

Data Exchange Unit Testing for Enterprise Customers

After configuration of SmartPHR® Platform middleware and front-end capabilities for an enterprise customer, we routinely capture live unit testing of the data exchange process and preserve it in a video demonstration artifact for the enterprise customer. The artifact shows the platform establishing a connection to the enterprise information system via our virtual private network (VPN), retrieving approximately 100 consecutive records and populating SmartPHR patient accounts with structured continuity of care data (in CCR or CCD format) retrieved from the enterprise system. The artifact is appropriately edited to prevent disclosure of HIPAA-protected and personally identifiable data. Creation of the unit testing artifact follows these steps:

1. The system administrator initiates exchange of Internet Control Message Protocol (ping) data with the enterprise system to verify that the VPN network connection is operational.
2. The platform automatically connects to the enterprise system over the VPN and executes a record retrieval request, calling for transfer of continuity of care data records from the enterprise system.
3. The platform automatically saves incoming records to an intermediary database table in their original raw format exactly as transmitted from the enterprise system.
4. The system administrator compares the number of incoming records stored in the intermediary database table to the number of record transmissions from the enterprise system.
5. The platform automatically processes records in the intermediary database table, thereby populating patient record database tables.
6. The system administrator visually inspects a random sample of newly updated SmartPHR accounts, comparing data in these accounts to data in corresponding transmitted records stored in the intermediary database table.
7. The platform automatically audits and records statistics about successful updates to existing or new SmartPHR patient accounts and about incoming records that cannot be processed due to improper formatting or other problems.
8. The system administrator manually enters discrepancies noted during visual inspection.
9. In the event of platform performance problems, the system administrator corrects these problems and repeats unit testing to verify proper operations.
10. Upon completion of testing, the system administrator obscures protected and identifiable data and signs off on the artifact.