Environment.....	2
New Release Testing.....	3
Definitions.....	3
Quality Baseline Validation Test Decks and Test Accounts.....	3
Getting Ready for the New Release Testing.....	4
New Release Testing Process.....	5
Post New Release Testing.....	6
New Entrant Testing.....	6
Definitions.....	6
Development of a Test Plan.....	7
Test Account Establishment.....	7
New Entrant Testing Process.....	8
Friendly Production Testing (“Friendly Production”).....	8
Sample New Release Testing Schedule.....	10
TC New Release Testing.....	11
Change Log.....	13

Frontier Wholesale

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Local Wholesale CLEC Testing Guidelines

Application-to-Application Interface Testing

Frontier provides a separate CLEC Test Environment for the testing of application-to-application interfaces for pre-order and order. There are two types of testing: new release testing and new entrant testing. New release testing provides the opportunity to test the code associated with the release. New entrant testing allows TCs to test their entry into new products or geographic areas. It also allows TCs currently in production that need to perform regression testing, due to changes within their own applications, to notify the Frontier test coordinator to create and implement a test plan in the CLEC Test Environment.

New Release & New Entrant Testing in the CLEC Test Environment

This section provides information regarding the CLEC (TC) Test Environment (CTE) and the procedures for new release and new entrant TC testing.

The CLEC Test Environment is a separate systems environment that contains the application-to-application interface and gateway applications for preordering and ordering. This environment is used for TC testing – both new release testing and new entrant testing. TCs are responsible for establishing and maintaining connectivity into the CLEC test Environment. Provided a TC uses the same connectivity option as it uses in production, the TC should, in general, experience response times similar to production. However, this environment is not intended for volume testing. The CLEC Test Environment contains the appropriate applications for pre-ordering and Local Service Request (LSR) ordering up to and including the service order processor. The Frontier- East production applications required will be provided for the Frontier-East CLEC Test Environment, and the Frontier-West production applications required will be provided for the Frontier-West CLEC Test Environment.

The CLEC Test Environment allows for comprehensive testing of Pre-Ordering and LSR Ordering functionality. All pre-order functionality is available in the CLEC Test Environment excluding the installation status inquiry, XDSL loop qualification inquiry, and loop qualification inquiry – extended transactions. Arrangements will be made with interested TCs to test these functions in production. Ordering functionality is tested from receipt of an LSR via EDI through the creation of a service order and the return to the TC of confirmations and completions (as negotiated with Frontier). Service orders associated with LSRs that flow through will be entered into the service order processor. Frontier will manually enter Service orders associated with LSRs that do not flow through into the service order processor. Once the service orders have been entered into the service order processor, confirmation notices will be generated automatically. Completion notices are generated through a process that simulates completion processing in production. Frontier will work with each TC to identify specific test scenarios in the TC's test plan to test



Local Wholesale CLEC Testing Guidelines

completion processing. Data on completion notices will be sample data and may not be specific to each test account.

In the CLEC Test Environment, service orders will not impact the end state of accounts. Therefore, a CSR inquiry will not reflect any changes to the end state of accounts as a result of a service order. Also, an LSR cannot be issued to migrate a retail account to a TC and then a subsequent LSR issued to do post migration changes. Post migration changes may be done against accounts that were previously set up for each TC.

Any special procedures required due to geographical or system differences will be reviewed with the participating TC prior to the implementation of their testing phase. The CLEC Test Environment will contain the data associated with a wide range of accounts. TCs participating in new release or new entrant testing will be solicited for the accounts they need to have in the environment. TC specific accounts will be generated for each TC along with a group of retail accounts to be used by all TCs. The environment will also contain the data necessary to support the Quality Baseline Validation Test Decks.

Not all addresses and telephone numbers from production will be loaded into the CLEC Test Environment. Addresses and telephone numbers from representative NPA's will be in the environment. These addresses and telephone numbers can be used for pre-order and order transactions.

New Release Testing

Definitions

New release testing is the process TCs use to test an upcoming, Frontier systems release that impacts the interface and business rules between TCs and Frontier. This testing will take place after Frontier has completed its internal testing of the release.

New release testing is intended for those TCs which are currently in production with Frontier, submitting and receiving pre-order or order transactions through an application-to-application interface (i.e., EDI). This process does not apply to the Web GUI interface.

Quality Baseline Validation Test Decks and Test Accounts

Frontier has created and will maintain standard Quality Baseline Validation Test Decks of pre-order and order transactions that will be used to test a new release. The Quality Baseline Validation Test Deck is also referred to as the Regression Test Deck. Frontier will distribute the updated regression test decks for the upcoming new release through Frontier Change Control two weeks prior to the start of TC testing. The regression test



Local Wholesale CLEC Testing Guidelines

decks are posted to the Frontier Wholesale web site shortly after their distribution through Frontier Change Control.

Frontier will run the regression test decks before the TC test period begins and at the conclusion of TC new release testing.

Frontier may also develop specific progression test scenarios for the major changes in functionality of the new release. If additional progression test scenarios are developed, they will be distributed through Frontier Change Control two weeks prior to the start of TC testing. The progression test scenarios will be posted to the Frontier Wholesale web site shortly after their distribution through Frontier Change Control.

The progression test scenarios will also be run in the CLEC Test Environment at the same time as the Quality Baseline Validation Test Decks are run in the CLEC Test Environment. Results will be reported with those of the Quality Baseline Validation Test Decks. After new release testing is concluded, some of the release specific progression scenarios may be moved into the Quality Baseline Validation Test Decks.

For Pre-Order transactions, the test decks consist of inbound requests and corresponding outbound responses. For Order transactions, the test decks consist of the LSR, the inbound EDI request, and the outbound EDI response (e.g., confirmation).

These test deck scenarios and test deck accounts are available for TCs to use during the testing period. However, TCs are not limited to these transactions and accounts and may request additional support from Frontier to build specific test accounts in the CLEC Test Environment. Such requests must be received as part of a test plan two weeks prior to the beginning of TC testing.

TCs may also request that some of their accounts that currently reside in production be moved into the CLEC Test Environment to be available for testing. Generic TC accounts in the CLEC Test Environment may be duplicated using the identification of another TC.

Getting Ready for the New Release Testing

TCs are notified of the content of the release through the change management process. TCs should review the content of the release and determine if they want to participate in the test and what transactions they would like to submit as part of the test. Frontier will put out an industry notification requesting TCs to identify their intent to participate in the test



Local Wholesale CLEC Testing Guidelines

based on the schedule at the end of this section. At that time, Frontier will publish any changes to the schedule.

TCs wishing to participate in the test should arrange with the CLEC Testing coordinator.

As identified on the schedule, TCs need to submit a test plan identifying the nature and volumes of transactions they intend to submit as part of the test and when the transactions will be submitted. The test coordinator will work with the TC in determining the appropriate testing scenarios, and to ensure that the test plan will meet the TC requirements to test the new release, and if additional accounts must be added to the CLEC Test Environment database based on their test plan.

New Release Testing Process

Four weeks prior to a TC impacting release, code for that release will be loaded into the CLEC Test Environment. This code will already have gone through Quality Assurance testing by Frontier. Frontier will run the test decks through the new release system code and publish the results of this test through Frontier Change Control. The published results will indicate if there were any differences from what was documented in the test decks previously distributed through Frontier Change Control.

TCs will begin new release testing on the Monday four weeks before release implementation and may submit test transactions normally between 8:00 a.m. and 5:00 p.m. Eastern Monday through Friday. Frontier may offer extended hours, or changes to the schedule, and any such changes will be communicated through the Change Management Process. The CLEC Test Environment will be unavailable for new release testing the Friday before release implementation into the CLEC Test Environment and into production. Orders that qualify for level 5 transactions will flow through to the service order processor. Acknowledgements, confirmations, and (where mutually agreed) completions will be provided. Order transactions that do not flow through will be manually entered into the service order processor and the same responses provided.

During new release testing, the testing coordinator will be the TCs point of contact to identify and resolve problems and questions. The testing coordinator will involve other Frontier personnel as required. Frontier will maintain a log of issues during the new release test. Issues will be responded to by the next business day. The status of open issues will be published and reviewed with the TCs on status calls to be held by the TC Testing Director, or designate, every Tuesday and Friday.

On the last Monday of the TC new release testing period, a special status call will be held to identify any outstanding issues that must be fixed prior to release implementation. Frontier will not make any changes to the CLEC Test Environment while TCs are testing the new release. Defects will be fixed each Wednesday evening during TC new release testing.



Local Wholesale CLEC Testing Guidelines

Emergency fixes may be implemented at times other than Wednesday evening. The last Wednesday will be reserved for fixes that must be done prior to release implementation. Any of these additional fixes will be communicated through Change Management Process. This enables the TCs an opportunity to retest before the code is migrated to production. The escalation procedure to be used, if necessary, to resolve issues during TC new release testing is at the end of this section.

Post New Release Testing

After completion of TC testing, the code will be migrated into production. The CLEC Test Environment will continue to contain this code until the code for the next release is moved into the CLEC Test Environment.

Frontier will execute the test decks in the CLEC Test Environment at the end of the new release testing period and verify that the results match the published test decks. After the code contained in the CLEC Test Environment has been migrated to production, Frontier will run the Quality Baseline Validation Test Decks in production without changing the end state of accounts; and Frontier will document the results within 5 days. Completions will not be a part of the results obtained from production.

After each release has been moved into production, Frontier will affirm that it has used software configuration management tools to ensure that the CLEC Test Environment code was successfully moved into production.

New Entrant Testing

Definitions

New entrant testing is the process TCs must go through prior to submitting live LSRs or pre-order transactions to Frontier in the production environment through an application-to-application interface. This testing is important to ascertain that the trading partner OSS interfaces and interactions work to the satisfaction of both the TC and Frontier – and that no adverse operational impacts are likely to occur to other operating TCs. This process does not apply to the Web GUI interface.

New entrant testing is intended for those TCs that are not currently in production or that want to test new ordering or pre-ordering transactions for which they have not been through testing.

There are three phases to new entrant testing. The first, connectivity testing, ensures that the TC connectivity option is functioning properly. The second phase is the actual transmission of test transactions and responses and is conducted in the CLEC Test Environment. The third phase involves allows the TC to begin friendly production testing. The duration of new entrant testing will vary based on the complexity of services being tested and the type of connectivity requested by the TC. A TCs expertise with establishing



Local Wholesale CLEC Testing Guidelines

connectivity and processing EDI transactions will greatly impact the duration of new entrant testing. Frontier will work with the TC to complete new entrant testing as expeditiously as possible.

Development of a Test Plan

1. The TCs will advise Frontier when they are ready to use application-to-application interfaces to conduct business with Frontier. There will be a meeting or conference call between the TC and Frontier to discuss connectivity. A testing coordinator is assigned to the TC at this time.
2. TC obtains and reviews the most current EDI and Business Rules documentation from the Frontier web site and will contact their test coordinator when ready to test.
3. The TC and Frontier test coordinator will jointly develop the TCs test plan. For ordering, the scenarios will be determined by the business the TC will be in (Resale, UNE, Platform), the markets they will serve (residence/business), and the types of transactions (Migrate as is, Migrate as Specified, New, Changes, etc). The scenarios should include supplemental transactions. Pre- Order transactions are based on which transactions the TC will be using in production (CSR retrieval, TN selection, etc). Frontier will assist in the determination of which scenarios are needed based on previous testing experience. TCs will be required to test at least one scenario of each type of transaction they will be using in production. For ordering, TCs will be required to test each of the three types of supplementary LSRs (change date due, cancel, other). Frontier will support up to 5 test cases of the same transaction.

The scenarios will be grouped into logical phases based on type of request (Resale, UNE, Platform), complexity of request (single line, multiline), or other logical grouping. The TC and Frontier will develop a schedule including intermediate milestones for the test. This schedule will be reviewed and updated on a regular, periodic basis.

Frontier will provide a spreadsheet for the TC to enter a description of each scenario and the PON number used to transmit the scenario. See sample spreadsheet at end of this section.

Test Account Establishment

Frontier will review each scenario and determine what test account can be used for that scenario. The scenarios contained in the Quality Baseline Validation Test Decks used in new release testing are also available for TCs use in new entrant testing. The TC may elect to submit scenarios contained in the test decks and/or develop new scenarios to use during



Local Wholesale CLEC Testing Guidelines

new entrant testing. If new test accounts are required, Frontier will build these accounts, as required, within two weeks. If test deck accounts are selected to use during new entrant testing, Frontier will update them to reflect the TC's AECN or RSID. Frontier will provide the TC with the necessary account information including BTN, SBN, etc. Test deck documentation is posted to the Frontier Wholesale website.

New Entrant Testing Process

TCs may submit test transactions into the CLEC Test Environment from 8:00AM to 8:00 PM Eastern, Monday through Friday. Frontier will negotiate with any TC for any request for a different schedule through the Change Management Process. In addition, the one exception to this time will be during the four weeks of New Release testing, when availability will be 8:00AM to 5:00PM, Eastern. Any exception to the process can be worked between TC and the test coordinator. Frontier personnel will be available to support the TC during normal business hours. The CLEC Test Environment will be unavailable for new entrant testing on the Friday before a new release is implemented in the CLEC Test Environment or in production. The TC and Frontier will use the spreadsheet at the end of this section to communicate when PONs will be delivered to Frontier and the status of each PON. The spreadsheet will be sent through e-mail. The TC will notify Frontier via the spreadsheet of the intent to transmit EDI transactions and the associated PON numbers. Frontier will provide a status of the PON via the spreadsheet through e-mail by the next business day. The status will indicate if the PON completed successfully or contained errors. Frontier will also provide telephone support for the test throughout the day via the Testing Coordinator. If necessary, the Testing Coordinator will arrange for conference calls between the TC and Technical Support staff. The Testing Coordinator will be the TCs point of contact for all troubles and issues identified during the test including the "friendly production" phase.

Frontier will track issues arising during the test. Each issue will be documented and logged into an issue tracking document. The status of each open issue will be reviewed on a regular, basis as established at the test planning meeting.

Entrance/exit criteria are established for each phase of testing. The basic criteria for exiting the connectivity test phase, is the ability of the TC and Frontier to successfully pass and receive information across the interface. The exit criteria for each phase of transaction testing will be the successful completion of the transaction in that phase including proper responses being returned to the TC by Frontier.

Friendly Production Testing ("Friendly Production")

Upon successful completion of all test phases, the TC will begin to submit real production transactions that will be processed as other production transactions are processed.



Local Wholesale CLEC Testing Guidelines

Frontier will provide the same level of support as provided in the test phase. during friendly production testing.

The LSRs sent during friendly production should be for end users such as TC employees or existing TC retail accounts. Frontier will carefully monitor these LSRs. Once Frontier and the TC agree that their transactions in production are working correctly, then the full testing process ends, and robust production can begin.



Local Wholesale CLEC Testing Guidelines

Sample New Release Testing Schedule

Monday 8 weeks prior to release implementation

- Frontier will request the TC's to indicate their intent to participate in Release testing via Change Management Process.

Monday 6 weeks prior to release implementation

- TCs will provide an initial Release Test plan to their test coordinator

Monday 6 weeks prior to release implementation

- Frontier publishes test deck scenarios developed for the release.
- TCs provide test plan and account requirements to Frontier.

Friday 4 weeks prior to release implementation

- CLEC Test Environment unavailable.
- Release migrated to CLEC Test Environment.
- Test decks run in CLEC Test Environment.

Weekend 4 weeks prior to release implementation

- Frontier publishes results of test decks run in the CLEC Test Environment.

Monday 4 weeks prior to release implementation

- TC testing begins.

Tuesday/Friday each of the 4 weeks before release implementation

- Status calls are held.

Wednesday each of the 4 weeks before release implementation

- Code fixes are implemented after 5:00PM as needed.

Monday 1 week prior to release implementation

- Special status call is held.

Thursday before release implementation

- TC testing concludes.

Weekend of release implementation

- Test decks run in CLEC Test Environment and results published.
- Release migrated to production.
- Frontier verifies code successfully migrated.

Monday

- Test decks run in production and results published within 5 days.



Local Wholesale CLEC Testing Guidelines

TC New Release Testing

Escalation Process

Purpose. To provide processes for TCs to raise and address issues arising during quality assurance testing of new releases with Frontier.

Prerequisites to Escalations. The expectation is that escalations should occur only after reasonable efforts have been made to resolve the issue with Frontier's testing team and test coordinator.

Escalation by a TC during Testing.

If reasonable efforts to resolve an issue with Frontier fail, an individual TC (or group of TCs acting jointly) may escalate the issue to the TC Testing Director.

The escalation and the subsequent responses and replies should take the form of e-mails, with copies to the industry change control distribution. The TC will also call the TC Testing Director to provide notification that an email was sent.

The escalation should include the following:

- An explanation of the issue.
- A brief history of the steps taken to resolve the issue with Frontier's testing team and testing manager.
- The desired outcome of the escalation.
- The impact to the TC if the issue is not resolved.
- Contact information, including name, title, phone number, and e-mail address.

The Director will acknowledge receipt of an escalation. The Director will provide the escalating TC with an initial finding within 1 business day and a final response within 2 business days.

The initial finding should include the following:

- A brief explanation of the issue, if different from that provided by the escalating TC.
- A brief statement of the likely resolution of the issue.

The response should include the following:

- The escalating TC must reply to the Director's response within 2 business days, informing Frontier whether the TC intends to escalate the issue further.
- An explanation of the issue, if different from that provided by the escalating TC.
- A description of the steps taken by Frontier to resolve the escalation.
- A proposed resolution of the issue.

If the Director fails to resolve the issue to the TCs satisfaction, the TC may escalate the issue to the Vice-President - Wholesale Customer Support over the TC Testing Process.



Local Wholesale CLEC Testing Guidelines

- The second escalation need not repeat information, but it should describe any developments subsequent to the first escalation, including a copy of the director’s response.
- The Vice President will provide a final response within 1 business day.
- The reply need not repeat information, but it should describe any developments subsequent to the first escalation.
- If unsatisfied with an outcome, either party can seek appropriate relief.

Sample PON Tracking Spreadsheet

TC Test Case #	Version	Description	PON #	Date/Time Sent To Frontier	Pass/Fail	Issues
1	AA	Change Hunting from C to S, Add additional DL	TESTPON01	3/22/99 6:30p.m.	Fail	There should not be an ALI on second DL form because LACT is N
	AB			4/01/99 10:00 a.m.	Fail	REQTYP missing
	AC				Pass	LSC sent
2	AA	Change Hunting from P to M, change to Non-Pub	TESTPON02	3/22/99 6:30 p.m.	Pass	LSC sent
3	AA	Remove Foreign Listing	TESTPON03	3/28/99 1:00 p.m.	Fail	Failed in EDI for incorrect EDI sequence. Please review LSR to insure EDI segments in correct order.
	AB			3/30 11:50 a.m.	Fail	Initiator ID and Initiator tel no not sent.



Local Wholesale CLEC Testing Guidelines

Change Log

Date	Page Number	Change

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