

3. TIER I TEST RESULTS

Department of Housing and Urban Development

System Test Results For Physical Assessment Subsystem DCD 2.3 Release

February 24, 2000

System:	REACS
Subsystem:	PASS
Component:	DCD
Release:	2.3
Database Release:	REACS
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Overview

The purpose of this document is to report the results and processes followed in the full system test conducted on the Real Estate Assessment Center's (REAC) Physical Assessment Subsystem (PASS), DCD v2.3. The testing was conducted from February 17, 2000 to February 23, 2000, at the REAC offices.

The DCD v2.3 test included a system test of the Problem Reports (PR) and Change Requests (CR) that were submitted for this release. It also included a complete end-to-end test of the Release v2.3 software functionality—downloading inspections, completing inspections, uploading inspections, and generating reports. Once the development team fixed the problem reports, made the requested changes, and produced a new maintenance release, a system test was performed to verify the corrections and to make sure no new “bugs” existed. Maintenance releases and testing continued until the testers accomplished a clean pass through the system. The final pass of testing was done to verify all exceptions and error messages were displayed at the right time and place.

The Requirements Team for DCD v2.3 consisted of a team from Andersen Consulting and Advanced Technology Systems. The team wrote the Functional and System Requirements Documents that served as the basis and guide for developing the system.

The Development Team for DCD v2.3 consisted of one lead developer and several supporting developers from ATS. The team established the testing environment that will be covered later in greater detail.

The System Test Team for DCD v2.3 consisted of two analysts from Andersen Consulting. Prior to testing, the team developed a thorough System Test Approach and testing tasks were divided between the analysts to effectively evaluate the software. The Development, Testing, and Requirements Teams met periodically throughout the testing period to discuss software deficiencies and possible future enhancements.

Overall, the system test accomplished its intended goals and all defects and flaws were well documented. The system test was completed on February 23, 2000.

2. Test Approach Results

2.1 Success of the Test Approach

The DCD v2.3 System Test Approach proved to be successful in evaluating the software. The system test team tested all of the PRs and CRs. An end-to-end test of the software was then performed in order to determine if any other problems existed in the system. Finally, an Exception/Error processing test was done to verify that the user received all required error messages.

Two independent system testers performed the system test. Pass 1 identified all of the corrections that were made in the software for version 2.3. Pass 2 identified software deficiencies that disrupted the normal DCD business processes. Before Pass 2 began, all PR and CR fixes were tested by the system test team. Pass 3 was used to ensure that none of the error processing functionality had been disrupted due to code changes.

2.2 Goals of the Test Approach

The following were the goals of the test approach:

- Rapid discovery of critical software deficiencies,
- Thorough testing of problems and changes that were corrected,
- Complete systematic testing for software deficiencies, and
- Thorough tracking and documentation of all deficiencies from discovery through resolution.

2.2.1 Rapid discovery of critical software deficiencies

All critical software deficiencies were discovered during the first pass of the software. These problems were resolved and re-tested before beginning the second and third passes of the software. All software deficiencies were logged through one central workstation in an effort to avoid the duplication of errors.

2.2.2 Thorough testing of problems and changes that were corrected

All critical software deficiencies that were discovered during the system test of DCD v2.2, were corrected for DCD v2.3. These corrections were tested thoroughly through a system test. Every PR was tested in order to assure that each deficiency was corrected. All change requests were also tested in order to assure that the requested modifications were added to the software.

2.2.3 Complete systematic testing for software deficiencies.

The majority of critical deficiencies were discovered in the system test for DCD version 2.1 and version 2.2. The DCD v2.3 system test turned up minor deficiencies.

2.2.4 Thorough tracking and documentation of all deficiencies from discovery through resolution.

After completion of the first scenario for both cycles, the testing team discussed software deficiencies so that they could be logged. This communication allowed each member to be fully versed on all software deficiencies and allowed for rapid identification and classification of these deficiencies. Team meetings occurred at regular intervals thereafter, which maintained a structured and consistent progression towards completion.

The Testing Team created an issue for all software deficiencies encountered. Each issue was then linked to a PR. Only one system tester entered deficiencies into the Issue Tracking Database. This eliminated the potential for duplicate deficiencies, and the joint discussion allowed for clear and concise documentation of all PR's. As a result, the Development Team received accurate, real-time updates.

2.3 Deviations from the Original Testing Approach

Although the Test Approach was designed to cover the problem reports and change requests for DCD v2.3 software, it was also designed to be flexible enough to meet the demands for a complete end-to-end test. All of the Problem Reports and Change Requests from the Issue Tracking database were covered in testing and were verified with at least two passes.

3. Testing Scope

Responsibilities were assigned between the two testers in a way that best utilized the timeframe available for the system test.

Pass 1 of the system test included the two testers testing the enhancements written by the requirements team for DCD v2.3. Pass 2 consisted of detailed scripts and free-form tests that were executed by the two testers. Pass 2 included a test of the software deficiencies discovered in Pass 1 and fixed by developers along with a re-execution of all the test scripts. Pass 3 consisted of detailed error/ exception scripts that were executed by 2 system testers. Two system testers participated in completing the system test for DCD v2.3.

4. Testing Environment

The System Test environment was a mirror of the production environment. The development team, who migrated all new source code from the development environment to the testing environment, managed the test environment.

5. System Test Results

The objective of the DCD v2.3 system test is to determine if all enhancements built into the DCD v2.3 software are now functioning properly. By the conclusion of the System Test, the software was functioning properly. The testers logged all issues with the software during the system test on the Issue Tracking System. These PR's were then fixed to create a new maintenance release of the software. DCD v2.3 testing was performed as a system test for all enhancements designed for the version 2.3 release.

Below is a summary of the PR's and CR's issued and their status.

Status of PR's Generated During Testing Period

PR Status	Critical	High	Medium	Low	Total
Closed - Implemented	2	4	4	1	11
Open	0	0	2	0	2
Totals	2	4	6	1	13

Status of CR's Generated During Testing Period

CR Status	Critical	High	Medium	Low	Total
Closed - Implemented	0	0	0	0	0
Open	0	2	3	1	6
Totals	0	0	0	0	0

6. Conclusion

The system test successfully tested software enhancements put forth for the version 2.3 release. Using an appropriate test approach, software deficiencies were quickly tested, clearly documented, and tracked through resolution.

The test team worked alongside the development team and requirements team to complete DCD v2.3 testing. Throughout testing, communication between the test team and development team allowed for an efficient and effective system test. Problems and issues were communicated so that the software could be tested successfully.