

## Overview of Interface Testing

When a CLEC decides to implement an IMA EDI Interface with Qwest, there are three phases of testing that the CLEC will undergo before being placed fully into production.

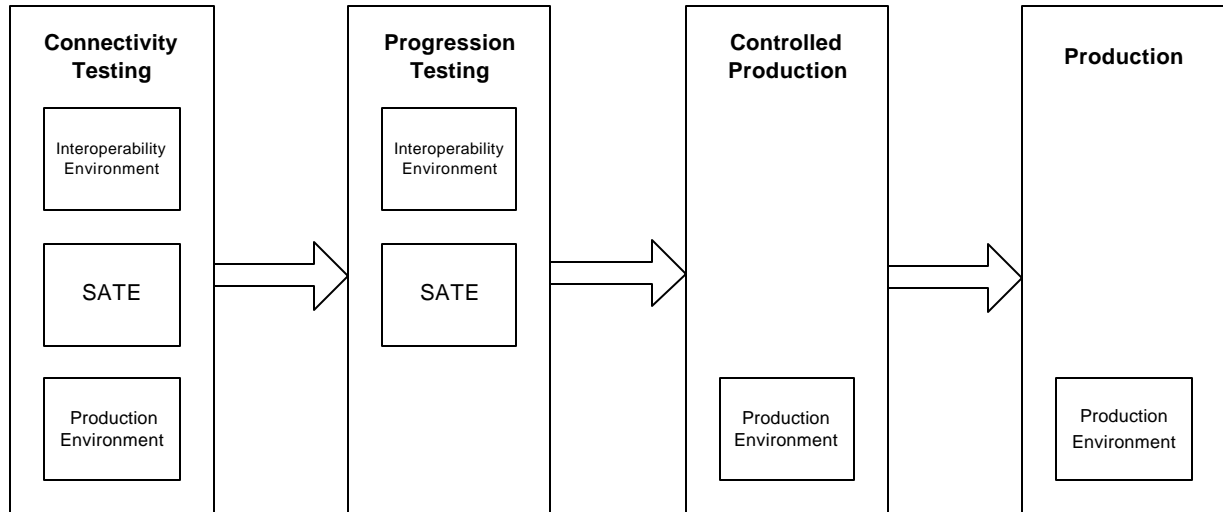


Figure 14: Phases of Interface Testing

These phases are Connectivity Testing, Progression Testing, and Controlled Production. As explained below, each testing phase serves a different purpose and the first two phases can occur in alternative environments. The completion of the three phases of testing allows a CLEC to begin sending full-volume production transactions using IMA EDI with confidence.

### Connectivity Testing

Connectivity Testing verifies the communications between the CLEC and Qwest. This testing confirms that the firewall and transport configurations are correct. This test must be conducted in the applicable test environment(s) and the production environment. Successful completion of this test indicates that the CLEC and Qwest can successfully communicate in the respective environments.

### Progression Testing

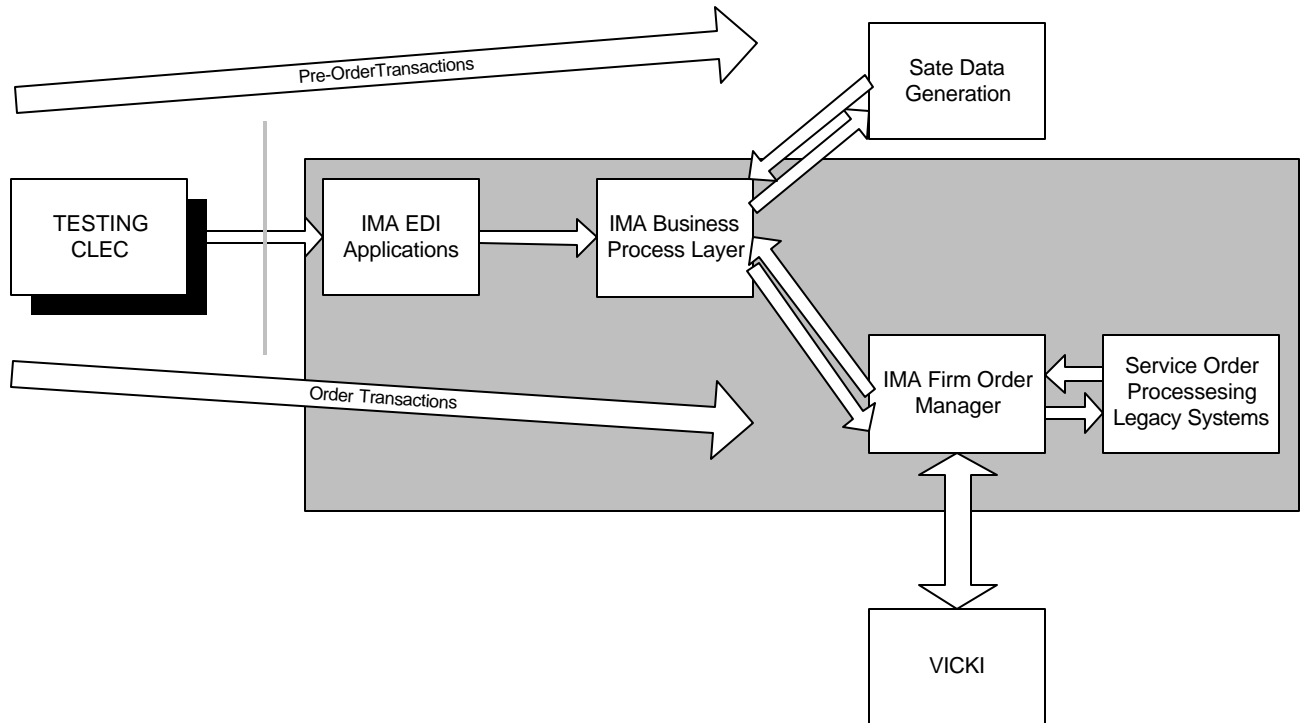
The Progression Testing phase provides the CLEC the opportunity to validate its technical development efforts and to quantify LSR processing results. Progression Testing will identify the CLEC's ability to submit correct EDI transactions through the IMA system and process Qwest's EDI responses to those transactions.

Qwest makes two environments available for CLEC use during the Progression Testing phase: Interoperability and SATE. A CLEC may choose to test in either or both environments when implementing an IMA EDI interface. Both Qwest environments are made available for CLEC testing approximately 30 days prior to a new IMA release.

Qwest and the CLEC consider Progression Testing complete when all transactions and all response types can be successfully processed by Qwest and the CLEC.

### Stand Alone Test Environment (SATE)

SATE receives Pre-Order and Order requests from the CLEC, passes them through a production copy of IMA to the data generation system, and returns responses to the SATE user.



**Figure 22: SATE System Layout**

Figure 2 shows the system layout for SATE. All systems in the shaded area are copies of the production systems. SATE houses production-like system data and responses.

#### Pre-order Transaction Processing

When a pre-order transaction is received in SATE, the transaction is processed by a copy of the production IMA Business Processing Layer, using data from the SATE generation system, and is subjected to the same IMA/EDI edits as those used in production.

#### Order Transaction Processing

In SATE, there are two methods for processing an order request and generating the associated post-order responses. A CLEC can choose to receive standard expected responses using SATE's Virtual Interconnect Center Knowledge Initiator (VICKI) or automated responses from Qwest's flow-through engine. Both methods use Qwest-provided test account data that are subjected to the same IMA/EDI edits as those used in production.

SATE's VICKI functionality allows a CLEC to submit a Local Service Request (LSR) in SATE with the desired responses requested by the CLEC.

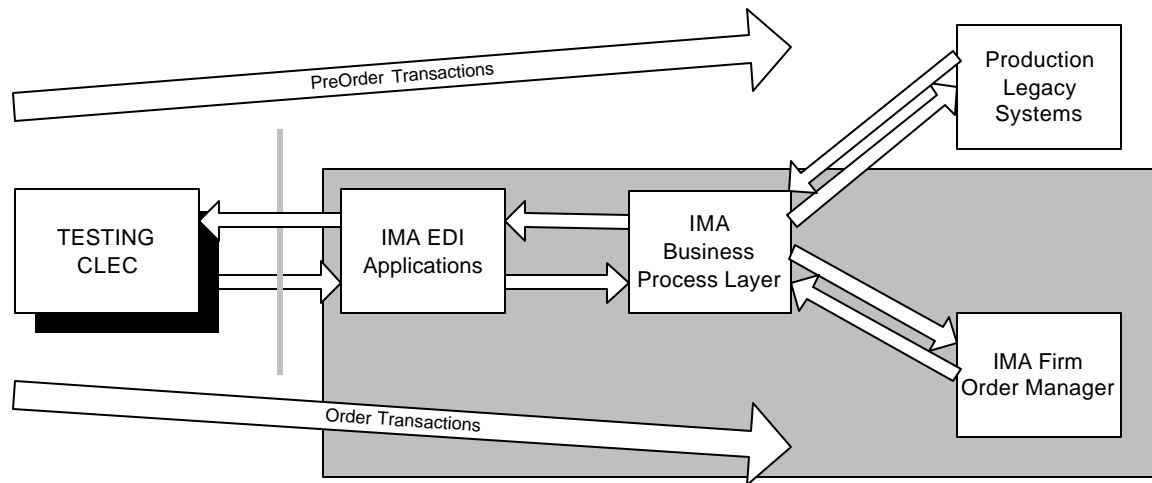
SATE's flow through functionality allows a CLEC to test a transaction using a test copy of Qwest's production service order processing legacy systems. This allows a CLEC to determine how the transaction will behave in production.

Benefits of SATE:

- Allows for consistent processing of test transactions, that is to say, a single transaction will receive the same consistent response. This allows a CLEC to build an interface in a stable environment and be confident its interface can properly generate transactions and process responses.
- Provides test decks with standard data and consistent automated expected responses. This permits the CLEC to test without having to supply its own test accounts.
- Provide the ability to send test transactions to determine if they will flow through. This assists a CLEC in optimizing its flow through in the production environment.

## Interoperability Environment

The IMA Interoperability Environment is a production copy of IMA.



**Figure 33: Interoperability System Layout**

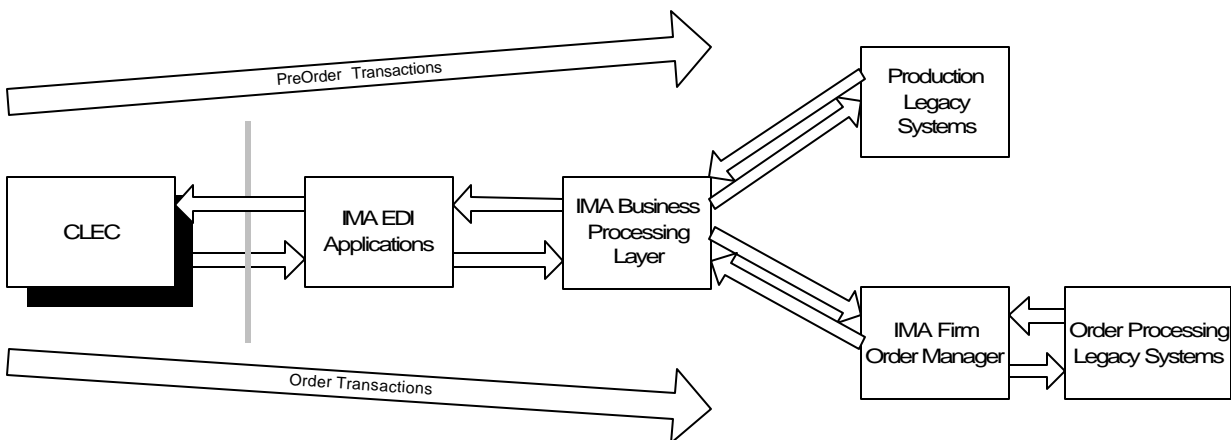
Figure 3 shows the system layout for the Interoperability Environment. All systems in the shaded area are copies of the production systems. Pre-order requests are validated by the IMA Business Processing Layer directly against the data in the production legacy systems. Thus, the same response provided in the production environment will be provided in the Interoperability Environment. Order data in the Interoperability Environment is validated against the production legacy system data and must pass all IMA Business Processing Layer edits as if the order was to be provisioned. However, the order is not passed to the legacy systems for provisioning during the Progression Testing phase. Order scenario submissions do not leave the Interoperability Environment.

Benefits of the Interoperability Environment:

- Affords the CLEC the opportunity to test functions using the same data that it uses in the production environment.
- Supports all functions in production because the Interoperability Environment is a replica of the production environment..

## Controlled Production

Controlled Production is conducted in the production environment, as shown in figure 4.



**Figure 44: Production Environment Layout**

Controlled Production consists of the submission of requests to the Qwest production environment. . Controlled Production is the final step in the interface testing process. It is designed to ensure that before a CLEC submits full production volumes the CLEC can successfully process EDI transactions in production. It also validates that the CLEC transmits EDI data that meets X12 standards and complies with Qwest business rules. Qwest and the CLEC use Controlled Production results to determine operational readiness for full Production turn-up.

## Conclusion

By utilizing the three phased process, all aspects of the behavior of the CLEC interface is tested. Each subsequent testing phase builds upon the prior test phase.

- Connectivity Testing ensures that the CLEC and Qwest can communicate.
- Progression Testing ensures that the EDI transactions generated by the CLEC and Qwest can be processed by the receiving party.
- Controlled Production ensures that Qwest and the CLEC can interface in the production environment prior to the CLEC sending full-scale production volumes. This ensures that the behavior of the production environment does not cause any problems for the CLEC.