CMS Manual System	Department of Health & Human Services (DHHS)
Pub 100-20 One-Time Notification	Centers for Medicare & Medicaid Services (CMS)
Transmittal 647	Date: March 5, 2010
	Change Request 6836

SUBJECT: Implementation of Common Edits and Enhancements (CEM) Software at Part A/B MAC Local Data Centers

I. SUMMARY OF CHANGES: The purpose of this Change Request (CR) is to provide direction to specific Part A and Part B MACs (those which are currently in a position to implement 5010), to install the Part A and the Part B CEM software in their local data centers. Specifically, the following Jurisdictions are included: J1, J3, J4, J5, J9, J10, J12, J13, and J14.

EFFECTIVE DATE: July 1, 2010
IMPLEMENTATION DATE: July 6, 2010

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
N/A	

III. FUNDING:
For Fiscal Intermediaries (FIs), Regional Home Health Intermediaries (RHHIs) and/or Carriers:
N/A

For Medicare Administrative Contractors (MACs):
The Medicare Administrative Contractor is hereby advised that this constitutes technical direction as defined in your contract. CMS does not construe this as a change to the MAC Statement of Work. The contractor is not obligated to incur costs in excess of the amounts allotted 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.

IV. ATTACHMENTS:

One-Time Notification

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

Attachment – One-Time Notification

Pub. 100-20	Transmittal: 647	Date: March 5, 2010	Change Request: 6836

SUBJECT: Implementation of Common Edits and Enhancements (CEM) Software at Part A/B MAC Local Data Centers

Effective Date: July 1, 2010

Implementation Date: July 6, 2010

I.   GENERAL INFORMATION

A.   Background:

The purpose of this Change Request (CR) is to provide direction to specific Part A and Part B (A/B) Medicare Administrative Contractors (MACs) who are currently in a position to implement 5010, to install the Part A and the Part B CEM software in their local data centers. Specifically, the following Jurisdictions are included: J1, J3, J4, J5, J9, J10, J12, J13, and J14. Other MACs not currently in a position to implement 005010 shall provide level of effort estimates only if they will be in a position to become 5010 operational prior to the effective date of this CR. A/B MACs currently in Corrective Action Plan (CAP) or under a protest condition need not reply to this CR. A future CR will address these MAC jurisdictions.

CEM software contains certain claim numbering and editing functionality previously included in the shared systems, and adds transaction receipt, control, and balancing functionality not previously available. This software will be available for download from the FISS and MCS shared systems maintainers' Web sites on a regularly scheduled basis, along with all necessary implementation release instructions.

The attached spreadsheet contains a list of systems hardware and software needed to install and execute the Part A and the Part B CEM software at the MAC local data center.   The attachment also lists what software is supported by CEM. Installation instructions will be included in the release documentation provided by the shared systems maintainers when the CEM is available for download from their Web sites. The CEM software is scheduled to be available for download by May 1, 2010. You will be notified of the Web URL for downloading at that time.

NOTE: The Pre-Implementation/CR Review costs will not be funded under the unique funding situation for the 5010/D.0 project, but instead out of the MAC's pot of hours for Pre-Implementation/CR Review.

B.   Policy:

Health Insurance Portability and Accountability Act of 1996, the Final Rule as published in the Federal Register on January 16, 2009, by the Department of Health and Human Services, 45 CFR Part 162

II.   BUSINESS REQUIREMENTS TABLE

Number	Requirement	Responsibility (place an "X" in each applicable column)						
		A/B	DME	FI	CAR	RHH	Shared-System Maintainers	OTHER

Number	Requirement	M A C	M A C	R I E R	I	F I S S	M C S	V M S	C W F	
6836.1	The A/B MAC shall download the Part A CEM software and release documentation from the FISS Web site, and install the CEM software on a system at the A/B MACs local data center, using the installation instructions provided with the release documentation.	X								
6836.2	The A/B MAC shall download the Part B CEM software and release documentation from the MCS Web site, and install the CEM software on a system at the A/B MACs local data center, using the installation instructions provided with the release documentation.	X								
6836.3	The A/B MAC shall test the Part A CEM software and the Part B CEM software after it is installed in their local data center environment, using the spreadsheets attached to CR 6676 (EA2010V03 11-16-09.xls for Part A and EB2010V03 11-16-09.xls for Part B) to validate that the correct results are produced from the A/B MAC testing.	X								

III.   PROVIDER EDUCATION TABLE

Number	Requirement	Responsibility (place an "X" in each applicable column)									
		A / B M A C	D M E M A C	F I	C A R R I E R	R H H I	Shared-System Maintainers				OTHER
							F I S S	M C S	V M S	C W F	
	None.										

IV.   SUPPORTING INFORMATION

Section A: For any recommendations and supporting information associated with listed requirements, use the box below:

X-Ref Requirement Number	Recommendations or other supporting information:
	None.

Section B: For all other recommendations and supporting information, use this space: N/A

V. CONTACTS

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Post-Implementation Contact(s): Judy Kilpatrick, Judy.Kilpatrick2@cms.hhs.gov, 410.786.6197
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VI. FUNDING

Section A: For *Fiscal Intermediaries (FIs), Regional Home Health Intermediaries (RHHIs),* **and/or** *Carriers,* **use only one of the following statements:** N/A

Section B: *For Medicare Administrative Contractors (MACs)***, include the following statement:**

The Medicare Administrative Contractor is hereby advised that this constitutes technical direction as defined in your contract. CMS does not construe this as a change to the MAC Statement of Work. The contractor is not obligated to incur costs in excess of the amounts allotted 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.

ATTACHMENT: (1) CEM hardware and software requirements 20090106.doc

Common Edits and Enhancements Module (CEM)
Software and Hardware Requirements

There is separate CEM software for Part A and for part B, both of which are written in Java and are intended to be platform -independent. It is anticipated that most MACs will choose to run both the Part A CEM software and the Part B CEM software on the same system, although this is not necessary.

CEM supports the CMS 3-zone architecture, using Application and Data zones, and no Presentation zone.

PART A SOFTWARE REQUIREMENTS	PART B SOFTWARE REQUIREMENTS
The Application and Data Zones need to support: • JVM (Java Virtual Machine) 1.6 • JMS (Java Messaging Service) • Websphere MQ • Websphere Message Broker	The Application and Data Zones need to support: • JVM (Java Virtual Machine) 1.6 • JMS (Java Messaging Service) • Websphere MQ • Websphere Message Broker

Application Server
It is recommended that CEM run on a true application server. The following servers are supported:
• JBoss is the preferred server
• The following servers are also supported:
   o Websphere
   o Glassfish
   o Weblogic
   o JBoss
   o Tomcat (does not support JMS out of the box – must be added)
	Application Server
	It is recommended that CEM run on a true application server. The following servers are supported:
	• Websphere
	• Glassfish
	• Weblogic
	• JBoss
	• Tomcat (does not support JMS out of the box – must be added)

Database System CEM requires an RDMS, and will be tested with the following: • Oracle 10g and 11g • DB2 (9) • MS SQL Server 2005 and 2009	**Database System** CEM requires an RDMS, and will be tested with the following: • Oracle 10g and 11g • DB2 (9) • MS SQL Server 2005 and 2009
Operating System CEM will support : • A variety of Unix platforms • A variety of Linux platforms • Windows Server 2003 and 2005? *The maintainer does not recommend running CEM in an IBM z/OS environment.*	**Operating System** CEM will support : • A variety of Unix platforms • A variety of Linux platforms • Windows Server 2003 and 2005 *The maintainer does not recommend running CEM in an IBM z/OS environment.*
The CMS Technical Reference Architecture (TRA) recommends the following configuration to meet the above requirements: • Websphere Application Server • Websphere MQ • Websphere Message Broker • Oracle 10g	The CMS Technical Reference Architecture (TRA) recommends the following configuration to meet the above requirements: • Websphere Application Server • Websphere MQ • Websphere Message Broker • Oracle 10g

- z/Linux (Red Hat Enterprise Linux (RHEL) 5.2) on the mainframe
      or
- Solaris 10 Update 6, Windows 2000, Windows 2003 on the mid-tier

The TRA recommendations are preferred but are not required for running the CEM at the MAC local data center.

Additional Software Needed:
Saxon 9.2

PART A HARDWARE REQUIREMENTS

CPUs and Memory:
The CEM Java application server must have a minimum of 8 GB Memory (2 GB based memory and 2 GB per concurrent process) available to the JVM.

The number of CPUs that the Application and Data servers contain will be directly related to the claims volume processed and the amount of multi-tasking and multi-threading anticipated. Recommended:
- CPU Speed: 1.8GHz – 3+ GHz
- Number of CPU: 1 - 8
- Number of Cores: 2 - 8
- Memory: 8 - 128

The greater the CPU speed, more CPUs, Cores, and memory, the faster the application will perform. More Memory will allow caching of some of the database tables and will increase throughput.

I/O Files and Disk Space:

- CEM Input files - Flat files used for input into the CEM can exist on a local path accessible to the CEM application on its host server. The files may physically exist elsewhere as long as they have a network mount on the host server. See example below.
- CEM Output files - Flat files created by the CEM will be placed on a local path accessible to the CEM application on its host server. See example below.
- CEM must have input, output, and error folders per FISS region for each transaction.
- Example:
  5010 837 Input folder for 837 flat file from translator
  5010 837 Output folder for 837 files from CEM to FISS
  5010 837 Error Folder 837 file rejection from CEM for example, does not have a receipt date or missing CTR
  5010 837 Folder 837 Receipt and Control

- z/Linux (Red Hat Enterprise Linux (RHEL) 5.2) on the mainframe
      or
- Solaris 10 Update 6, Windows 2000, Windows 2003 on the mid-tier

The TRA recommendations are preferred but are not required for running the CEM at the MAC local data center.

PART B HARDWARE REQUIREMENTS

CPUs and Memory:

The number of CPUs that the Application and Data servers contain will be directly related to the claims volume processed and the amount of multi-tasking and multi-threading anticipated. Recommended:
- CPU Speed: 1.8GHz – 3+ GHz
- Number of CPU: 1 - 8
- Number of Cores: 2 - 8
- Memory: 3 - 128

The greater the CPU speed, more CPUs, Cores, and memory, the faster the application will perform. More Memory will allow caching of some of the database tables and will increase throughput.

I/O Files and Disk Space:

- CEM Input files – 837P and 276 flat files created by the EDI translator
  - CEM requires TRIPLE the disk space usually required by these files
- CEM Output files – 837P and 276 flat files to be sent to the EDC, plus 277CA flat files to return to the EDI translator
- CEM Receipt/Control/Balancing module input from the EDC – 277 and 835 flat files
  - CEM requires DOUBLE the disk space usually required by these files
- Edit Files – 3 gigabytes
  - The following files will be extracted from the MCS EDC files and downloaded:
    State Codes
    Zip Codes
    Adjustment Reason Codes
    Remarks Codes
    Taxonomy Codes
    NPI Crosswalk
    HCPCS Codes (Procedure Codes)

5010 837 Output Folder 277CA

- Edit files: (each file will be region specific, meaning for every region you will have a separate file)

Zip code
Claim Adjustment Reason Codes
Country Codes
Country Subdivision codes
State codes
DRG codes
Group codes
HCPCS codes
HIPPS codes
ICD-9 codes
Modifier codes
NDC
Portion of NPI Crosswalk
Remittance Advice Remark Codes
Taxonomy Codes
NOC codes
Subsets of NUBC codes sets:
Admission Source
Admission Type
Type of Bills (In and Out)
Type of Bill Frequency
Patient Status
Condition Codes
Occurrence Codes
Occurrence Span Codes
Value Codes
Revenue Codes
Subset of Provider file

POS Codes
Mammography Certification
Diagnosis Codes
Modifier Codes
Plan Information

- o *The following come from other sources:*
  Country Codes
  Country Sub-Divisions Codes
  NUBC Condition Codes
  NDC Codes
  NOC Procedure Codes
- o *The following are updated and maintained by the CEM:*
  ICN Control – similar in size to the MCS
  ICNI

Receipt, Control, and Balancing (CTR table)