CMS Manual System	**Department of Health & Human Services (DHHS)**
Pub 100-01 Medicare General Information, Eligibility, and Entitlement	**Centers for Medicare & Medicaid Services (CMS)**
Transmittal 43	**Date: MARCH 30, 2007**
	Change Request 5395

SUBJECT: Clarification in Testing Instructions for Definition of "Local Components"

I. SUMMARY OF CHANGES: This CR clarifies the testing instructions for Medicare contractors in Chapter 7. Specifically this CR updates the definition of "Local Components" as defined in subsection 40.3.9, Definitions.

NEW/REVISED MATERIAL - EFFECTIVE DATE*: July 1, 2007
IMPLEMENTATION DATE: July 2, 2007

Disclaimer for manual changes only: The revision date and transmittal number apply only to red italicized material. Any other material was previously published and remains unchanged. However, if this revision contains a table of contents, you will receive the new/revised information only, and not the entire table of contents.

II. CHANGES IN MANUAL INSTRUCTIONS: (N/A if manual is not updated)
R=REVISED, N=NEW, D=DELETED-*Only One Per Row.*

R/N/D	Chapter / Section / Subsection / Title
R	7/Table of Contents
R	7/40.3/Standard System Testing Requirements for Maintaners, Beta Testers, and Contractors
R	7/40.3.1 / Maintainers and Beta Testers - Required Levels of Testing
R	7/40.3.2 / Minimum Testing Standards for Maintainers and Beta Testers
R	7/40.3.3 / Testing Standards Applicable to all Beta Testers
R	7/40.3.4 / Testing Requirements Applicable to the CWF Beta Tester
R	7/40.3.5 / Contractor (User) Testing Requirements
R	7/40.3.7 / Timeframe Requirements for all Testing Entities
R	7/40.3.8 / Testing Documentation Requirements

R	7/40.3.9/ Definitions

III. FUNDING:
No additional funding will be provided by CMS; contractor activities are to be carried out within their FY 2007 operating budgets.

IV. ATTACHMENTS:

Business Requirements
Manual Instruction

**Unless otherwise specified, the effective date is the date of service.*

Attachment - Business Requirements

Pub. 100-01	Transmittal: 43	Date: March 30, 2007	Change Request: 5395

SUBJECT: Clarification in Testing Instructions for Definition of "Local Components"

Effective Date: July1, 2007

Implementation Date: July 2, 2007

I. GENERAL INFORMATION

A. Background:

This transmittal updates the testing instructions for Medicare contractors released in CR 3011 to Pub. 100-01, Chapter 7, Section 40.3. Specifically this CR updates the definition of "Local Components" as defined in subsection 40.3.9, Definitions. This CR also updates all subsections, within section 40.3, to replace references of "shared system" to "standard system".

B. Policy:

Medicare contractors are currently required to test their local components and to test the interfaces between their local components and the base standard system.

A local component only includes those components which are controlled and maintained by the local Medicare contractor. The definition is updated so that this is explicitly conveyed.

Old Definition:

A Local Component as referenced in section 40.3 is any component or module that supports Medicare claims processing, but is not part of the Base System.

New Definition:

A Local Component as referenced in section 40.3 is any component or module that supports Medicare claims processing, but is not part of the Base Standard System and is under the control and maintenance of the local Medicare contractor (i.e., FI, Carrier, A/B MAC, or DMEMAC/DMERC).

II. BUSINESS REQUIREMENTS TABLE

Use "Shall" to denote a mandatory requirement

Number	Requirement	Responsibility (place an "X" in each applicable column)										
		A/B MAC	DME MAC	FI	CARRIER	DMERC	RHHI	Shared-System Maintainers				OTHER
								FISS	MCS	VMS	CWF	
5395.1	The Medicare contractor shall note the clarification to the definition of "Local Components" in the testing	X	X	X	X	X	X					

Number	Requirement	Responsibility (place an "X" in each applicable column)										
		A/B MAC	DME MAC	FI	CARRIER	DMERC	RHHI	Shared-System Maintainers				OTHER
								FISS	MCS	VMS	CWF	
	instructions. A Local Component is any component or module that supports Medicare claims processing, but is not part of the Base System and is under the control and maintenance of the local Medicare contractor (i.e., FI, Carrier, A/B MAC, or DMEMAC/DMERC).											

III. PROVIDER EDUCATION TABLE

Number	Requirement	Responsibility (place an "X" in each applicable column)										
		A/B MAC	DME MAC	FI	CARRIER	DMERC	RHHI	Shared-System Maintainers				OTHER
								FISS	MCS	VMS	CWF	
	N/A											

IV. SUPPORTING INFORMATION

A. For any recommendations and supporting information associated with listed requirements, use the box below:
Use "Should" to denote a recommendation.

X-Ref Requirement Number	Recommendations or other supporting information:
5395.1	This clarification was made as a result of an action item from the Carrier/MCS Change Control Board meeting.

B. For all other recommendations and supporting information, use the space below:

V. CONTACTS

Pre-Implementation Contact(s): Scott Mueller 410-786-0480 or Whitney Korangkool 410-786-0551

Post-Implementation Contact(s): Scott Mueller 410-786-0480 or Whitney Korangkool 410-786-0551

VI. FUNDING

A. ***For TITLE XVIII Contractors*****, use only one of the following statements:**

No additional funding will be provided by CMS; contractor activities are to be carried out within their FY 2007operating budgets.

B. ***For Medicare Administrative Contractors (MAC)*****, use only one of the following statements:**

The contractor is hereby advised that this constitutes technical direction as defined in your contract. CMS does not construe this as a change to the Statement of Work (SOW). The contractor is not obligated to incur costs in excess of the amounts specified in your contract unless and until specifically authorized by the Contracting Officer. If the contractor considers anything provided, as described above, to be outside the current scope of work, the contractor shall withhold performance on the part(s) in question and immediately notify the Contracting Officer, in writing or by e-mail, and request formal directions regarding continued performance requirements.

General Information, Eligibility, and Entitlement Manual

Chapter 7 - Contract Administrative Requirements

Table of Contents
(Rev. 43, 03-30-07)

40.3 - *Standard* System Testing Requirements for Maintainers, Beta Testers, and Contractors

(Rev. 43; Issued: 03-30-07; Effective: 07-01-07; Implementation: 07-02-07)

Medicare requires implementation of a limited number of *standard* systems that must be used by all FIs and carriers. This eliminates the need for each Medicare Contractor to repeat development of the basic system.

CMS requires that the *standard* system quarterly release be subjected to the complete testing life cycle prior to production release. The goal is to ensure that all changes function as intended and that the implementation of changes does not degrade or otherwise unintentionally affect existing system capability and function prior to implementation. This requires that the *standard* system be subjected to all levels and types of testing including unit testing, integration testing, systems testing, functional testing, interface testing, performance testing, regression testing, and operational testing. Definitions are provided in subsection 40.3.9.

The *Standard* System Maintainer and the Medicare Contractor each have specific roles in testing the *standard* system quarterly release. Additionally, CMS contracts with an FI, Carrier, DMERC, and CWF Host to act as a Beta tester for the FISS, MCS, VMS, and CWF systems respectively.

Effective with the January 2006 Release the CMS Single Testing Contractor (STC) will assume primary responsibility for testing the Medicare *Standard* Systems and CWF. The STC will be fully responsible for meeting the requirements of the Beta tester as outlined in Chapter 7, Section 40.3, including all subsections. STC interface testing with HIGLAS will be initiated in April 2006 as a shadow test on Part A. The STC shall also initiate Railroad Board (RRB) testing with the April 2006 release. Two new Medicare Contractor numbers are established to accommodate STC testing, 00888 for Carrier systems testing and 00388 for Fiscal Intermediary systems testing.

This section identifies the testing responsibilities for each organization to ensure that each *standard* system quarterly release satisfies all CMS requirements. All organizations shall have processes in place to meet these requirements. Testing activities will generally begin 3 to 4 months in advance of the release date, particularly for *standard* system maintainers and the CWF maintainer.

40.3.1 – Maintainers and Beta Testers – Required Levels of Testing

(Rev. 43; Issued: 03-30-07; Effective: 07-01-07; Implementation: 07-02-07)

Review subsection 40.3.9, Definitions, for a description of key testing terminology.

1. Maintainers of a *Standard* System or the CWF shall plan and execute all the essential levels of testing. At a minimum this includes Unit testing, Integration testing, System testing, and Regression testing. Maintainers are also responsible for performing Interface Testing.

2. Beta testers may initiate testing at the integration level, but are primarily dedicated to testing at the system level, including regression testing. Beta testers are also responsible for performing Interface Testing, which includes full data exchanges between the *Standard* system, CWF, and other systems (e.g., HIGLAS when implemented).

3. Maintainers and Beta testers shall maintain a test environment that enables system-testing activities to replicate the production environment, as closely as required to effectively test. CMS provided all Beta testers with a date simulation tool to facilitate executing test cases with future dates (e.g., service dates, admission dates) without turning off edits or altering effective dates in the test environment.

40.3.2 – Minimum Testing Standards for Maintainers and Beta Testers

(Rev. 43; Issued: 03-30-07; Effective: 07-01-07; Implementation: 07-02-07)

1. The *Standard* System Maintainer (SSM), the CWF Maintainer (CWFM), and the designated Beta tester shall fully test the quarterly release to ensure it is ready to be elevated to production. For the quarterly release to be considered fully tested, all the requirements contained within the release must be tested. Maintainers and Beta testers must be able to demonstrate the degree to which each discrete requirement within a CR has been tested and by which test cases. It is therefore mandatory that the testers maintain traceability between test cases and the discrete requirements being implemented in the release. Additionally, for each CR or transmittal under test, the Maintainer and Beta tester must ensure that each discrete requirement specified in the **Business Requirements** section of any CR/transmittal has been fully tested. The Maintainer and Beta tester shall specifically:

   - Maintain a repository of Test Requirements against which all test cases must be traced.

   - Prepare and execute a set of Test Cases that demonstrate the requirements were correctly implemented for all change requests within the quarterly release.

   - Maintain traceability between each Test Case and the requirement that the case was designed to test.

2. The Maintainer and Beta tester shall distinguish each Test Requirement with a unique Requirement Identifier. The Requirement Identifier must be a number or qualifier preceded by the CMS CR number and SSM CR number, separated by dashes. The format of the Requirement Identifier is: [SSM CR No.]-[CMS CR No.]-[Requirement No.], where:

   - SSM CR No. – is a number that identifies a CMS mandate or user change request under test. Free form text can also be used to identify changes not associated with maintainer CR numbers, e.g., “Regression” to indicate regression testing. Avoid spaces and use underscore symbol “_” instead. Dashes not allowed within this number; they are reserved for separation between the individual numbers in the Requirement Identifier.

- CMS CR No. – is a minimum 4-digit number that identifies the CMS CR associated with the maintainer CR number. If no CMS CR is associated with a maintainer CR, use "0000". Dashes are not allowed. Avoid spaces and use underscore symbol "_" instead. Dashes not allowed within this number; they are reserved for separation between the individual numbers in the Requirement Identifier.

- Requirement No. – is a number that uniquely identifies the requirement with the CR. For any requirement taken from the Business Requirements section of a CMS CR, use the actual number from the Requirement # column. Do not repeat the CMS CR number. Dashes not allowed within this number; they are reserved for separation between the individual numbers in the Requirement Identifier.

  Example: Maintainer CR 22522 corresponds to CMS CR 2634. Business Requirement 2.8 was taken directly from CMS CR 2634. The Requirement Identifier would be 22522-2634-2.8.

3. The Maintainer and the Beta tester shall complete Test Case specifications that include specific input situations and the expected results associated with a single test purpose. Each test case specification must include the following:

   - A unique Test Case Identifier (which includes a cross-reference to the requirement in which the case is designed to test);

   - The specific objective or purpose of the case;

   - Input specifications (i.e., a description of the input situation[s]);

   - Output specifications (i.e., a description of the expected results); and

   - Intercase dependencies - in instances where the test results of one test case may impact other test cases, the test case specification must identify the other test case(s) and describe the relationship(s).

   Refer to section 40.3.10, Test Case Specification Standard, for the specific format required to electronically maintain test cases.

4. All Test Cases must contain a unique Test Case Identifier. The CMS standard for the Test Case Identifier is the Requirement Identifier, followed by a number that uniquely qualifies the test case specification, separated by a dash.

   The format of the Test Case Identifier is: [Requirement Identifier]-[Test Case Number], where:

   - Requirement Identifier – is the actual identifier of the requirement being testing by the case.

   - Test Case Number – is a number that uniquely qualifies the test case. This is generally a sequential number. This is necessary since more that one test case is often needed to test a single requirement. Dashes not allowed within this number; they are reserved for separation between the individual numbers in the Test Case Identifier.

Example: Two test cases were developed to test the implementation of Requirement 22522-2634-2.8 (see example above). The unique Test Case Identifier for the two test cases would be 22522-2634-2.8-01 and 22522-2634-2.8-02.

5. The Maintainer and the Beta tester shall document and execute **both** positive and negative test cases to ensure the requirements of the release are correctly implemented.

   - Positive test cases are required to ensure that the system is directly fulfilling the requirements as specified. One or more positive test cases are required for each requirement. As an example, if a program mandate effects a change for services beginning on July 1, a positive test case would include service dates in July or later and validate that the actual mandate was correctly implemented.

   - Negative test cases test cases are required to ensure that the system does not perform an incorrect action. As an example, if a program mandate effects a change for services beginning on July 1, a negative test case would ensure that implementing the mandate did not negatively impact claims with service dates prior to July 1. Unlike positive test cases, a negative test case may not be applicable to every requirement within a CR. Additionally, although due diligence might necessitate a negative test case, the need may be mitigated by an existing case in your regression test set.

6. The Maintainer and Beta tester shall document all test cases and the actual results for each test case electronically. Each test case and the associated results must be stored in a test management repository (i.e., TestDirector) and must at a minimum contain the data elements outlined in the CMS Test Case specification standard. See subsection 40.3.10 for the Test Case specification standard.

7. The Maintainer and Beta tester shall maintain a test log that provides a record of each test execution. Test Log requirements may be fulfilled by correctly using the TestDirector "run" feature as outlined in the Quarterly Release Test Management User Guide.

8. The Maintainer and Beta tester shall execute a full regression test set on their system for every quarterly release. Each testing entity shall perform regression testing within their designated testing window as outlined in subsection 40.3.7, Timeframe Requirements.

9. The Maintainer and Beta Tester shall perform interface testing.

   - The Maintainer and Beta Tester shall validate that all output files are correctly created by the their system. The SSM and Beta Tester shall validate that their system can accept and correctly process all input files.

   - The *Standard* System Maintainer and Beta Tester shall perform interface testing that includes full data exchanges (both ways) between the *standard* system and any principal claims processing adjudication or financial system. (e.g., the CWF and HIGLAS respectively). The Beta tester is required to perform data exchanges with HIGLAS after HIGLAS is implemented at Beta tester's data center.

   - The *Standard* System Maintainer and Beta tester shall complete an integrated system test with the CWF. Each Maintainer and Beta tester shall coordinate the maintenance of test data baselines, such as beneficiary data, with the CWF Beta tester.

40.3.3 – Testing Standards Applicable to all Beta Testers

(Rev. 43; Issued: 03-30-07; Effective: 07-01-07; Implementation: 07-02-07)

1. The FISS, MCS, and VMS Beta testers shall complete integrated testing with the CWF Beta tester, using coordinated beneficiary data, in the execution of their test cases. All test cases involving CWF functionality (related to claims adjudication) must be executed in an integrated test with the CWF. This requires full data exchanges between testing entities including:

    - Satellite files being sent from the *standard* systems to the CWF Beta tester; and

    - Response files being sent from the CWF to the *standard* system Beta testers.

2. Each Beta tester shall:

    - Utilize the standard CMS Test Management tool and repository to documents all test cases and results.

    - Follow the procedures outlined in the Quarterly Release Test Management User Guide in order to complete the documentation of test runs and results.

3. The Beta tester shall review all Maintainer release documentation for completeness, accuracy, and usability. Any questions, problems, or issues with the documentation shall be forwarded to both the Maintainer and CMS.

4. The Beta Tester shall conduct performance testing to reasonably assure that the system provides acceptable response times, throughput rates, and processing windows and can accommodate production workloads.

5. The CMS testing requirements outlined in section 40.3 may require the Beta tester to test a specific type of bill, specialty, or claim situation for which they do not possess the required level of expertise. In these instances, the Beta tester must partner with a Medicare Contractor that possesses both the expertise and capabilities to test the specialty or claim type. As an example, should a Beta tester not have the operational capability or expertise to process Home Health claims, they are expected to partner with an RHHI to complete the required HHA testing. Ultimately, the Beta tester is responsible for ensuring all test cases are exercised. Any partnerships that are established to complete the testing requirements, shall be arranged and managed by the Beta tester.

40.3.4 – Testing Requirements Applicable to the CWF Beta Tester

(Rev. 43; Issued: 03-30-07; Effective: 07-01-07; Implementation: 07-02-07)

The CWF Beta tester shall act as a test host and exchange data with entities testing the FISS, MCS, and VMS *standard* systems. The testing entities include all *standard* system maintainers and the *standard* system Beta testers.

40.3.5 – Contractor (User) Testing Requirements

(Rev. 43; Issued: 03-30-07; Effective: 07-01-07; Implementation: 07-02-07)

Medicare Contractors are not mandated to prepare and execute test cases that cover Medicare business requirements implemented within the base system in *standard* system and CWF quarterly releases. Maintainers and Beta testers are fully responsible for testing the base functionality. The Medicare Contactors (users) shall test their local/unique components and conduct a limited, end-to-end, operational test.

1. Contractors shall fully test their local components and *processing rules* prior to production implementation of the quarterly release. This testing is applicable for all local components and *processing rules* modified since the previous quarterly release.

   A. Contractors shall test any system components they maintain and implement to support claims processing in addition to the base system. This includes front-end and back-end components such as those for EDI entry and translation, EDI outbound processing, and printing (e.g., MSN generation).

   B. Contractors shall test changes they make to user control files, facilities, and tables in order to implement new Medicare policy or business rules. *Examples of these facilities include but are not limited to auto adjudication facilities (e.g., SuperOps and MCS SCF) and the MCS SPITAB.*

   C. A Medicare Contractor shall fully test any *standard* system functionality that was:

   - Developed by the *standard* system maintainer solely for them, or

   - Developed by the *standard* system maintainer under a special project in which they were the exclusive participant.

   An example would be a carrier working with CMS on a special demonstration project. In this example the carrier shall fully test the *standard* system functional that was implemented for the demonstration project.

2. Contractors shall complete a limited end-to-end operational test that incorporates the *standard* system release, integrated with their other claims processing components. These components include the front-end for claims receipt, translators, the CWF, the financials, and back-end EDI and report generation. The test must ensure that processing is contiguous from claims entry, to claims adjudication, and ultimately remittance and Medicare Summary Notice generation. Through contiguous processing, the interfaces between all key claims processing components must be exercised. The banking system interfaces such as National Clearing House (NCH) transfers need not be exercised. The test is limited in the number of test cases that are required, since maintainers and Beta testers are testing the base functionality of the *standard* system.

   A. Contractors shall ensure that the integrated systems software can complete cycles without system abends and produce the expected output. The Medicare Contractor shall ensure their operational test:

   - Exercises all claims entry points not fully incorporated in the base system such as paper and EMC front-end components;

   - Includes all allowable standard electronic formats and versions;

- Includes a variety of claims types; and
- Includes all components that support their claims workload and interfaces to the *standard* system.

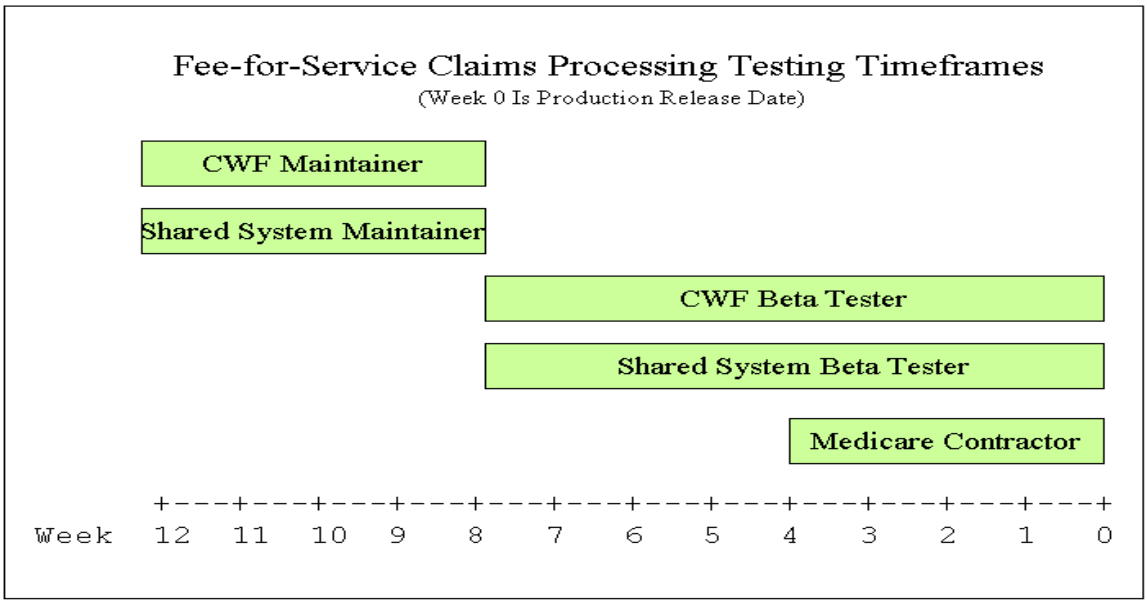
B. The operational test shall include the most recent *standard* system release received prior to the initiation of the test. The Medicare Contractor shall initiate the test as required to ensure its completion and the reporting of any problem prior to production implementation.

3. CMS strongly encourages the *standard* system user community to promote:
   - Standardizing their system nationally,
   - Centralizing any table maintenance that implements national Medicare policy at the system maintainer level, and
   - Minimizing local variations.
4. Medicare Contractors may perform additional testing on the *standard* system or duplicate Beta testing tasks as time permits. At the discretion of their Regional Offices, Medicare Contractors may be required to separately document any testing they perform in addition to their mandated testing.

40.3.7 – Timeframe Requirements for all Testing Entities

(Rev. 43; Issued: 03-30-07; Effective: 07-01-07; Implementation: 07-02-07)

The SSM, CWFM, Beta tester, and Medicare Contractor shall operate under the testing timeframes shown below for each quarterly release:



1. The Medicare **Contractor** or **User** testing period shall begin four weeks prior to production implementation.

2. The **Beta** testing period shall begin eight weeks prior to production implementation. The CWF and *standard* system Beta testers shall have an exclusive four-week testing timeframe prior to the initiation of user testing.

    - The Beta tester shall complete a functional System Test and Regression Test before the *standard* system is released to the User community.

    - Beta testing must also continue through the User testing period. The Beta tester may initiate performance testing during the user testing period.

3. Exclusive CWFM and SSM testing shall continue until Beta testing is initiated eight weeks prior to production implementation. The SSM and CWFM shall complete a Unit Test (on all components), Integration Test, System Test, and Regression Test prior to distributing the *standard* system release to the designated Beta tester. For all integration, system, and regression testing, the SSM shall use the most recent version of any third party or CMS provided software components (e.g., Pricer, OCE, MCE, Grouper) they are provided. The SSM shall continue testing beyond the exclusive maintainer-testing window due to the late receipt of some third party or CMS provided software components such as the Pricers and OCE.

40.3.8 – Testing Documentation Requirements

(Rev. 43; Issued: 03-30-07; Effective: 07-01-07; Implementation: 07-02-07)

1. The SSM, Beta tester, and Medicare Contractor shall maintain documentation that fully demonstrates the requirements of this transmittal were met for each quarterly release. At a minimum the SSM, Beta tester, and Medicare Contractor shall maintain the following test documentation to demonstrate full compliance:

    - Test Requirement and Test Case repository with traceability;
    - Test Log;
    - Test Status for the execution (run) of each test case (i.e., Pass, Fail, Not Run);
    - Actual Results for the run of each test case in which the actual results did not match the expected results; and
    - Documented proof of each test run, i.e., screen shots, scheduler job logs, etc.

2. The SSM, Beta tester, and Medicare Contractor shall:

    - Maintain all test documentation for the four quarterly releases prior to the current release under test. The documentation must be available for review by CMS (or its agent).
    - Document all software defects (problems) within the CMS specified repository such as INFOMAN.

3. The SSM shall communicate all confirmed software defects (problems) and fixes directly to CMS in writing through their CMS Maintenance Lead or other designee as specified by the CMS Project Officer.

4. The Medicare Contractor shall provide any testing documentation to their CMS regional office upon request.

Additional requirements for selected *standard* system and CWF maintainers, Beta test sites, and CWF hosts may be contained in these organizations' individual contracts. Electronic screen shots may be incorporated/attached into the results of TestDirector has proof of online results. Test Log requirements may be fulfilled by correctly using the TestDirector "run" feature as outlined in the Quarterly Release Test Management User Guide.

40.3.9 – Definitions

(Rev. 43; Issued: 03-30-07; Effective: 07-01-07; Implementation: 07-02-07)

These definitions are provided to ensure common understanding.

Base *Standard* System - The FISS, MCS, VMS, or CWF system, which is routinely released by the *Standard* System Maintainer (i.e., *Pinnacle*, EDS, ViPS) to their respective user community prior to any user customization. This includes all components released by the Maintainer,

including but not limited to the claim adjudication subsystem, the financial subsystems, and other integrated components (i.e, Pricer, OCE, MCE, Grouper).

Functional Testing – Testing to ensure that the functional requirements have been met.

Integration Testing – Testing combinations of interacting software components the make up parts of a system.

Interface Testing – Testing conducted to evaluate whether subsystems or systems pass data and control to one another correctly.

Local Components – A Local Component as referenced in section 40.3 is any component or module that supports Medicare claims processing, but is not part of the Base System *and is under the control and maintenance of the Medicare Contractor (i.e., FI, Carrier, A/B MAC, or DMEMAC/DMERC).*

Maintainer – The Maintainer is an entity to which CMS directly contracts to maintain a Medicare claim processing *standard* system (FISS, MCS, VMS, or NGD) or the Common Working File (CWF) system. The Maintainer, as referenced in section 40.3, does not refer to an entity to which a Medicare Contractor (Carrier, Fiscal Intermediary, or DME Regional Contractor) subcontracts to operate their data center or perform other claim processing support activities.

Operational Testing – Testing conducted to evaluate a system in its operational environment. Testing to ensure that the aggregate operational systems and their interfaces can be operated securely with the instructions provided.

Performance Testing – Testing that applies heavy transaction and processing loads to the system to ensure that response times, throughput rates, and processing windows remain acceptable and can accommodate production workloads.

Regression Testing – Testing conducted on a system or components to verify that modifications have not caused unintended effects and that the system or components still complies with its requirements.

Regression Test Set – A set of selectable test cases designed to exercise a system over its functional capabilities and assure that it still works properly after changes have been applied.

Requirement Identifier – A unique number assigned to each requirement comprised of the *Standard* System Maintainer CR Number, the CMS CR Number, and an alphanumeric element to uniquely qualify each requirement. For testing purposes CMS requires that each Test Case Identifier incorporate the Requirement Identifier to which it is traced.

Stress Testing – Testing that applies a steadily increasing load to the system until it reaches the point where performance degrades to unacceptable levels.

System Testing – Testing to discover any incorrect implementation of the requirements or incompatibilities in the software/hardware environment. System testing includes functional testing, performance testing, and operational testing.

Test Case Specification – A description of an input situation and of the required results associated with a specific test objective or purpose.

Test Case Identifier – A unique identifier assigned to each test case.

Test Log – A chronological record of relevant detail about the execution of tests. Relevant details include run date, run time, test status, and actual results.

Test Requirement - A specific requirement that is under test and to which one or more test cases are traced. Test requirements may be derived from various types of requirements i.e., business functional requirements, performance requirements etc. Note: Any well-written requirement that is "testable" may be considered a Test Requirement. Any requirement contained in the Business Requirements section of a CR or transmittal, also constitutes a test requirement.

Test Set – A collection of test cases that have a common usage.

Unit Testing – The testing of individual units (i.e., software components, modules) or groups of related units. It is the lowest level of testing and is usually performed by programmers. Unit testing may be both functional (requirements oriented) and structural (i.e. logic oriented, code coverage oriented).