RESOURCE AND PATIENT MANAGEMENT SYSTEM

Consolidated-Clinical Document Architecture (CCDA)

(BCCD)

Addendum to Technical Manual

Version 1.0 Patch 6
February 2017
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Preface

The purpose of this manual is to provide technical information about the Consolidated-Clinical Document Architecture (CCDA) v1.0 (BCCD) patch 6 Package. The BCCD package is designed to generate industry standard Continuity of Care Documents (CCD) in Health Level 7 (HL7) CCDA format, following the July 2012 Draft Standard for Trial Use (DSTU) standard, further restricted by Meaningful Use 2 (MU2) requirements. These documents can be transmitted to Indian Health Service (IHS) Health Information Exchange (HIE) repositories and retrieved by the Electronic Health Record (EHR) Graphical User Interface (GUI) using web services.
1.0 Introduction

1.1 Summary of Changes

Modified contents of the routine list in Section: 5-1, routines with description in Section: 5-2, Standards and Conventions (SAC) requirements and exceptions Section: 11-0, added to the list of CCDA classes in Appendix C.1, C.3, C.5, updated CCDA Ensemble global mappings in Appendix F.1.2 from the previous documented patch update.

1.1.1 Patch 1 (Last documented update)

Section: 5-1 Routine List

- BCCD1E00
- BCCD1P00
- BCCD1P01
- BCCD1P02
- BCCD1P03
- BCCD1P04
- BCCD1P05
- BCCDCLAS
- BCCDDPT
- BCCDEDIT
- BCCDPAT
- BCCDPUSH
- BCCDTSK
- BCCDTSK
- BCCDTX
- BCCDTX
- BCCDTXAB
- BCCDTXAB
- BCCDTXAC
- BCCDTXAC
- BCCDTXAD
- BCCDTXAD
- BCCDUTIL
- BCCDUTIL
**Section: 5-2 Routines with Description**

Table 1-1: Routines

<table>
<thead>
<tr>
<th>Routine</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCCD1E00</td>
<td>KIDS environmental check routine</td>
</tr>
<tr>
<td>BCCD1P00</td>
<td>KIDS post-installation routine for CCDA 1.0 build</td>
</tr>
<tr>
<td>BCCD1P01</td>
<td>KIDS post-installation routine for patch 1</td>
</tr>
<tr>
<td>BCCD1P02</td>
<td>KIDS post-installation routine for patch 2</td>
</tr>
<tr>
<td>BCCD1P03</td>
<td>KIDS post-installation routine for patch 3</td>
</tr>
<tr>
<td>BCCD1P04</td>
<td>KIDS post-installation routine for patch 4</td>
</tr>
<tr>
<td>BCCD1P05</td>
<td>KIDS post-installation routine for patch 5</td>
</tr>
<tr>
<td>BCCDCLAS</td>
<td>Used by the post-installation routine to decrypt, and decompress Caché/Ensemble class definitions</td>
</tr>
<tr>
<td>BCCDDPT</td>
<td>Application Programming interface (API) for requesting Data Portability export summary documents</td>
</tr>
<tr>
<td>BCCDEDIT</td>
<td>Edit CCDA site-specific parameters</td>
</tr>
<tr>
<td>BCCDPAT</td>
<td>RPMS options for requesting one patient upload to HIE, requesting all patients upload to HIE, starting, and stopping CCDA.</td>
</tr>
<tr>
<td>BCCDPUSH</td>
<td>TaskMan task active only if the site participates in the IHE HIE; identifies recently modified patient records that need new CCD documents generated</td>
</tr>
<tr>
<td>BCCDTSK</td>
<td>TaskMan task that monitors the CCDA queue for new requests, and extracts data from RPMS</td>
</tr>
<tr>
<td>BCCDTX</td>
<td>Creates the BCCD NO LIMIT LOINC CODES Taxonomy</td>
</tr>
<tr>
<td>BCCDTXA</td>
<td>Continuation of BCCDTX</td>
</tr>
<tr>
<td>BCCDTXAB</td>
<td>Continuation of BCCDTX</td>
</tr>
<tr>
<td>BCCDTXAC</td>
<td>Continuation of BCCDTX</td>
</tr>
<tr>
<td>BCCDTXAD</td>
<td>Continuation of BCCDTX</td>
</tr>
<tr>
<td>BCCDUTIL</td>
<td>Contains utility subroutines used by the extract process</td>
</tr>
<tr>
<td>BCCDUTL1</td>
<td>Contains additional utility subroutines used by the extract process</td>
</tr>
</tbody>
</table>

**Section: 11-0 SAC Requirements and Exemptions**

The CCDA application has not been granted any SAC exemptions.
Appendix C: List of CCDA Classes

C.1 Audit

The BCCD.Audit classes support the auditing of CCDA requests, and the throttling of errors within the CCDA extract process.

- BCCD.Audit.AuditLog
- BCCD.Audit.ErrorThrottle

C.3 Install

The BCCD.Install classes support the installation of the CCDA application.

- BCCD.Install.Installer
- BCCD.Install.PostInstallTask
- BCCD.Install.PreInstallTask
- BCCD.Install.ProductionSettings

C.5 Tasks

The BCCD.Tasks classes consist of tasks that can be scheduled to run periodically or invoked from the RPMS namespace to run in the CCDA namespace. The classes support the weekly purge process, and the ability to start the Ensemble production from the RPMS namespace.

- BCCD.Tasks.Purge
- BCCD.Tasks.UpdateProductionState
- Appendix F: CCDA Ensemble Configuration and Management

F.1.2 Creating New Global Mappings

1. Navigate to the Namespaces page as follows:

   a. Access Ensemble’s Management Portal, and sign on as the administrator.

   b. Select System Administration from the bottom of the left column, then select Configuration, then select System Configuration, then select Namespaces.

   c. Click Go to go to the Namespaces page. The Namespaces page displays.

2. In the leftmost column, find the RPMS namespace associated with the new CCDA namespace created in Section: F.1.1.5.

   Note: This is the pre-existing RPMS namespace, not the newly created CCDA namespace.

Figure F-1: Global Mappings


Figure F-2: Global Mapping dialog
5. In the **Global database location** list, select the **Name of the Caché database** created in Section: F.1.1.6.

6. In the **Global name** field type **BCCD.Xfer.*; Make Sure** to include the asterisk (*).

7. Leave the **Global subscripts to be mapped** field blank.

8. Click **Apply**.

9. Click **Close**. The **Global Mappings** page displays.

10. Click **New Global Mapping**, found near the top of the page. The **Global Mapping** dialog appears.

11. In the **Global database location** list, select the name of the Caché database created in Section: F.1.1.4.

12. In the **Global name** field type **BCCD.Audit.*; Make Sure** to include the asterisk.

13. Leave the **Global subscripts to be mapped** field blank.

14. Click **Apply**.

15. Click **Close**. The **Global Mappings** page displays.

16. Select **Save Changes** at the top of the page.

17. Click **Namespaces** in the blue line which reads [Home] > [Configuration] > [Namespaces] > [Global Mappings] at the top of the page. This will return to the **Namespaces** page.

18. In the leftmost column, find the name of the CCDA namespace created in Section: F.1.1.5. This is the name of the newly created CCDA namespace rather than the name of the RPMS namespace selected in Step 2.

19. Select **Global Mappings** for the identified namespace. The **Global Mappings** page displays.

20. Click **New Global Mapping** at the top of the page. The **Global Mapping** dialog displays.

21. In the **Global database location** field, select the name of the RPMS database associated with this CCDA namespace.

22. In the **Global name** field type **BCCDS**.

23. Leave the **Global subscripts to be mapped** field blank.

24. Click **Apply**.


27. In the Global database location list, select the name of the RPMS database associated with this CCDA namespace.

28. In the Global name field type VA.

29. In the Global subscripts to be mapped field type (200).

30. Click Apply.


32. Click Save Changes.

33. Repeat steps 2-32 for each CCDA namespace added to the Ensemble instance.
2.0 Patch 6 Updates

Section: 5-1 Routine List
Added the following routines to the list:

**BCCD1P06**

**BCCDMON**

Section: 5-2 Routines with Description
Added the following routines and descriptions:

Table 2-1: Routines with descriptions

<table>
<thead>
<tr>
<th>Routine</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCCD1P06</td>
<td>KIDS post-installation routine for patch 6</td>
</tr>
<tr>
<td>BCCDMON</td>
<td>Application monitor</td>
</tr>
</tbody>
</table>

Section: 11-0 SAC Requirements and Exemptions
The CCDA application was granted a SAC exemption on July 8, 2016 to allow the patch 6 post-install routine to move the audit log from the CCDA database to the RPMS database.

The exemption applies to the following programming standards:

- 2.2.3.16: Referencing global variables
- 2.2.4.14: Z* commands

The lines covered by the exemption are:

- MOVELOG+14^BCCD1P06
- MOVELOG+16^BCCD1P06
- MOVELOG+19^BCCD1P06
- MOVELOG+20^BCCD1P06
- MOVELOG+22^BCCD1P06
- MOVELOG+24^BCCD1P06
- MOVELOG+25^BCCD1P06
- MOVELOG+27^BCCD1P06
- MOVELOG+28^BCCD1P06
- MOVELOG+30^BCCD1P06
- MOVELOG+31^BCCD1P06
- MOVELOG+33^BCCD1P06
- MOVELOG+35^BCCD1P06
- MOVELOG+36^BCCD1P06
- MOVELOG+37^BCCD1P06
- MOVELOG+38^BCCD1P06
- CHKLOG+8^BCCD1P06
- CHKLOG+18^BCCD1P06
- CHKLOG+21^BCCD1P06
- CHKLOG+22^BCCD1P06
- CHKLOG+23^BCCD1P06
- CHKLOG+26^BCCD1P06
- CHKLOG+27^BCCD1P06
- CHKLOG+28^BCCD1P06
- CHKLOG+30^BCCD1P06
- CHKLOG+31^BCCD1P06
- CHKLOG+32^BCCD1P06
Appendix C:

C.1 Audit

Added the following:
• BCCD.Audit. ProductionStatus

C.3 Install

Added the following:
• BCCD.PostInstall patch6

C.5 Tasks

Added the following:
• BCCD.Tasks.ApplicationMonitor

Appendix F: CCDA Ensemble Configuration and Management

F.1.2 Creating New Global Mappings

1. Navigate to the Namespaces page as follows:
   a. Access Ensemble’s Management Portal and sign on as the administrator.
   b. Select System Administration from the bottom of the left column, then select Configuration, then select System Configuration, and then select Namespaces.
   c. Click Go to go to the Namespaces page.

The Namespaces page displays.

2. In the leftmost column, find the RPMS namespace associated with the new CCDA namespace created in Section: F.1.1.5.

   Note: This is the pre-existing RPMS namespace, not the newly created CCDA namespace.

4. Click **New Global Mapping**, found near the top of the page. The **Global Mapping** dialog appears.
5. In the **Global database location** list, select the name of the Caché database created in Section:F.1.1.4.

6. In the **Global name** field type **BCCD.Xfer, * Make Sure** to include the asterisk (*).

7. Leave the **Global subscripts** to be **mapped** field blank.

8. Click **Apply**.

9. Click **Close**. The **Global Mappings** page displays.

10. Select **Save Changes** at the top of the page.

11. Click **Namespaces** in the blue line which reads [Home] > [Configuration] > [Namespaces] > [Global Mappings] at the top of the page. This will return to the **Namespaces** page.

12. In the leftmost column, find the name of the CCDA namespace created in Section: F.1.1.5. This is the name of the newly created CCDA namespace rather than the name of the RPMS namespace selected in Step 2.

13. Select **Global Mappings** for the identified namespace. The **Global Mappings** page displays.

14. Click **New Global Mapping** at the top of the page. The **Global Mapping** dialog displays.

15. In the **Global database location** field, select the name of the RPMS database associated with this **CCDA namespace**.

16. In the **Global name** field type **BCCDS**.

17. Leave the **Global subscripts to be mapped** field blank.

18. Click **Apply**.

19. Click **Close**. The **Global Mappings** page displays.

20. Click **New Global Mapping**, found near the top of the page. The **Global Mapping** dialog appears.

21. In the **Global database location** list, select the name of the RPMS database associated with this **CCDA namespace**.

22. In the **Global name** field type **VA**.

23. In the **Global subscripts to be mapped** field type **(200)**.

24. Click **Apply**.
25. Click **Close**. The **Global Mappings** page displays.

26. Click **Save Changes**.

27. Click **New Global Mapping**, found near the top of the page. The **Global Mapping** dialog appears.

28. In the **Global database location** list, select the **name of the RPMS database** associated with this **CCDA namespace**.

29. In the **Global name** field type **BCCD.Audit. ***; make sure to include the asterisk.

30. Leave the **Global subscripts to be mapped** field blank.

31. Click **Apply**.

32. Click **Close**. The **Global Mappings** page displays.

33. **Repeat steps 2-32** for each **CCDA namespace** added to the F Ensemble instance.
Glossary

API
Application Programming Interface; an interface provided by a software application to allow other applications to interact with it.

BCCD
RPMS namespace for CCDA files, routines, and classes.

HTTP
Hypertext Transfer Protocol; a widely-used communication protocol on the World Wide Web.

SOAP
Simple Object Access Protocol; the communication protocol and message format used in communicating with web services.

Taxonomy
In RPMS, a grouping of functionally related data elements, such as ICD codes. For CCDA, taxonomies are used to list procedures, test results and other data elements with non-standard data extraction criteria.

Web client
An application that consumes (accesses) a web service.

Web service
An API that allows communication with an application via SOAP messages over HTTP.

WSDL
Web Service Description Language; a file that describes a web service’s API.

XML
Extensible Markup Language; a set of rules for encoding data in a machine-readable form.
# Acronym List

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Term Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>API</td>
<td>Application Programming Interface</td>
</tr>
<tr>
<td>CCDA</td>
<td>Consolidated-Clinical Document Architecture</td>
</tr>
<tr>
<td>CCD</td>
<td>Continuity of Care Documents</td>
</tr>
<tr>
<td>DSTU</td>
<td>Draft Standard for Trial Use</td>
</tr>
<tr>
<td>EHR</td>
<td>Electronic Health Record</td>
</tr>
<tr>
<td>FM2C</td>
<td>FileMan-to-Class utility; prior to FM2C version 1.0, the abbreviation stood for FileMan-to-Caché mapper</td>
</tr>
<tr>
<td>GUI</td>
<td>Graphical User Interface</td>
</tr>
<tr>
<td>HIE</td>
<td>Health Information Exchange</td>
</tr>
<tr>
<td>HL7</td>
<td>Health Level Seven</td>
</tr>
<tr>
<td>IHS</td>
<td>Indian Health Service</td>
</tr>
<tr>
<td>KIDS</td>
<td>Kernel Installation and Distribution System</td>
</tr>
<tr>
<td>MU2</td>
<td>Meaningful Use 2</td>
</tr>
<tr>
<td>PHR</td>
<td>Personal Health Record</td>
</tr>
<tr>
<td>RPMS</td>
<td>Resource and Patient Management System</td>
</tr>
<tr>
<td>SAC</td>
<td>Standards and Conventions</td>
</tr>
<tr>
<td>VA</td>
<td>Veterans Administration</td>
</tr>
<tr>
<td>WSDL</td>
<td>Web Services Description Language</td>
</tr>
</tbody>
</table>
Contact Information

If you have any questions or comments about this distribution, please contact the OIT Help Desk (IHS).

**Phone:** (888) 830-7280 (toll free)
**Web:** [https://www.ihs.gov/helpdesk/](https://www.ihs.gov/helpdesk/)
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