**Blood Bank Pre-Implementation Data
Validation, Mapping, and Conversion
LR*5.2*335
Installation and User Guide**

January 2009

Department of Veterans Affairs
Office of Enterprise Development

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Blood Bank Pre-Implementation
Data Validation, Mapping, and Conversion LR*5.2*335
Installation and User Guide Version 4.0

Revision History

Date	Revision	Description	Author
1/31/06	1.0	Initial Release	BBM team
2/14/07	2.0	Updated per 025 VistA MR 041906: included instructions for using the Recommended Validation Method and for displaying Antibody Identified Free-Text Comments and the Transfusion Reactions. Changed page numbering so that Introduction is on Page 1. Inserted introduction to Verifying the Conversion.	BBM team
3/19/08	3.0	• Changed description of version 1.0 revision history to Initial Release. • Additional text added in the section entitled "Execute the DCL Command Procedure. • Text changed in items 1 through 5 of the section entitled "Retrieve Excel Files from the VBECS System". • Added details on the logon sequence for the EXECUTE DCL process. • Added details to the execution steps for the EXECUTE DCL process. • Added details to the instructions for retrieving the EXCEL Files. • Corrected references to the PATIENT (#2) file Internal Entry Number from DUZ to DFN. • Corrected references to the columns in the Recommended Validation Method spreadsheet. • Revised instructions for how to move the Excel files from VBECS to a local computer. • Changed the dtsrun instructions to lower case.	BBM team
1/30/09	4.0	Updated guide to address comments from Clinical Product Support (CPS) review: Global: Defined first use of each acronym. Cover page: Added the patch name, date of release, and changed organization to Office of Enterprise Development. Orientation: Added Prerequisites section. How this Installation and User Guide is Organized: Added National Support telephone number. Using the Software: Added Target Audience section. Removed all occurrences of patient sensitive information. Post Installation Procedure: added instructions and Figure 22 to disable and enable VBECS FTP service for system security. Added footer to the back side of the cover page. Added an explanation to the Retrieve Excel Files section that DUZ and DFN are used interchangeably in the Excel files and in this document. Added further information on the source of the LRDFN listed in the description of the Data Comparison File. Change "shows as stopped" to "is no longer stopped" in Enable FTP Service for Production Account Conversion Renamed figure 24 in Enable FTP Service for Production Account Conversion Renamed figure 25 in Enable FTP Service for Production Account Conversion Global: Referenced all figures and tables in the document Exit the VBECS System: changed the sentence after Figure 7 to a new step (Step 2).	BBM team

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Table of Contents

Introduction

The purpose of the VBECS database conversion is to transfer clinically and historically relevant patient information and selected patient-related data fields from the Veterans Health Information Systems and Technology Architecture (VistA) Blood Bank database to the VistA Blood Establishment Computer Software (VBECS). After the pre-implementation data validation, mapping, and conversion process is complete, the VBECS data conversion process will gather the patient data from VistA and insert the information in the appropriate VBECS tables.

Related Manuals and Materials

- *Blood Bank Pre-Implementation Data Validation, Mapping, and Conversion ADPAC Guide*
- *Laboratory Blood Bank User Manual* (VistA)
- *VBECS Data Conversion Recommended Validation Method*

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Orientation

Prerequisites

The VBECS data conversion requires that certain conditions exist before the conversion begins.

1. VistA Blood Bank Patch LR*5.2*335 must be installed. Refer to the *Blood Bank Pre-Implementation Data Validation, Mapping, and Conversion ADPAC Guide* for guidance on the installation and operation of the data extraction.

2. The VBECS servers must be installed and configured. Refer to the *VistA Blood Establishment Computer Software (VBECS) Installation Guide* for guidance on the installation and configuration of the servers.

Application Architecture

The VBECS data conversion is accomplished in three steps:

1. Data extraction from VistA will use options installed in VistA Blood Bank Patch LR*5.2*335. Refer to *Blood Bank Pre-Implementation Data Validation, Mapping, and Conversion ADPAC Guide* for guidance on the installation and operation of the data extraction.
2. The transfer of extracted data from VistA to VBECS will use a Digital Command Language (DCL) command procedure loaded during the conversion installation.
3. The importation of data to VBECS will use a Data Transformation Services (DTS) package installed during the VBECS installation process.

The VistA application is the existing M-based Blood Bank software package in use at Department of Veterans Affairs (VA) Medical Centers. The VBECS system is the hardware and software package being deployed to replace the existing VistA application.

The screen captures in this manual are provided as examples only. Your screens may vary.

How This Installation and User Guide Is Organized

This guide provides information on the installation and operation of the VBECS data conversion. These sections cover the requirements, installation, and operation of the VBECS database conversion software:

- Customer Support: Whom to contact for support and assistance during the installation and operation of the data conversion software. National support is available from the National Support system (888-596-4357).
- Using the Software: Steps for accessing the VistA and VBECS systems.
- Tools: Software tools used during the installation and execution of the database conversion software. The user must be familiar with these packages to complete the required tasks.
- Process: Steps involved in the installation and execution of the database conversion software.

Customer Support

Problems?

Contact your Laboratory Automated Data Processing Application Coordinator (ADPAC), Information Resource Management (IRM), and the Implementation Team for training, support during installation, and assistance with problem resolution. Screen captures of errors will speed problem resolution.

Using the Software

Target Audience

This manual is intended for use by the personnel responsible for running the database conversion. The person or persons must:

1. Be assigned the VBEC MAIN menu. Refer to the Conversion Checklist section on page 3 of the *Blood Bank Pre-Implementation Data Validation, Mapping, and Conversion ADPAC Guide* for the installation and placement of the VBEC MAIN MENU.
2. Have VMS level access.
3. Have Administrator access to the VBECS system.

If a team is assembled, the members of the team must collectively have the access listed above.

Software Basics

The user installing and executing the conversion software must:

- Understand basic operations and commands for:
  - DCL
  - DOS
  - SQL Enterprise Manager
  - VA FileMan Inquire option
- Be familiar with the process and procedures involved when installing a VistA patch.

Accessing the System

Log Into the VBECS System

This is the process for logging onto the VBECS server.[1] The VBECS application, server, and system are separate entities. The application consists of the options and functions used by blood bank personnel. The server contains the software that maintains the connection with the user, the database, and the existing VistA system. The system comprises the physical hardware, the application, and the server.

To access the VBECS server through Remote Desktop Connection in Windows XP:

1) Click **Start**, **Programs**, **Accessories**, **Communications**, **Remote Desktop Connection** on the Windows desktop.

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[1] There are differences in terminology between VistA and VBECS: VistA uses "log on" and "logon," and VBECS uses "log in" and "login." Both terms are used throughout this guide.

2) Enter the name of the VBECS server (Figure 1).

Figure 1: Remote Desktop Connection

Read and click **OK** to acknowledge the security warning.
Enter your user name and password at the logon screen and click **OK** (Figure 2).

Figure 2: Windows Logon Screen

Click **Start**, **Run** from on the Windows desktop (Figure 3).

Figure 3: Windows Desktop on the Remote Machine

Enter **cmd** at the Open prompt. Click **OK** (Figure 4), resulting in Figure 5.

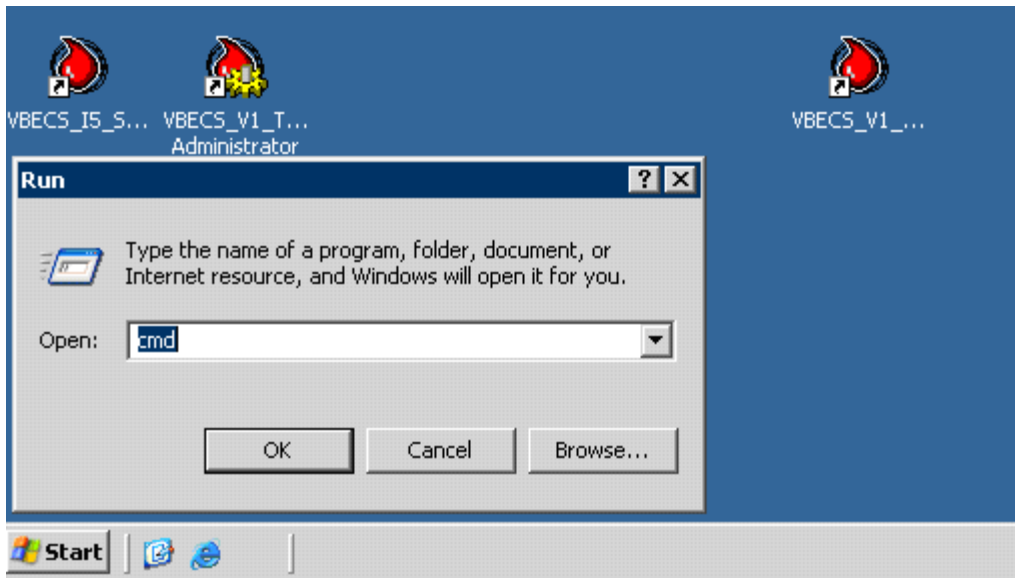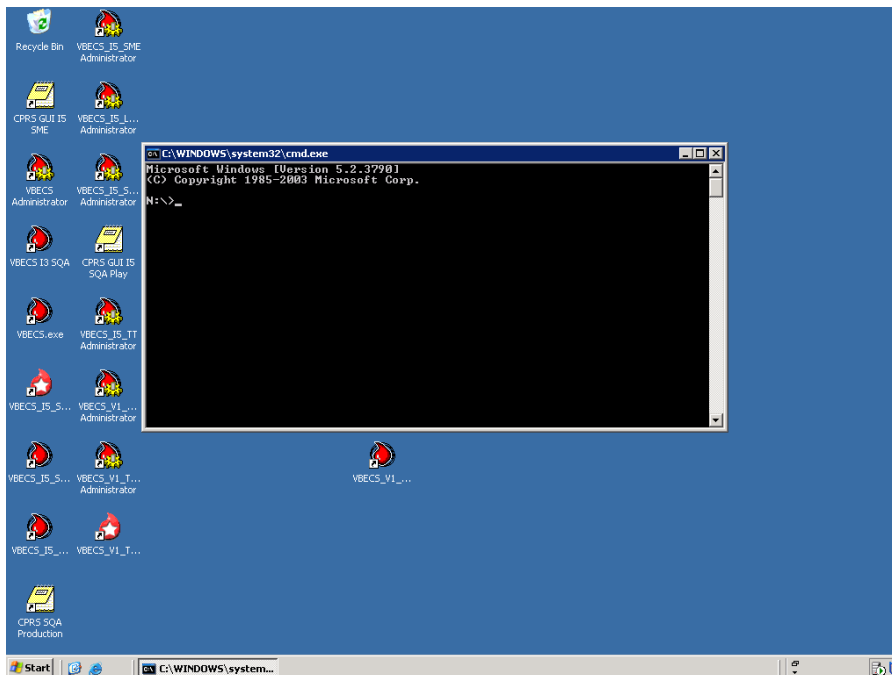**Figure 4: Entering Command Mode on the Remote System**

Figure 5: Entering Command Mode on the Remote System

Refer to the Execute DTS Package section of this guide for additional instructions for executing the data conversion.

Log Into VistA

The VistA system is accessed through a terminal emulation program such as KEA or SmartTerm. See your local IRM for the details to access VistA, or if problems are encountered during logon. When you log onto VistA, you will see a screen similar to Figure 6. Refer to the Conversion Checklist section on page 3 of the *Blood Bank Pre-Implementation Data Validation, Mapping, and Conversion ADPAC Guide* for the installation and placement of the VBEC MAIN MENU.

Figure 6: Example of a Logon Screen

```
Username: DHCP

****************************************************************************
*    Access is granted to this system for OFFICIAL PURPOSES ONLY.       *
*    Misuse of this system or information contained in this system is a  *
*    Federal Crime and will be prosecuted to the fullest extent of the law *
*    Auditors monitor and record the use of this system; by using this   *
*    system you consent to such monitoring.                              *
****************************************************************************


**VISTA USERS: For computer related work orders, your first point of **
contact is your Service ADP Coordinator (ADPAC).  Please check with them
before contacting IRMS.


****************************************************************************




Volume set: ROU:123A04  UCI: VAH  Device: TNA5842: (10.6.193.21/2507)


ACCESS CODE: ***********
VERIFY CODE: ***********

Good afternoon VISTAUSER,ONE
     You last signed on May 03, 2005 at 07:57
You have 3 new messages. (3 in the 'IN' basket)
(Last arrival: 05/10/05@07:31)

Enter '^NML' to read your new messages.
Select TERMINAL TYPE NAME: C-VT102//
          DEC VT102 Terminal with Advanced Options
****WARNING: E-MAIL IS LIMITED TO OFFICIAL VA BUSINESS ONLY****
    MISUSE AND/OR ABUSE MAY RESULT IN DISCIPLINARY ACTION
    AND/OR LOSS OF ACCESS TO MAILMAN PRIVILEGES.

VA MailMan 8.0 service for VISTAUSER.ONE@YOURSITE.MED.VA.GOV
You last used MailMan: 05/03/05@07:57
Your current banner: Good Morning.
You have 3 new messages.


   NML    New Messages and Responses
   RML    Read/Manage Messages
```

```
    SML     Send a Message
            Query/Search for Messages
    AML     Become a Surrogate (SHARED,MAIL or Other)
            Personal Preferences ...
            Other MailMan Functions ...
            Help (User/Group Info., etc.) ...
            MESSAGES OVER 2 YEARS OLD


Select MailMan Menu Option:
```
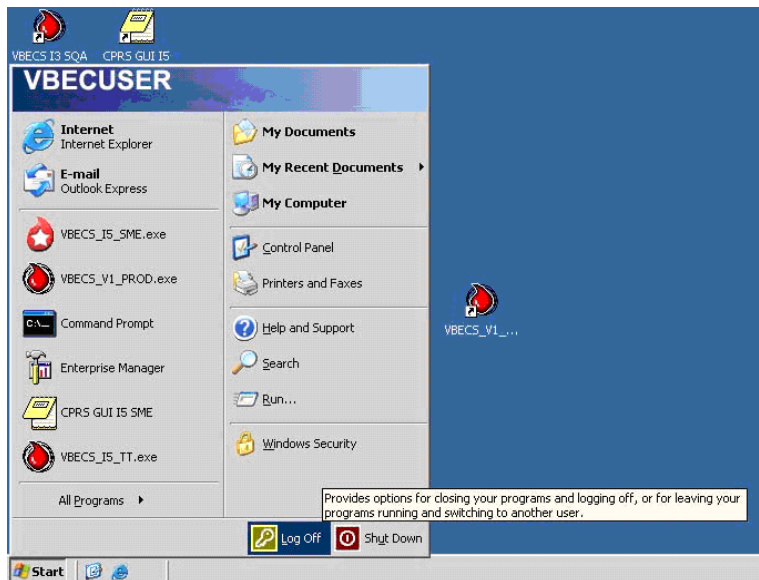
Exit the VBECS System

To log off the VBECS server (not the VBECS application):

1) Click **Start** and **Log Off** from the Windows desktop (Figure 7).

Figure 7: Log Off the Remote VBECS Server

2) Click Log Off at the dialog box (Figure 8). The system will log off the VBECS server and close Remote Desktop Connection (Figure 9).

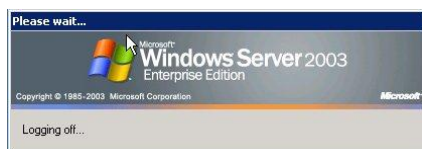**Figure 8: Logoff Verification on the Remote VBECS Server**
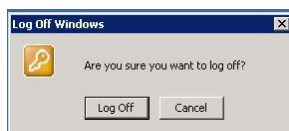
Figure 9: Logoff Window on the Remote VBECS Server

Exit VistA

You may exit VistA from any menu prompt. Enter **HALT** at the prompt and press the **Enter key**. When you log off VistA, you will see a screen similar to Figure 10.

Figure 10: Example of a Logoff Screen

```
VA MailMan 8.0 service for VISTAUSER.ONE@YOURSITE.MED.VA.GOV
You last used MailMan: 5/10/05@10:58
You have no new messages.


   NML     New Messages and Responses
   RML     Read/Manage Messages
   SML     Send a Message
           Query/Search for Messages
   AML     Become a Surrogate (SHARED,MAIL or Other)
           Personal Preferences ...
           Other MailMan Functions ...
           Help (User/Group Info., etc.) ...
           MESSAGES OVER 2 YEARS OLD

Select MailMan Menu Option: HALT


  DHCP     logged out at 10-MAY-2005 14:24:01.25
```

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Tools

Digital Equipment Corporation's Digital Command Language

DCL is the standardized command line interface used at the VMS level on the VistA system. It will be used during the installation and execution of the VBECS data conversion to execute a DCL command procedure to transfer VistA data to the VBECS system.

Microsoft Excel

Microsoft Excel is a spreadsheet program for viewing tabular data. It will be used during data validation after installation and execution of the VBECS data conversion to view data transferred to the VBECS system.

Microsoft SQL Server Enterprise Manager

Microsoft SQL Server Enterprise Manager is the primary administrative tool for Microsoft SQL Server. If necessary, it will be used during the data validation to view the contents of the SQL tables loaded during the data conversion.

VA FileMan

VA FileMan is the database management system used by VistA to identify the VMS-level directory housing text files created during the database conversion.

Installation Procedure

Install the LR*5.2*335 KIDS build

1) The installation instructions for patch LR*5.2*335 are detailed in the LR*5.2*335 patch message.

Install the DCL Command Procedure

1) Complete the instructions in *Blood Bank Pre-Implementation Data Validation, Mapping, and Conversion ADPAC Guide*.
2) Use VA FileMan to access the DEFAULT DIRECTORY field (#.06) in the VBECS Site Parameters file (#6000). Record the name of the DEFAULT DIRECTORY.
3) Log onto a VMS-level account.
4) Copy the VBECSBATCH.COM file from the FTP distribution site to the VMS-level directory specified in the DEFAULT DIRECTORY field (#.06) of the VBECS Site Parameters file (#6000).
5) Copy *VBECS Data Conversion Recommended Validation Method* (spreadsheet) from the FTP site to your local desktop system. This spreadsheet will be used to determine the quantity and record numbers of the records to be validated.

Install the VBECS Data Conversion Data Transformation Services Package

The VBECS Data Conversion Data Transformation Services (DTS) Package and its associated folder structure were installed during the VBECS installation. See Appendix A: Example of C:\DBConv\DTS Folder.

Execute the DCL (Digital Command Language) Command Procedure

1) Log onto a VMS-level account on the VistA system where the conversion was performed.
2) Enter **set def** at the VMS command prompt and press the **Enter key**.
3) Enter the temporary folder name you specified in the database conversion option PRE Utilities Used prior to the Data Conversion, sub option Enter/Edit Site Parameter Data at the _Directory: and press the **Enter key**.
4) Enter @VBECSBATCH.COM at the VMS command prompt and press the **Enter key**.
5) When prompted, enter the IP address of the first node of the VBECS system
6) When prompted, enter your domain followed by a backslash, the NT user name on the VBECS system and press the **Enter key**.
7) When prompted, enter your NT password and press the **Enter key**. (The IP address and user name will echo to the local screen when entered; the password will not be visible.)
8) The command procedure will test for the existence of the VBEC_FINIS.TXT file (automatically created during the conversion process), which will indicate that the VistA data extraction was completed. The system displays "File not found, pausing" if the file does not exist. The system will pause for 15 minutes before retesting for the existence of the file and will retest every 15 minutes thereafter. When the VBEC_FINIS.TXT file is created on VistA, the command file will transfer, by File Transfer Protocol (FTP), the files containing the data to be converted to the appropriate VBECS folder.
9) Repeat steps 1-8 again and input the IP address of the second node of the VBECS server in step 5. This will send the files to both nodes of the VBECS cluster.

See Appendix B: Example of DCL Command Procedure

Execute the DTS (Data Transformation Services) Package

The DTS package will insert the files transferred from VistA in the VBECS tables.

1) To prepare for the execution of the DTS package:
   a) Log onto an account on the VBECS system with Administrator privileges.
   b) Click **Start** and **Run** from the Windows taskbar.
   c) Enter **cmd** in the Run Window. Click **OK**.
2) To run the conversion:
   a) Enter **cd c:\dbconv\dts** at the command prompt.
   b) Enter **dtsrun /f conversionpackagemultidb.dts** at the command prompt. Press the **Enter key**.

See Appendix C: Example of DTSRUN.

Retrieve Excel Files from the VBECS System

The DTS package copies the VBECS tables populated with data from VistA into Excel files. See Appendix D: Database Table Information for a list of data extracted from VBECS during the execution of the DTS package. These files contain patient sensitive data and must be handled in accordance with all local and VA information security rules.

1) Log into the computer that will be used to perform the database conversion validation (this computer must have Excel installed in order to read the files). The validation should not be performed on the VBECS server.
2) Click **Start, My Computer** on this PC.
3) Type two back slashes, the I.P. address of one of the VBECS servers, a back slash, and **c$** in the Address line and press the **Enter** key (Figure 11). This will connect you to the system where the conversion was performed. c$ is a hidden share folder and the VBECS server is shipped with this share pre-configured.

Figure 11: Example of server I.P. address
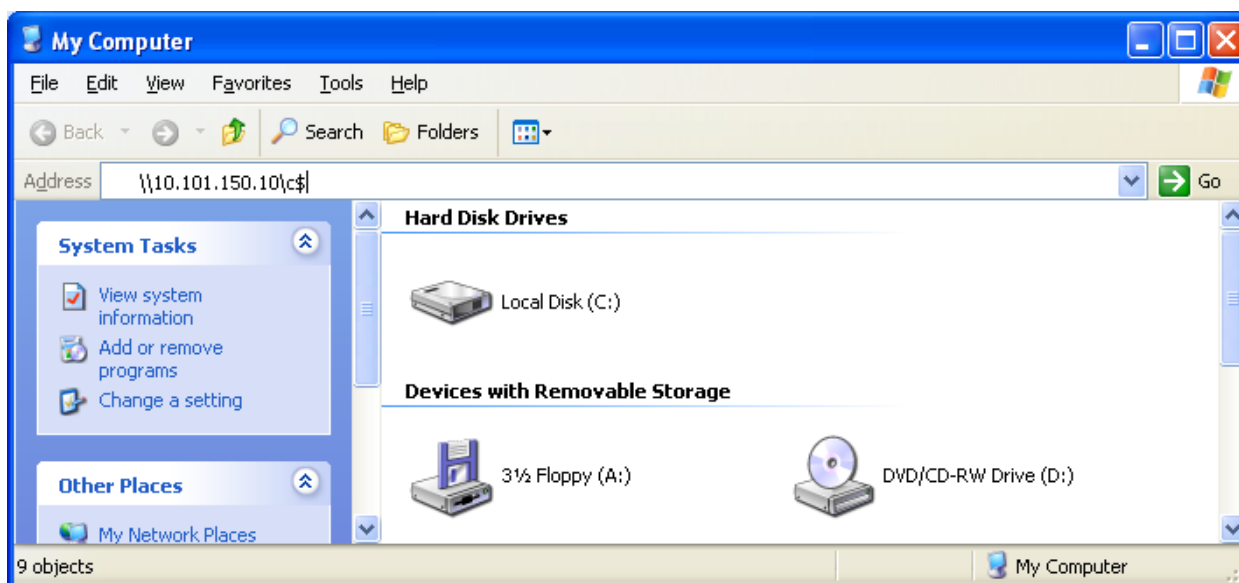
4) Windows will ask for a User Name and Password to access the server if your credentials are not passed to the server. Enter your User Name with the associated password, click **OK** (Figure 12).

Figure 12: Example of server access window.
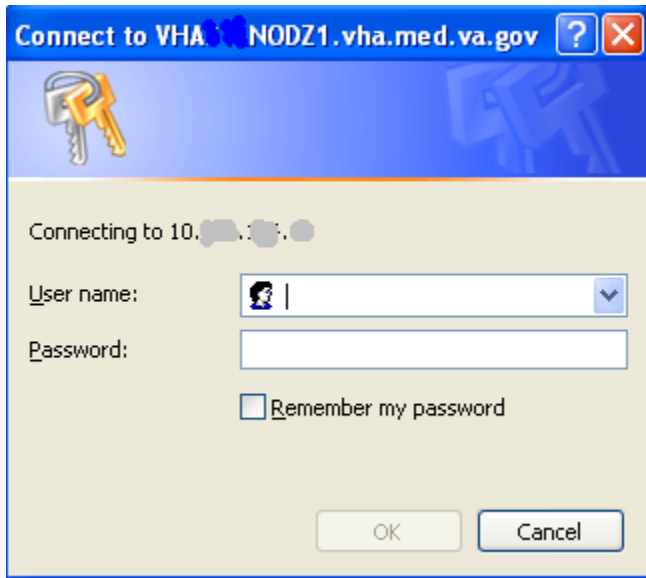
5) Navigate to the DBCONV folder on the c: drive and retrieve all seven Excel files (".XLS" extension) from the VBECS system by copying the files to a folder on your local computer. See Appendix E: Example of C:\DBConv Excel File Location.

6) Open these files in Excel (Note: DFN and DUZ are used interchangeably in the Excel files and in this document.):
   1. Patient_Data_Report.XLS: This file contains the Patient DFN, SSN, ICN, Last Name, First Name, Middle Name, Name Suffix, DOB, Blood Type, Rh Factor, DOB check (valid/invalid date), and Sex..
   2. Patient_Special_Instruction_Report.XLS: This file contains the Patient DFN, Last Name, First Name, SSN, Date/Time Comment Created, and Blood Bank Comments. All converted Antigen Present and Antigen Absent data are stored in the PatientSpecialInstruction table in VBECS.
   3. Patient_Transfusion_Comment_Report.XLS: This file contains the Patient DFN, SSN, Last Name, First Name, and Transfusion Comment.
   4. Patient_Antibodies_Identified.XLS: This file contains the Patient DFN, SSN, Last Name, First Name, Antibody Type, Transfusion Requirement Text, Date/Time Created, and Transfusion Requirement Category.
   5. Patient_Transfusion_Data.XLS: This file contains the Patient DFN, SSN, Last Name, First Name, Date/Time Noted, and Transfusion Reaction Type.
   6. Patient_Test_Report.XLS: This file contains the Patient DFN, SSN, Last Name, First Name, Test Name, Results, and Test Comments.

Data_Comparison.XLS: This file will list mismatches between the data in the files from VistA and the files in VBECS after the conversion. The data listed are:
   1. LastNameMismatch
   2. FirstNameMisMatch

3. MiddleNameMisMatch
4. NameSuffixMisMatch
5. SexMisMatch
6. DOBMisMatch
7. SSNMisMatch
8. ICNMisMatch
9. ABOMisMatch
10. RHFactorMisMatch
11. AntigensPresentQuantityMisMatch
12. AntigensPresentCommentQuantityMisMatch
13. AntigensPresentCommentLengthMisMatch
14. AntigensAbsentQuantityMisMatch
15. AntigensAbsentCommentQuantityMismatch
16. AntigensAbsentCommentLengthMisMatch
17. AntibodiesIdentifiedQuantityMisMatch
18. AntibodiesIdentifiedCommentQuantityMisMatch
19. AntibodiesIdentifiedLengthMisMatch
20. TransfusionReactionDateQuantityMisMatch
21. TransfusionReactionQuantityMisMatch
22. TransfusionReactionCommentQuantityMisMatch
23. TransfusionReactionCommentLengthMisMatch
24. BloodBankCommentsLengthMisMatch

7) Use the six files listed in step five to validate the data loaded in the VBECS system. Each file contains a series of items related to a patient's record. Each item contains the patient's DFN, SSN, Last Name, and First Name. Use these identifiers to reference the equivalent data in the VistA database and ensure that no discrepancies exist between the two databases. It is not necessary to validate all data. A statistically significant sample (refer to the *VBECS Data Conversion Recommended Validation Method* spreadsheet) will suffice.

8) If errors are found during the data validation:
   - Review and revise all VistA data mapping. Refer to the PRE: Utilities Used Prior to the Data Conversion section in *Blood Bank Pre-Implementation Data Validation, Mapping, and Conversion ADPAC Guide* for further instructions on VistA conversion options.
   - Recreate the VistA data files. Refer to the CONV: Utilities Used for the Data Conversion section in the ADPAC guide for further instructions on VistA conversion options.

9) The Data_Comparison.XLS file will list discrepancies that occurred while loading the data. shows an example of mismatched data (but does not represent all of the columns to be listed in the spreadsheet). Three conditions are represented:
   - A mismatch in the presence or absence of data (MiddleNameMisMatch column).
   - A mismatch between the number of records found in VistA and the number loaded into VBECS (AntigensPresentQuantityMisMatch column).
   - A mismatch between the length of a record extracted from VistA and the record loaded into VBECS (AntibodiesIdentifiedLengthMisMatch column). This file will be empty if no discrepancies were noted.

Table 1: Data Comparison File Output

LRDFN	MiddleNameMisMatch	AntigensPresent QuantityMisMatch	AntibodiesIdentified LengthMisMatch	TransfusionReaction QuantityMisMatch
1451	None	0 <VBECS--VISTA> 3	None	None
1278	None	None	None	7 <VBECS--VISTA> 0
15094	None	None	33 <VBECS--VISTA> 0	None
9167	1 <VBECS--VISTA> 0	None	None	None

The LRDFN column is for reference only and does not indicate that the LRDFN is mismatched. Use it to determine which VistA data record is associated with the mismatch noted in the remaining columns.

If a mismatch is noted the LRDFN identifies the patient record from VistA in the LAB DATA File (#63) where the data was extracted., and the SSN from this patient record identifies the VBECS record where the data were loaded. The name of the populated column indicates the kind of mismatch; the data in that column show the mismatch. A manual comparison of the affected data is necessary to determine which data are in error. Once the point of failure is determined and a solution is found, the VistA extraction, transfer, and VBECS data load must be re-executed.

10) Use the spreadsheet created in the Calculations tab of *VBECS Data Conversion Recommended Validation Method* to determine the number of records to be validated. Follow the instructions in *VBECS Data Conversion Recommended Validation Method* to complete the validation.
11) Rerun the data conversion if discrepancies are found during the validation.

Verifying the Conversion
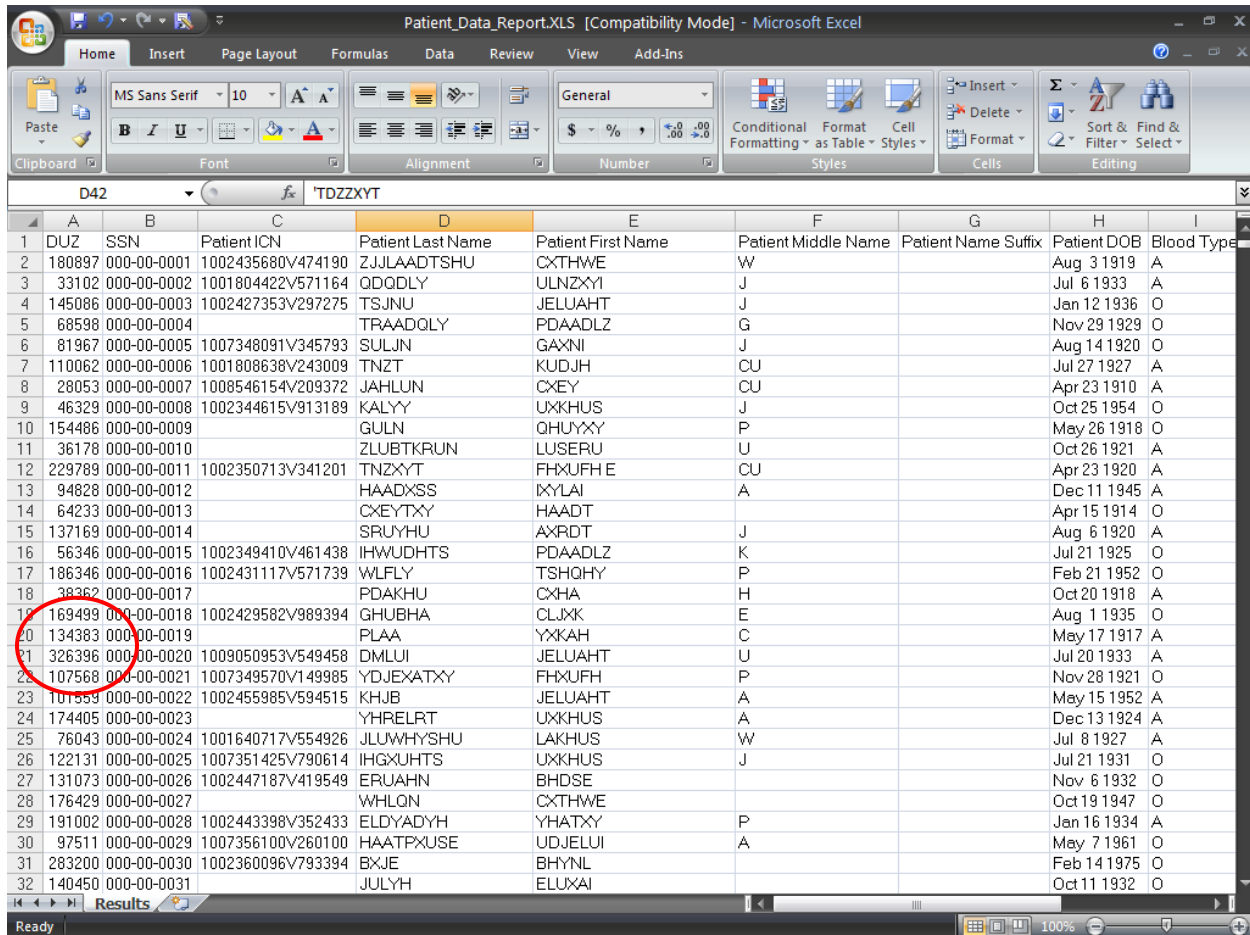
The verification of VistA records transferred to VBECS is an integral step in the VBECS validation process. Instructions for using a statistical sampling method are included in this guide as a starting point for validating a successful database conversion. Each site must evaluate the VBECS Data Conversion Recommended Validation Method for use and recognize that further validation will be necessary in certain situations.

Validate the Data

1) Open *VBECS Data Conversion Recommended Validation Method* (Excel workbook).
2) If the "Macros are disabled because the security level is set to High" message appears, click **Tools**, **Macro**, **Security**. Select the **Security Level tab**. Click the **Medium radio button**. Click **OK** and close the workbook. Reopen the workbook and click **Enable Macros** in the Security Warning dialog box. Keep the workbook open.
3) Select the **Calculations worksheet**. The Calculations worksheet identifies a random set of numbers used to inspect the accuracy of the VistA-to-VBECS data conversion.

4) Open *Patient_Data_Report* (Excel workbook). Press **Ctrl + End** to view the last entry. The row number of the last entry in the first column represents the total number of records converted (lot size) (Figure 13).

Figure 13: Example of Last Entry in *Patient_Data_Report*

	A	B	C	D	E	F	G	H	I
1	DUZ	SSN	Patient ICN	Patient Last Name	Patient First Name	Patient Middle Name	Patient Name Suffix	Patient DOB	Blood Type
2	180897	000-00-0001	1002435680V474190	ZJJLAADTSHU	CXTHWE	W		Aug 3 1919	A
3	33102	000-00-0002	1001804422V571164	QDQDLY	ULNZXYI	J		Jul 6 1933	A
4	145086	000-00-0003	1002427353V297275	TSJNU	JELUAHT	J		Jan 12 1936	O
5	68598	000-00-0004		TRAADQLY	PDAADLZ	G		Nov 29 1929	O
6	81967	000-00-0005	1007348091V345793	SULJN	GAXNI	J		Aug 14 1920	O
7	110062	000-00-0006	1001808638V243009	TNZT	KUDJH	CU		Jul 27 1927	A
8	28053	000-00-0007	1008546154V209372	JAHLUN	CXEY	CU		Apr 23 1910	A
9	46329	000-00-0008	1002344615V913189	KALYY	UXKHUS	J		Oct 25 1954	O
10	154486	000-00-0009		GULN	QHUYXY	P		May 26 1918	O
11	36178	000-00-0010		ZLUBTKRUN	LUSERU	U		Oct 26 1921	A
12	229789	000-00-0011	1002350713V341201	TNZXYT	FHXUFH E	CU		Apr 23 1920	A
13	94828	000-00-0012		HAADXSS	IXYLAI	A		Dec 11 1945	A
14	64233	000-00-0013		CXEYTXY	HAADT			Apr 15 1914	O
15	137169	000-00-0014		SRUYHU	AXRDT	J		Aug 6 1920	A
16	56346	000-00-0015	1002349410V461438	IHWUDHTS	PDAADLZ	K		Jul 21 1925	O
17	186346	000-00-0016	1002431117V571739	WLFLY	TSHQHY	P		Feb 21 1952	O
18	38362	000-00-0017		PDAKHU	CXHA	H		Oct 20 1918	A
19	169499	000-00-0018	1002429582V989394	GHUBHA	CLJXK	E		Aug 1 1935	O
20	134383	000-00-0019		PLAA	YXKAH	C		May 17 1917	A
21	326396	000-00-0020	1009050953V549458	DMLUI	JELUAHT	U		Jul 20 1933	A
22	107568	000-00-0021	1007349570V149985	YDJEXATXY	FHXUFH	P		Nov 28 1921	O
23	101559	000-00-0022	1002455985V594515	KHJB	JELUAHT	A		May 15 1952	A
24	174405	000-00-0023		YHRELRT	UXKHUS	A		Dec 13 1924	A
25	76043	000-00-0024	1001640717V554926	JLUWHYSHU	LAKHUS	W		Jul 8 1927	A
26	122131	000-00-0025	1007351425V790614	IHGXUHTS	UXKHUS	J		Jul 21 1931	O
27	131073	000-00-0026	1002447187V419549	ERUAHN	BHDSE			Nov 6 1932	O
28	176429	000-00-0027		WHLQN	CXTHWE			Oct 19 1947	O
29	191002	000-00-0028	1002443398V352433	ELDYADYH	YHATXY	P		Jan 16 1934	A
30	97511	000-00-0029	1007356100V260100	HAATPXUSE	UDJELUI	A		May 7 1961	O
31	283200	000-00-0030	1002360096V793394	BXJE	BHYNL			Feb 14 1975	O
32	140450	000-00-0031		JULYH	ELUXAI			Oct 11 1932	O

5) Return to *VBECS Data Conversion Recommended Validation Method*.

6) Enter the lot size in Cell C4 (highlighted in yellow; default is "1,234"). Press the **Enter key** to generate the number of samples to be inspected (Cell C5, highlighted in blue) and random patient data report row numbers (Column E) (Figure 14).

Figure 14: Example of Total Number of Records Converted (Lot Size) Entered in Cell C4

7) Print the Calculations worksheet.

8) Note the first entry in the Patient Data Report Row Number column (Column E) (Figure 15).

Figure 15: First Entry in the Patient Data Report Row Number Column

9) In *Patient_Data_Report*, find the row number that matches the Patient Data Report Row Number entry (Figure 16).

Figure 16: Row Number in *Patient_Data_Report* Matching Entry in the Patient Data Report Row Number Column

10) Copy the DFN number from this row in Column A of *Patient_Data_Report* to the DFN Number cell corresponding to the row number in Column F in the Calculations worksheet (Figure 17).

Figure 17: DFN Number Copied from *Patient_Data_Report* to Calculations Worksheet

11) Find this DFN number in the other Excel worksheets generated by the conversion (located in C:\DBCONV\ on the system where the conversion took place). See Appendix E: Example of C:\DBConv Excel File Location to locate associated records:
   - Data_Comparison.XLS
   - Patient_Antibodies_Identified.XLS
   - Patient_Special_Instruction_Report.XLS
   - Patient_Test_Report.XLS
   - Patient_Transfusion_Comment_Report.XLS
   - Patient_Transfusion_Data.XLS
12) Compare the converted data in the Excel worksheets with the original VistA data.

13) When all data for a record are inspected and no errors found, insert a check mark in the Place Check Here column (Column G) in *VBECS Data Conversion Recommended Validation Method* (Figure 18).

Figure 18: Place Check Here

14) Select the next patient data report row number from the Calculations worksheet and verify each data element. Continue until data for all rows in the Column E are inspected.

15) When all records are validated and found to be correct, complete the form in Step 16 of *VBECS Data Conversion Recommended Validation Method*.

Verify Antibodies

The Antibodies Identified and their associated free-text comments may not display using the VistA options for deceased patients. Use the FileMan print (Figure 19) to retrieve these records individually based on the Patient DFN. User input is in bold text.

Figure 19: FileMan Print to Verify Antibodies

```
Select OPTION: PRINT FILE ENTRIES

OUTPUT FROM WHAT FILE: PATIENT//
SORT BY: NAME//
START WITH NAME: FIRST// TESTPATIENT,TWO²
GO TO NAME: LAST// TESTPATIENT,TWO³
  WITHIN NAME, SORT BY:
FIRST PRINT FIELD: SSN   SOCIAL SECURITY NUMBER
THEN PRINT FIELD: LABORATORY REFERENCE:ANTIBODIES IDENTIFIED:ANTIBODIES
IDENTIFI
ED;"Antibodies Identified"
THEN PRINT FIELD: LABORATORY REFERENCE:ANTIBODIES IDENTIFIED:ANTIBODIES
IDENTIFI
ED COMMENT;"Comment"
THEN PRINT FIELD:
Heading (S/C): PATIENT LIST//
STORE PRINT LOGIC IN TEMPLATE:
START AT PAGE: 1//
DEVICE:   UCX TELNET SESSION
PATIENT LIST                                OCT 30,2008  14:08    PAGE
1
SOCIAL
SECURITY
NUMBER      Antibodies Identified
  Comment
-------------------------------------------------------------------------
------

       NAME: TESTPATIENT,TWO
000000034   ANTI E
            ANTIBODY,public,NOS
  give E negative units
  warm autoantibody
```

---

² This is the patient name. The internal entry number of the patient record may be entered in lieu of the patient name.
³ This is the patient name. The internal entry number of the patient record may be entered in lieu of the patient name.

Verify Antigens

The Antigens Absent and their associated free-text comments may not display using the VistA options for deceased patients. Use the FileMan print (Figure 20) to retrieve these records individually based on the Patient DFN. User input is in bold text. To find the Antigens Absent listing, replace PRESENT with ABSENT in the following example.

Figure 20: FileMan Print to Verify Antigens

```
Select OPTION: PRINT FILE ENTRIES

OUTPUT FROM WHAT FILE: PATIENT//
SORT BY: NAME//
START WITH NAME: FIRST// YLNAXU,CLZHT CU
GO TO NAME: LAST// YLNAXU,CLZHT CU
  WITHIN NAME, SORT BY:
FIRST PRINT FIELD: SSN  SOCIAL SECURITY NUMBER
THEN PRINT FIELD: LABORATORY REFERENCE:BLOOD BANK:RBC ANTIGEN PRESENT:RBC
ANTIGE
N PRESENT;"RBC Antigen Present"
THEN PRINT FIELD: LABORATORY REFERENCE:BLOOD BANK:RBC ANTIGEN
PRESENT:COMMENT;"Comment"
THEN PRINT FIELD:
Heading (S/C): PATIENT LIST//
STORE PRINT LOGIC IN TEMPLATE:
START AT PAGE: 1//
DEVICE:   UCX TELNET SESSION
PATIENT LIST                             OCT 30,2008  15:12    PAGE 1
SOCIAL
SECURITY
NUMBER      RBC Antigen Present
  Comment
--------------------------------------------------------------------------------
---
       NAME: TESTPATIENT,THREE
000000059
           C
           Fy(a)
           Fy(b)
           Jk(a)
           Jk(b)
           Le(b)
           M,NOS
           N
           c
           e
  All antigens confirmed

Select OPTION:
```

Verify Transfusion Reaction Type

The Transfusion Reaction Type and its associated free-text comments may not display using the VistA options for deceased patients. Use the FileMan print (Figure 21) to retrieve these records individually based on the Patient DFN. User input is in **bold** text.

Figure 21: FileMan Print for Transfusion Reaction Type

```
Select OPTION: PRINT FILE ENTRIES


OUTPUT FROM WHAT FILE: PATIENT//
SORT BY: NAME// NUMBER
START WITH NUMBER: FIRST// 20[4]
GO TO NUMBER: LAST// 20[5]
  WITHIN NUMBER, SORT BY:
FIRST PRINT FIELD: NAME
     1   NAME
     2   NAME COMPONENTS
CHOOSE 1-2: 1  NAME
THEN PRINT FIELD: SSN  SOCIAL SECURITY NUMBER
THEN PRINT FIELD: LABORATORY REFERENCE:TRANSFUSION REACTION
DATE:TRANSFUSION REACTION DATE
THEN PRINT FIELD: LABORATORY REFERENCE:TRANSFUSION REACTION
DATE:TRANSFUSION REACTION TYPE
THEN PRINT FIELD: LABORATORY REFERENCE:TRANSFUSION REACTION
DATE:TRANSFUSION REACTION COMMENT:TRANSFUSION REACTION COMMENT
THEN PRINT FIELD:
Heading (S/C): PATIENT LIST//
STORE PRINT LOGIC IN TEMPLATE:
START AT PAGE: 1//
DEVICE: 0;80;99999  UCX/TELNET
PATIENT LIST                                  MAR 22,2006  17:08    PAGE 1
                                              LABORATORY
                                              REFERENCE:TRANSFUSION
                                SOCIAL        REACTION
                                SECURITY      DATE:TRANSFUSION
NAME                            NUMBER        REACTION DATE
  LABORATORY REFERENCE:TRANSFUSION REACTION DATE:TRANSFUSION REACTION TYPE
  LABORATORY REFERENCE:TRANSFUSION REACTION DATE:TRANSFUSION REACTION
  COMMENT:TRANSFUSION REACTION COMMENT
----------------------------------------------------------------------


        NUMBER: 20
TESTPATIENT,ONE                 000003141  2960116
  LEGACY
  UNIT UNKNOWN
  SECOND LINE
  THIRD LINE
```

---

[4] This is the internal entry number of the patient record. The patient name may be entered in lieu of the internal entry number of the patient record.

[5] This is the internal entry number of the patient record. The patient name may be entered in lieu of the internal entry number of the patient record.

Post-Installation Procedure

For system security purposes the FTP service on the VBECS server must be disabled following the successful conversion of the VistA Test account to the VBECS Test account. The VBECS FTP service is enabled prior to converting the Production account. Following the successful conversion and validation of data in the VBECS production account the FTP service on the VBECS server is removed.

Disable FTP Service after Test Account Conversion

1) Log into the first node (server) of the VBECS cluster server with administrative privileges.
2) Click **Start**, **Control Panel**, **Administrative Tools**, **Internet Information Services (IIS) Manager**. The IIS console launches.
3) Expand the **FTP Sites** node.
4) Right click on **VBECSFtp** and click **Stop** (Figure 22).

Figure 22: Stop VBECSFtp
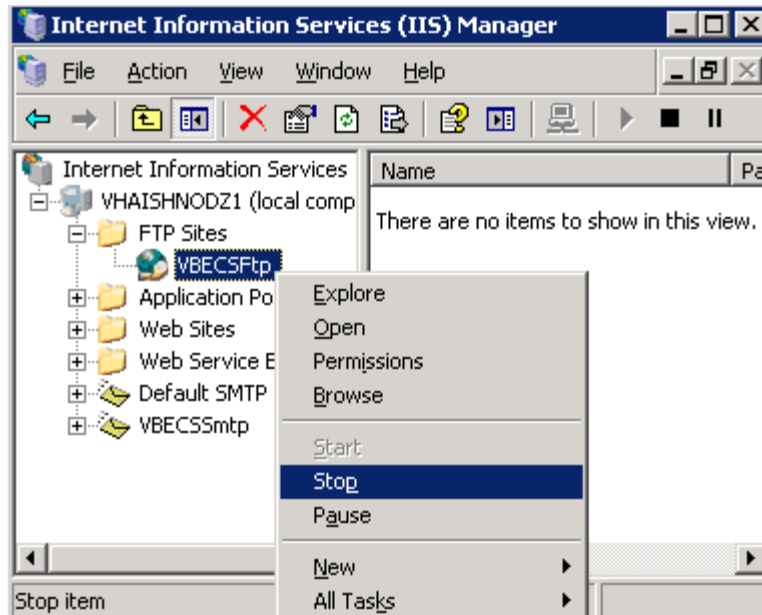
5) Verify VBECSFtp shows as stopped (Figure 23).

Figure 23: VBECSFtp Services are Stopped.
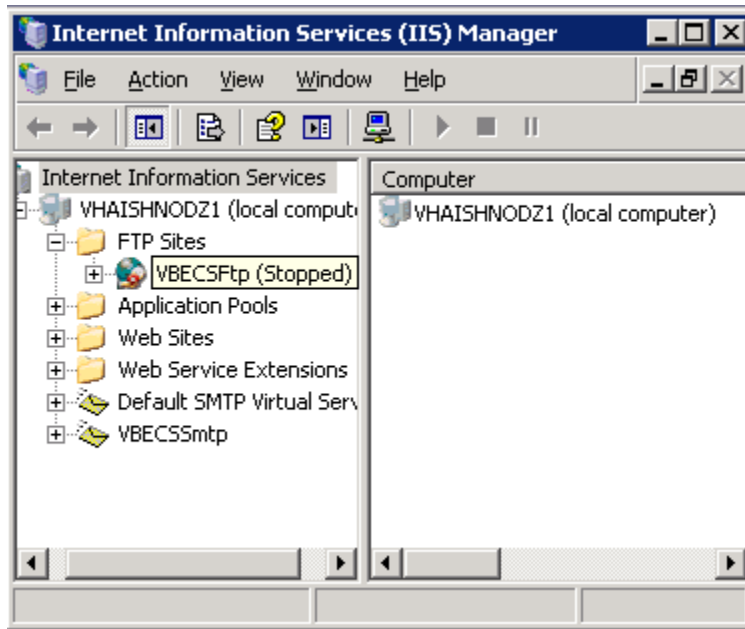
6) The FTP service will now remain shut down until started again. Repeat this process on the second node (server) in the VBECS cluster.

Enable FTP Service for Production Account Conversion

1) Log into the first node (server) of the VBECS cluster server with administrative privileges.
2) Click **Start**, **Control Panel**, **Administrative Tools**, **Internet Information Services (IIS) Manager**. The IIS console launches.
3) Expand the **FTP Sites** node.

4) Right click on **VBECSFtp** and click **Start** (Figure 24).

Figure 24: Starting VBECSFtp Services.
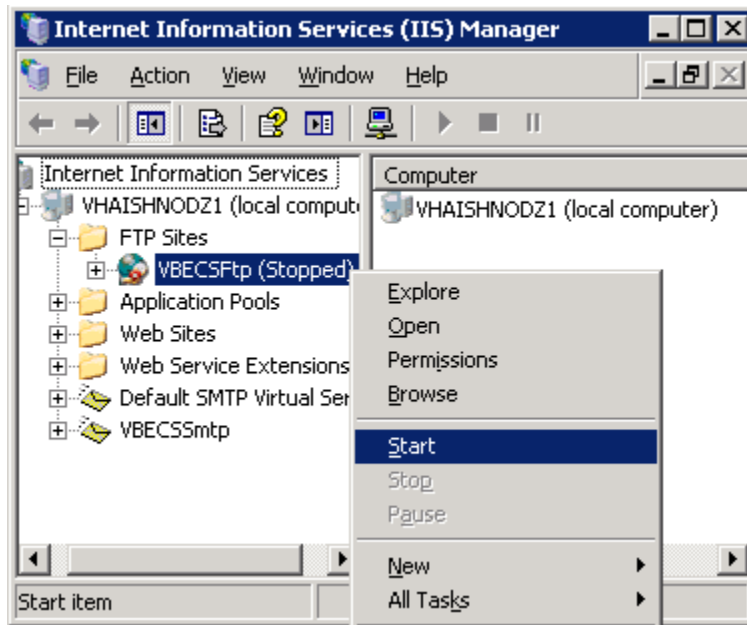
5) Verify VBECSFtp is no longer stopped (Figure 25).

Figure 25: VBECSFtp Service Enabled.
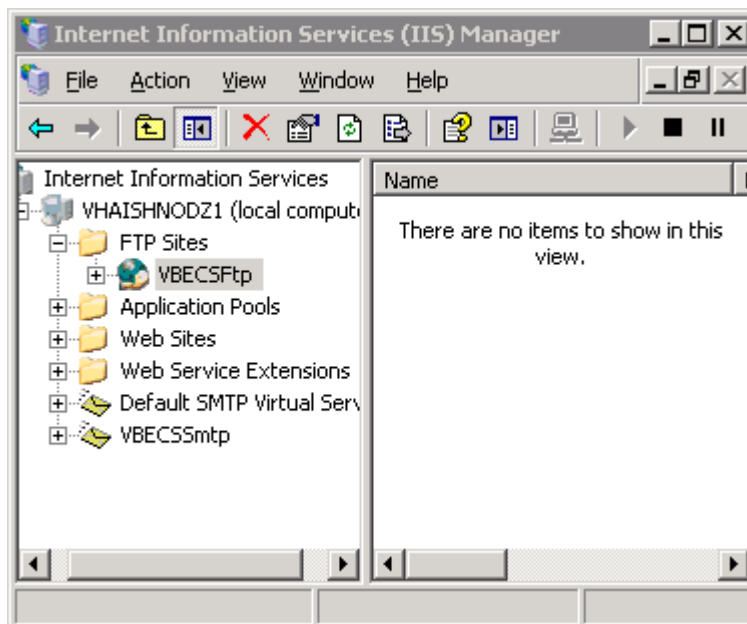
6) The FTP service will now remain running until stopped or disabled. Repeat this process on the second node (server) in the VBECS cluster.

Remove FTP Service

Remove the FTP service from the VBECS server after the conversion process is successfully completed to prevent certain forms of unauthorized access to the system.

1) Click **Start**, **Control Panel**.
2) Double click **Add or Remove Programs** (Figure 26).

Figure 26: Control Panel
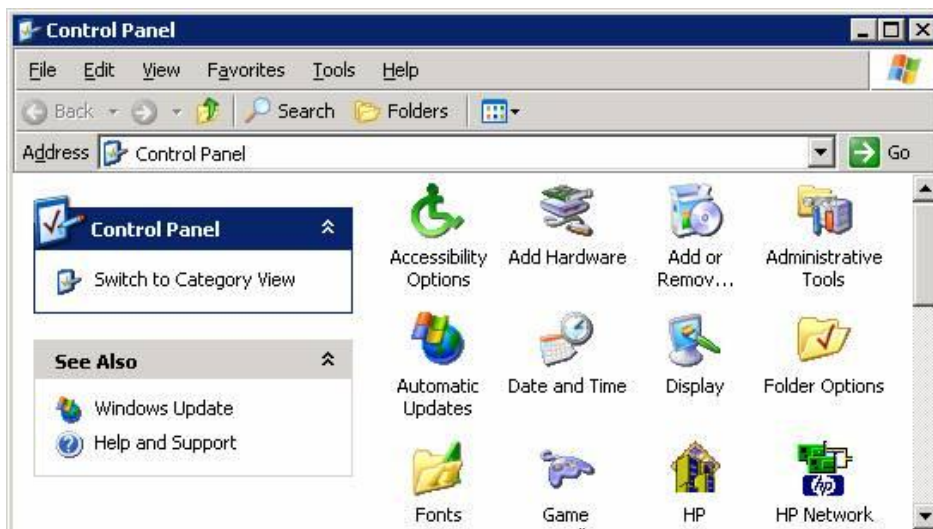
3) Click **Add/Remove Windows Components** (Figure 27).

Figure 27: Add/Remove Windows Components
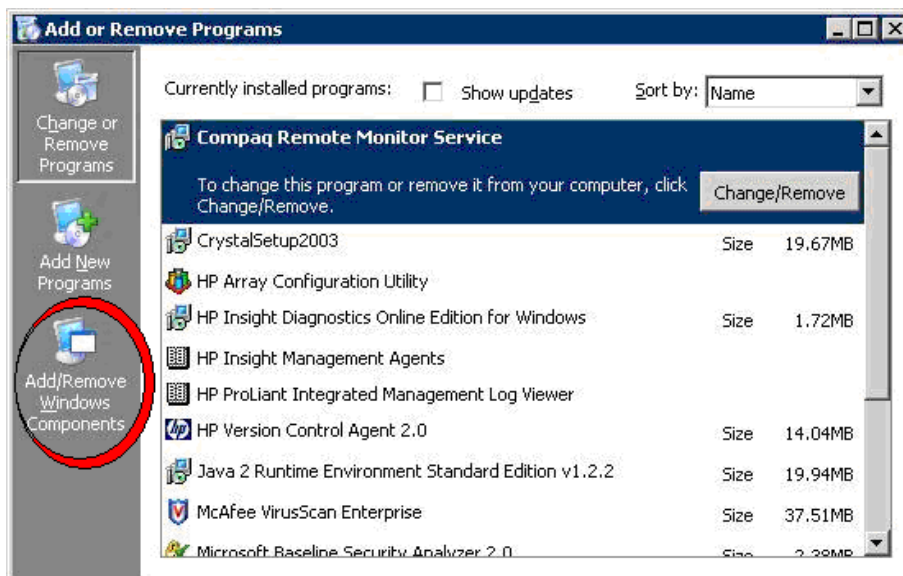
4) Select **Application Server** and click **Details** (Figure 28).

Figure 28: Windows Component Wizard
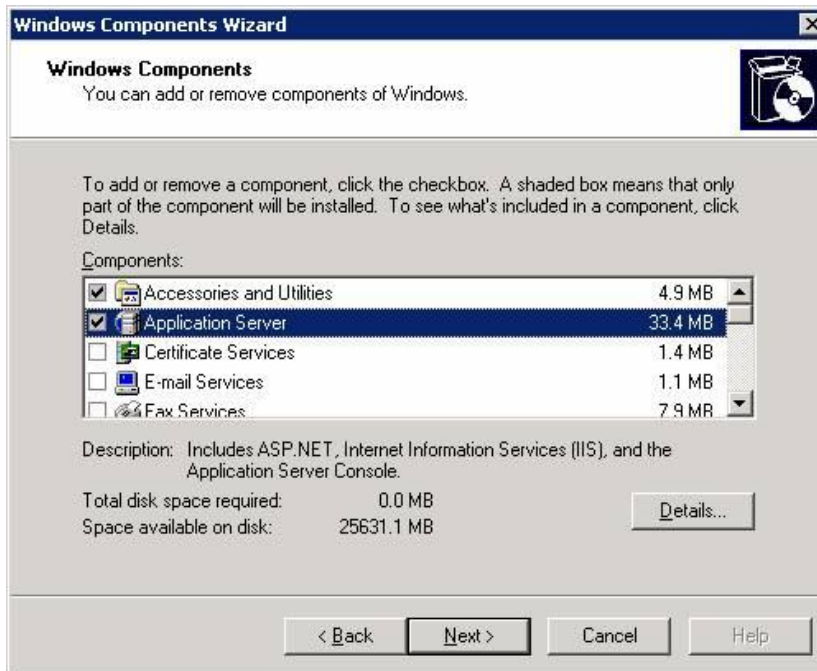
5) Select **Internet Information Services (IIS)** and click **Details** (Figure 29).

Figure 29: Application Server
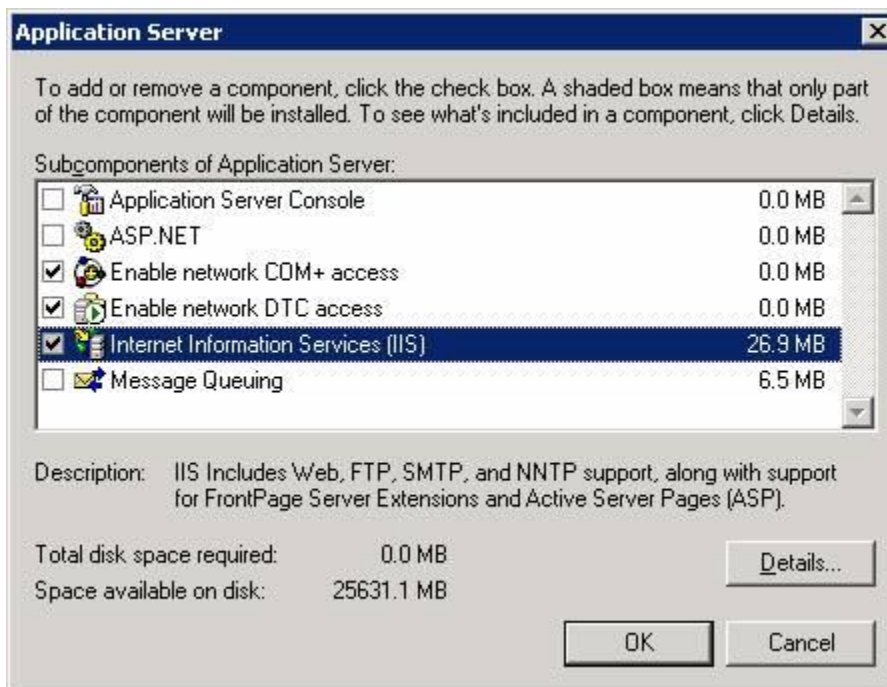
6) Clear the File Transfer Protocol (FTP) Service check box and click **OK** (Figure 30).

Figure 30: Internet Information Services (IIS)
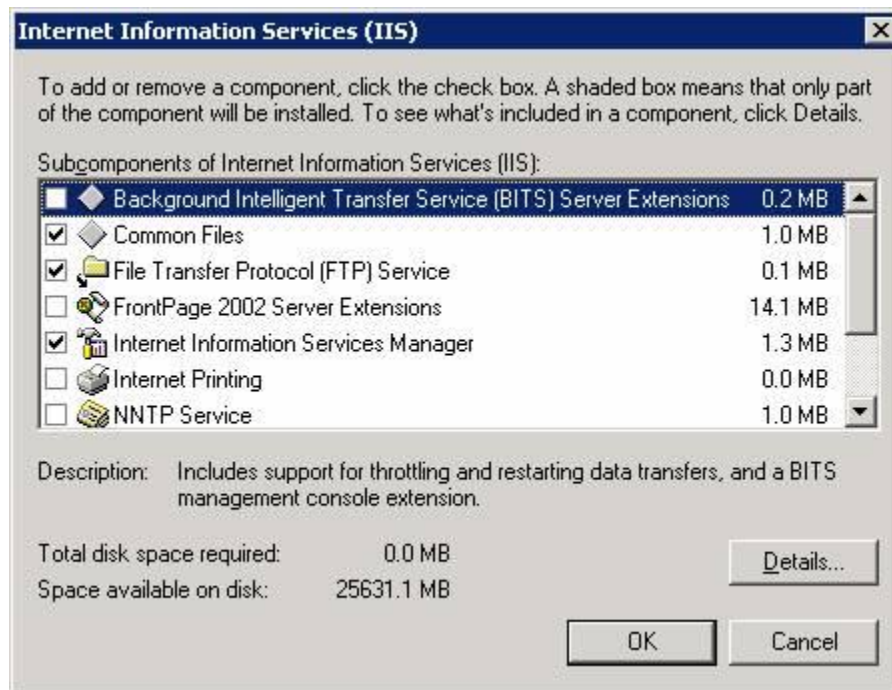
7) Click **OK** (Figure 31).

Figure 31: Application Server
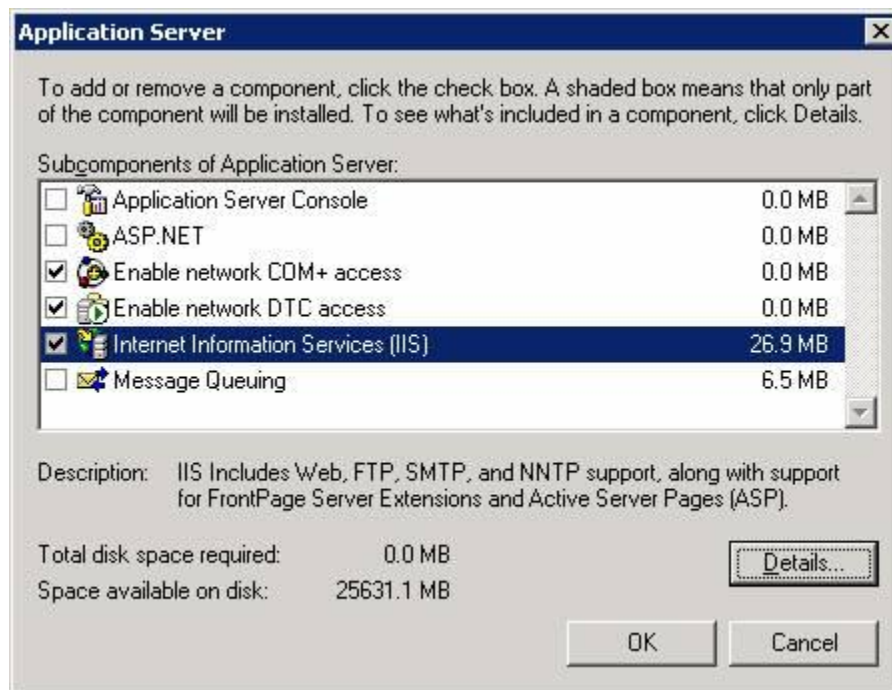
8) Click **Next**. (Figure 32)

Figure 32: Windows Components Wizard
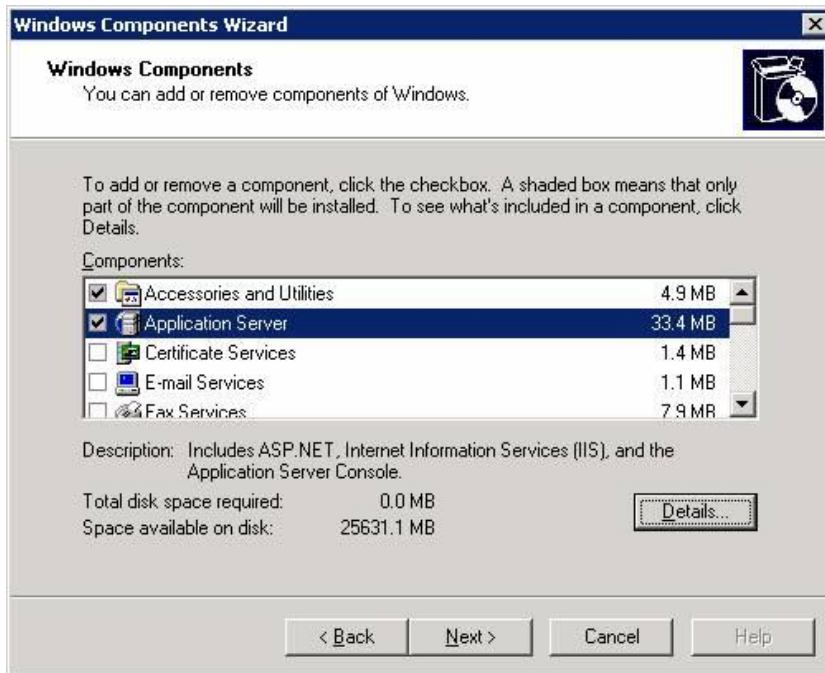
9) Click **Finish** (Figure 33).

Figure 33: Completing the Windows Components Wizard

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Known Defects and Anomalies

None

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Glossary

Acronym, Term	Definition
Access Code	A field in the VistA New Person file used to uniquely identify a user on the VistA system.
ADPAC	Automated Data Processing Application Coordinator.
Antibody	A protein in the serum of some people that will react to a specific antigen on the blood cells. *In the case of a red blood cell transfusion, a patient with a clinically significant (leading to a transfusion reaction and possible patient harm) identified antibody must receive only red cells that are typed and found negative for the associated antigen. Once a clinically significant antibody is identified, antigen-negative cells must always be transfused even if a current specimen no longer shows the presence of the antibody.*
Antigen	A substance on the surface of a red cell that stimulates an immune response (formation of an antibody).
Checksum	A numerical representation of a routine as calculated by the CHECK^XTSUMBLD utility in VistA.
Database	A collection of data arranged for ease and speed of retrieval.
DCL	Digital Command Language.
DFN	The internal entry number of a record in the PATIENT (#2) file.
DTS	Data Transformation Services. A feature in SQL Server 2000 that provides functionality to import, export, and transform data.
DUZ	A variable name, used within VistA, assigned a numerical value internally unique to the current user.
File	Source code, data, and documentation.
FTP	File Transfer Protocol.
IA	Integration Agreement.
INT	Integer (whole number) data from -2^{31} (-2,147,483,648) through $2^{31} - 1$ (2,147,483,647).
IP Address	An IP address (Internet Protocol address) is a unique number that devices use in order to identify and communicate with each other on a network utilizing the Internet Protocol standard.
IRM	Information Resource Management.
IT	Information Technology.
Rh	Rhesus factor.
Rhesus factor	Any of one or more genetically determined antigens usually present in the red blood cells of humans and higher animals and capable of inducing intense immunogenic reactions.
VA	Department of Veterans Affairs.
VA FileMan	The VistA database management system.
VARCHAR	Variable-length non-Unicode data with a maximum of 8,000 characters.
VBECS	VistA Blood Establishment Computer Software.
Verify Code	A field in the VistA New Person file used to verify the identity of a user associated with an Access Code.

Acronym, Term	Definition
VistA	Veterans Health Information Systems and Technology Architecture.
VMS	Virtual Memory System. A high-end computer operating system that runs on the VAX and Alpha family of computers developed by Digital Equipment Corporation.

Appendices

Appendix A: Example of C:\DBConv\DTS Folder

Figure 34: Example of the Contents of the C:\DBCONV\DTS Folder on the VBECS Server
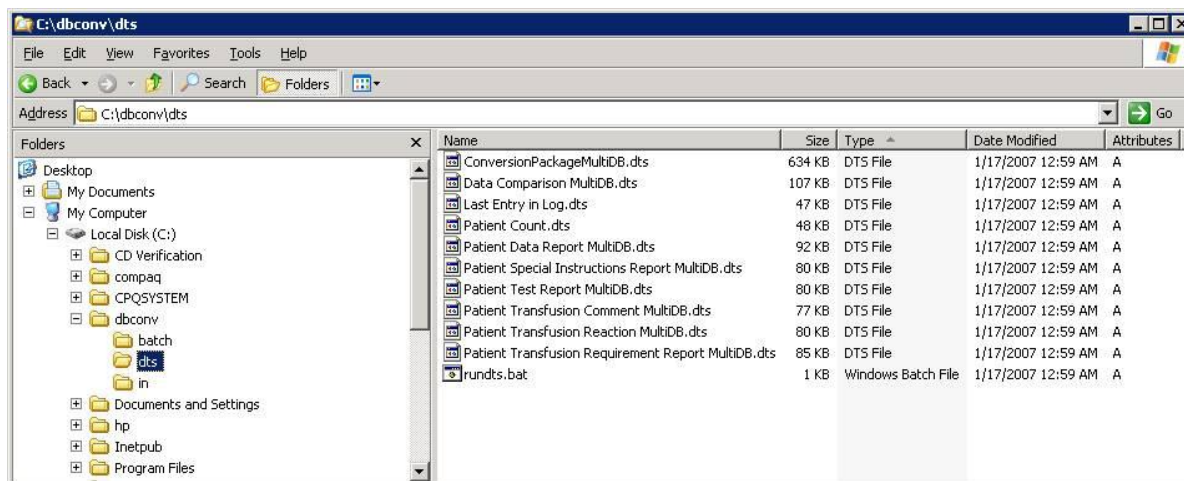
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Appendix B: Example of DCL Command Procedure

This is an example of the display from the execution of the DCL command procedure.

Figure 35: Example of DCL Command Execution

```
$ @VBECSBATCH
I.P. Address: 10.3.21.27
Username: VHA99\VHAnnnNTNAME
Password will not echo to screen
Password:

Starting:  4-APR-2007 09:49:19.31


220-Microsoft FTP Service
220 VBECS Server. Federal property. Don't tamper.
Connected to vhaishmul6.vha.med.va.gov.
331 Password required for DBCONV.
230 User DBCONV logged in.
200 Type set to A.
200 PORT command successful.
local: $1$DGA2:[TEMP]DBCONV.INI;1  remote: dbconv.ini
272750 bytes sent in 00:00:00.01 seconds (48 bytes/s)
200 PORT command successful.
150 Opening ASCII mode data connection for vbec63_ai.txt.
226 Transfer complete.
local: $1$DGA2:[TEMP]VBEC63_AI.TXT;1  remote: vbec63_ai.txt
1479 bytes sent in 00:00:00.00 seconds (1444.34 Kbytes/s)
200 PORT command successful.
150 Opening ASCII mode data connection for vbec63_antia.txt.
226 Transfer complete.
local: $1$DGA2:[TEMP]VBEC63_ANTIA.TXT;1  remote: vbec63_antia.txt
118 bytes sent in 00:00:00.00 seconds (115.23 Kbytes/s)
200 PORT command successful.
150 Opening ASCII mode data connection for vbec63_antip.txt.
226 Transfer complete.
local: $1$DGA2:[TEMP]VBEC63_ANTIP.TXT;1  remote: vbec63_antip.txt
48 bytes sent in 00:00:00.00 seconds (46.88 Kbytes/s)
200 PORT command successful.
150 Opening ASCII mode data connection for vbec63_bbc.txt.
226 Transfer complete.
local: $1$DGA2:[TEMP]VBEC63_BBC.TXT;1  remote: vbec63_bbc.txt
5975 bytes sent in 00:00:00.00 seconds (5834.96 Kbytes/s)
200 PORT command successful.
150 Opening ASCII mode data connection for vbec63_pat.txt.
226 Transfer complete.
local: $1$DGA2:[TEMP]VBEC63_PAT.TXT;1  remote: vbec63_pat.txt
272750 bytes sent in 00:00:00.03 seconds (7198.85 Kbytes/s)
200 PORT command successful.
150 Opening ASCII mode data connection for vbec63_trc.txt.
226 Transfer complete.
local: $1$DGA2:[TEMP]VBEC63_TRC.TXT;1  remote: vbec63_trc.txt
57 bytes sent in 00:00:00.00 seconds (55.66 Kbytes/s)
```

```
200 PORT command successful.
150 Opening ASCII mode data connection for vbec63_trd.txt.
226 Transfer complete.
local: $1$DGA2:[TEMP]VBEC63_TRD.TXT;1  remote: vbec63_trd.txt
34 bytes sent in 00:00:00.00 seconds (33.20 Kbytes/s)
200 PORT command successful.
150 Opening ASCII mode data connection for vbec_finis.txt.
226 Transfer complete.
local: $1$DGA2:[TEMP]VBEC_FINIS.TXT;1  remote: vbec_finis.txt
299344 bytes sent in 00:00:00.03 seconds (8597.89 Kbytes/s)
221
Completed:  4-APR-2007 09:49:21.02
```

Appendix C: Example of DTSRUN

Run the DTS Package. The DTSRUN command will extract the data to be converted from the VistA datafiles and place it in text files for conversion to VBECS (Figure 36).

Figure 36: Run the DTS Package
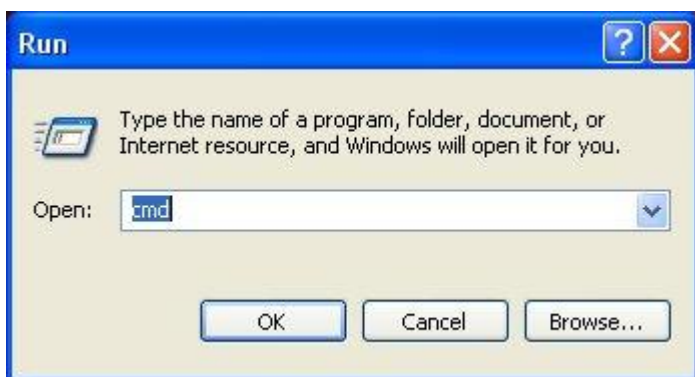
Figure 37: Example of DTSRUN Execution

```
Microsoft Windows XP [Version 5.1.2600]

(C) Copyright 1985-2001 Microsoft Corp.


C:\DBConv\DTS>dtsrun /f conversionpackagemultidb.dts
DTSRun:  Loading...
DTSRun:  Executing...
DTSRun OnStart:  DTSStep_DTSDynamicPropertiesTask_1
DTSRun OnFinish:  DTSStep_DTSDynamicPropertiesTask_1
DTSRun OnStart:  DTSStep_DTSCreateProcessTask_1
DTSRun OnFinish:  DTSStep_DTSCreateProcessTask_1
DTSRun OnStart:  DTSStep_DTSCreateProcessTask_2
        1 file(s) copied.
DTSRun OnFinish:  DTSStep_DTSCreateProcessTask_2
DTSRun OnStart:  DTSStep_DTSExecuteSQLTask_17
DTSRun OnFinish:  DTSStep_DTSExecuteSQLTask_17
DTSRun OnStart:  DTSStep_DTSExecuteSQLTask_1
DTSRun OnFinish:  DTSStep_DTSExecuteSQLTask_1
DTSRun OnStart:  DTSStep_DTSExecuteSQLTask_2
DTSRun OnFinish:  DTSStep_DTSExecuteSQLTask_2
DTSRun OnStart:  DTSStep_DTSExecuteSQLTask_3
DTSRun OnFinish:  DTSStep_DTSExecuteSQLTask_3
DTSRun OnStart:  DTSStep_DTSExecuteSQLTask_4
DTSRun OnFinish:  DTSStep_DTSExecuteSQLTask_4
DTSRun OnStart:  DTSStep_DTSExecuteSQLTask_5
DTSRun OnFinish:  DTSStep_DTSExecuteSQLTask_5
DTSRun OnStart:  DTSStep_DTSExecuteSQLTask_6
DTSRun OnFinish:  DTSStep_DTSExecuteSQLTask_6
DTSRun OnStart:  DTSStep_DTSExecuteSQLTask_7
DTSRun OnFinish:  DTSStep_DTSExecuteSQLTask_7
DTSRun OnStart:  DTSStep_DTSExecuteSQLTask_8
DTSRun OnFinish:  DTSStep_DTSExecuteSQLTask_8
```

```
DTSRun OnStart:  DTSStep_DTSExecuteSQLTask_9
DTSRun OnFinish:  DTSStep_DTSExecuteSQLTask_9
DTSRun OnStart:  DTSStep_DTSExecuteSQLTask_10
DTSRun OnFinish:  DTSStep_DTSExecuteSQLTask_10
DTSRun OnStart:  DTSStep_DTSExecuteSQLTask_11
DTSRun OnFinish:  DTSStep_DTSExecuteSQLTask_11
DTSRun OnStart:  DTSStep_DTSExecuteSQLTask_12
DTSRun OnFinish:  DTSStep_DTSExecuteSQLTask_12
DTSRun OnStart:  DTSStep_DTSExecuteSQLTask_13
DTSRun OnFinish:  DTSStep_DTSExecuteSQLTask_13
DTSRun OnStart:  DTSStep_DTSExecuteSQLTask_14
DTSRun OnFinish:  DTSStep_DTSExecuteSQLTask_14
DTSRun OnStart:  DTSStep_DTSExecuteSQLTask_15
DTSRun OnFinish:  DTSStep_DTSExecuteSQLTask_15
DTSRun OnStart:  DTSStep_DTSExecuteSQLTask_16
DTSRun OnFinish:  DTSStep_DTSExecuteSQLTask_16
DTSRun OnStart:  DTSStep_DTSExecuteSQLTask_18
DTSRun OnFinish:  DTSStep_DTSExecuteSQLTask_18
DTSRun OnStart:  DTSStep_DTSExecutePackageTask_1
DTSRun OnProgress:  DTSStep_DTSExecutePackageTask_1; Copy Data from Results
to Results Step: 1000 Rows have been transformed or copied.; PercentComplete
= 0; ProgressCount = 1000
DTSRun OnProgress:  DTSStep_DTSExecutePackageTask_1; Copy Data from Results
to Results Step: 2000 Rows have been transformed or copied.; PercentComplete
= 0; ProgressCount = 2000
DTSRun OnProgress:  DTSStep_DTSExecutePackageTask_1; Copy Data from Results
to Results Step: 3000 Rows have been transformed or copied.; PercentComplete
= 0; ProgressCount = 3000
DTSRun OnProgress:  DTSStep_DTSExecutePackageTask_1; Copy Data from Results
to Results Step: 4000 Rows have been transformed or copied.; PercentComplete
= 0; ProgressCount = 4000
DTSRun OnProgress:  DTSStep_DTSExecutePackageTask_1; Copy Data from Results
to Results Step: 5000 Rows have been transformed or copied.; PercentComplete
= 0; ProgressCount = 5000
DTSRun OnProgress:  DTSStep_DTSExecutePackageTask_1; Copy Data from Results
to Results Step: 6000 Rows have been transformed or copied.; PercentComplete
= 0; ProgressCount = 6000
DTSRun OnProgress:  DTSStep_DTSExecutePackageTask_1; Copy Data from Results
to Results Step: 7000 Rows have been transformed or copied.; PercentComplete
= 0; ProgressCount = 7000
DTSRun OnProgress:  DTSStep_DTSExecutePackageTask_1; Copy Data from Results
to Results Step: 8000 Rows have been transformed or copied.; PercentComplete
= 0; ProgressCount = 8000
DTSRun OnProgress:  DTSStep_DTSExecutePackageTask_1; Copy Data from Results
to Results Step: 9000 Rows have been transformed or copied.; PercentComplete
= 0; ProgressCount = 9000
DTSRun OnProgress:  DTSStep_DTSExecutePackageTask_1; Copy Data from Results
to Results Step: 10000 Rows have been transformed or copied.; PercentComplete
= 0; ProgressCount = 10000
DTSRun OnProgress:  DTSStep_DTSExecutePackageTask_1; Copy Data from Results
to Results Step: 11000 Rows have been transformed or copied.; PercentComplete
= 0; ProgressCount = 11000
```

```
DTSRun OnProgress:  DTSStep_DTSExecutePackageTask_1; Copy Data from Results
to Results Step: 12000 Rows have been transformed or copied.; PercentComplete
= 0; ProgressCount = 12000
DTSRun OnProgress:  DTSStep_DTSExecutePackageTask_1; Copy Data from Results
to Results Step: 13000 Rows have been transformed or copied.; PercentComplete
= 0; ProgressCount = 13000
DTSRun OnProgress:  DTSStep_DTSExecutePackageTask_1; Copy Data from Results
to Results Step: 14000 Rows have been transformed or copied.; PercentComplete
= 0; ProgressCount = 14000
DTSRun OnProgress:  DTSStep_DTSExecutePackageTask_1; Copy Data from Results
to Results Step: 15000 Rows have been transformed or copied.; PercentComplete
= 0; ProgressCount = 15000
DTSRun OnProgress:  DTSStep_DTSExecutePackageTask_1; Copy Data from Results
to Results Step: 16000 Rows have been transformed or copied.; PercentComplete
= 0; ProgressCount = 16000
DTSRun OnProgress:  DTSStep_DTSExecutePackageTask_1; Copy Data from Results
to Results Step: 17000 Rows have been transformed or copied.; PercentComplete
= 0; ProgressCount = 17000
DTSRun OnProgress:  DTSStep_DTSExecutePackageTask_1; Copy Data from Results
to Results Step: 18000 Rows have been transformed or copied.; PercentComplete
= 0; ProgressCount = 18000
DTSRun OnProgress:  DTSStep_DTSExecutePackageTask_1; Copy Data from Results
to Results Step: 19000 Rows have been transformed or copied.; PercentComplete
= 0; ProgressCount = 19000
DTSRun OnProgress:  DTSStep_DTSExecutePackageTask_1; Copy Data from Results
to Results Step: 20000 Rows have been transformed or copied.; PercentComplete
= 0; ProgressCount = 20000
DTSRun OnProgress:  DTSStep_DTSExecutePackageTask_1; Copy Data from Results
to Results Step: 21000 Rows have been transformed or copied.; PercentComplete
= 0; ProgressCount = 21000
DTSRun OnProgress:  DTSStep_DTSExecutePackageTask_1; Copy Data from Results
to Results Step: 22000 Rows have been transformed or copied.; PercentComplete
= 0; ProgressCount = 22000
DTSRun OnProgress:  DTSStep_DTSExecutePackageTask_1; Copy Data from Results
to Results Step: 23000 Rows have been transformed or copied.; PercentComplete
= 0; ProgressCount = 23000
DTSRun OnProgress:  DTSStep_DTSExecutePackageTask_1; Copy Data from Results
to Results Step: 24000 Rows have been transformed or copied.; PercentComplete
= 0; ProgressCount = 24000
DTSRun OnProgress:  DTSStep_DTSExecutePackageTask_1; Copy Data from Results
to Results Step: 25000 Rows have been transformed or copied.; PercentComplete
= 0; ProgressCount = 25000
DTSRun OnProgress:  DTSStep_DTSExecutePackageTask_1; Copy Data from Results
to Results Step: 26000 Rows have been transformed or copied.; PercentComplete
= 0; ProgressCount = 26000
DTSRun OnProgress:  DTSStep_DTSExecutePackageTask_1; Copy Data from Results
to Results Step: 27000 Rows have been transformed or copied.; PercentComplete
= 0; ProgressCount = 27000
DTSRun OnProgress:  DTSStep_DTSExecutePackageTask_1; Copy Data from Results
to Results Step: 27546 Rows have been transformed or copied.; PercentComplete
= 0; ProgressCount = 27546
DTSRun OnFinish:  DTSStep_DTSExecutePackageTask_1
DTSRun OnStart:  DTSStep_DTSExecutePackageTask_2
```

```
DTSRun OnProgress:  DTSStep_DTSExecutePackageTask_2; Copy Data from Results
to Results Step: 1000 Rows have been transformed or copied.; PercentComplete
= 0; ProgressCount = 1000
DTSRun OnProgress:  DTSStep_DTSExecutePackageTask_2; Copy Data from Results
to Results Step: 1966 Rows have been transformed or copied.; PercentComplete
= 0; ProgressCount = 1966
DTSRun OnFinish:  DTSStep_DTSExecutePackageTask_2
DTSRun OnStart:  DTSStep_DTSExecutePackageTask_3
DTSRun OnProgress:  DTSStep_DTSExecutePackageTask_3; Copy Data from Results
to Results Step: 0 Rows have been transformed or copied.; PercentComplete =
0; ProgressCount = 0
DTSRun OnFinish:  DTSStep_DTSExecutePackageTask_3
DTSRun OnStart:  DTSStep_DTSExecutePackageTask_4
DTSRun OnProgress:  DTSStep_DTSExecutePackageTask_4; Copy Data from Results
to Results Step: 4 Rows have been transformed or copied.; PercentComplete =
0; ProgressCount = 4
DTSRun OnFinish:  DTSStep_DTSExecutePackageTask_4
DTSRun OnStart:  DTSStep_DTSExecutePackageTask_5
DTSRun OnProgress:  DTSStep_DTSExecutePackageTask_5; Copy Data from Results
to Results Step: 135 Rows have been transformed or copied.; PercentComplete =
0; ProgressCount = 135
DTSRun OnFinish:  DTSStep_DTSExecutePackageTask_5
DTSRun OnStart:  DTSStep_DTSExecutePackageTask_6
DTSRun OnProgress:  DTSStep_DTSExecutePackageTask_6; Copy Data from Results
to Results Step: 306 Rows have been transformed or copied.; PercentComplete =
0; ProgressCount = 306
DTSRun OnFinish:  DTSStep_DTSExecutePackageTask_6
DTSRun OnStart:  DTSStep_DTSExecutePackageTask_7
DTSRun OnProgress:  DTSStep_DTSExecutePackageTask_7; Copy Data from
TempVBECSDataComparison to TempVBECSDataComparison Step: 1 Rows have been
transformed or copied.; PercentComplete = 0; ProgressCount = 1
DTSRun OnFinish:  DTSStep_DTSExecutePackageTask_7
DTSRun OnStart:  DTSStep_DTSExecuteSQLTask_19
DTSRun OnFinish:  DTSStep_DTSExecuteSQLTask_19
DTSRun OnStart:  DTSStep_DTSExecutePackageTask_9
DTSRun OnFinish:  DTSStep_DTSExecutePackageTask_9
DTSRun:  Package execution complete.

C:\DBConv\DTS>
```

Figure 38: Successful Conversion

Congratulations! 27546 Patient Records were converted in VBECS_V1_PROD

OK

Appendix D: Database Table Information

The TempDataConversionVistARecordDetail table will be created with the data definitions in Table 2.

Table 2: Data Conversion VistA Record Detail Table Data Definitions

Column	Data Type
LRDFN	Int
DFN	Int
LastName	Int
FirstName	Int
MiddleName	Int
NameSuffix	Int
Sex	Int
DOB	Int
SSN	Int
ICN	Int
ABO	Int
RHFactor	Int
AntigensPresentQuantity	Int
AntigensPresentCommentQuantity	Int
AntigensPresentCommentLength	Int
AntigensAbsentQuantity	Int
AntigensAbsentCommentQuantity	Int
AntigensAbsentCommentLength	Int
AntibodiesIdentifiedQuantity	Int
AntibodiesIdentifiedCommentQuantity	Int
AntibodiesIdentifiedLength	Int
TransfusionReactionDateQuantity	Int
TransfusionReactionQuantity	Int
TransfusionReactionCommentQuantity	Int
TransfusionReactionCommentLength	Int
BloodBankCommentsQuantity	Int
BloodBankCommentsLength	Int

The TempDataConversionVistARecordTotals table will be created with the data definitions in Table 3.

Table 3: Data Conversion VistA Record Totals Table Data Definitions

Column	Data Type
LRDFN	Int
DFN	Int
LastName	Int
FirstName	Int
MiddleName	Int
NameSuffix	Int
Sex	Int
DOB	Int
SSN	Int
ICN	Int
ABO	Int
RHFactor	Int
AntigensPresentQuantity	Int
AntigensPresentCommentQuantity	Int
AntigensPresentCommentLength	Int
AntigensAbsentQuantity	Int

Column	Data Type
AntigensAbsentCommentQuantity	Int
AntigensAbsentCommentLength	Int
AntibodiesIdentifiedQuantity	Int
AntibodiesIdentifiedCommentQuantity	Int
AntibodiesIdentifiedLength	Int
TransfusionReactionDateQuantity	Int
TransfusionReactionQuantity	Int
TransfusionReactionCommentQuantity	Int
TransfusionReactionCommentLength	Int
BloodBankCommentsQuantity	Int
BloodBankCommentsLength	Int

The final record in the vbec63_finis.txt file contains the totals for all records extracted from the VistA database. This record (both the LRDFN and DFN will be "0" for this record in the TempDataConversionVistARecordDetails table) will be used to populate the TempDataConversionVBECSRecordTotals table and then be removed from the TempDataConversionVBECSRecordDetails table.

The TempDataConversionVBECSRecordDetail table will be created with the data definitions in Table 4.

Table 4: Data Conversion VBECS Record Details Table Data Definitions

Column	Data Type
LRDFN	Int
DFN	Int
LastName	Int
FirstName	Int
MiddleName	Int
NameSuffix	Int
Sex	Int
DOB	Int
SSN	Int
ICN	Int
ABO	Int
RHFactor	Int
AntigensPresentQuantity	Int
AntigensPresentCommentQuantity	Int
AntigensPresentCommentLength	Int
AntigensAbsentQuantity	Int
AntigensAbsentCommentQuantity	Int
AntigensAbsentCommentLength	Int
AntibodiesIdentifiedQuantity	Int
AntibodiesIdentifiedCommentQuantity	Int
AntibodiesIdentifiedLength	Int
TransfusionReactionDateQuantity	Int
TransfusionReactionQuantity	Int
TransfusionReactionCommentQuantity	Int
TransfusionReactionCommentLength	Int
BloodBankCommentsQuantity	Int
BloodBankCommentsLength	Int

The TempDataConversionVBECSRecordDetail table will be populated from the sources in Table 5.

Table 5: Data Conversion VBECS Record Details Source SQL Tables

Destination Column	Source Column	Source Table
LRDFN	PtntLRDFN	TempVBECPatient
DFN	VistaPatientID	TempVBECPatient
LastName	PatientLastName	TempVBECPatient
FirstName	PatientFirstName	TempVBECPatient
MiddleName	PatientMiddleName	TempVBECPatient
NameSuffix	PatientNameSuffix	TempVBECPatient
Sex	PatientSexCode	TempVBECPatient
DOB	PatientDOB	TempVBECPatient
SSN	PatientSSN	TempVBECPatient
ICN	PatientICN	TempVBECPatient
ABO	BloodTypeCode	TempVBECPatient
RHFactor	RHFactorCode	TempVBECPatient
AntigensPresentQuantity	AntigenPresentCode	TempPatientAntigenPresent
AntigensPresentCommentQuantity	AntigenPresentComment	TempPatientAntigenPresent
AntigensPresentCommentLength	AntigenPresentComment	TempPatientAntigenPresent
AntigensAbsentQuantity	AntigenAbsentCode	TempPatientAntigenAbsent
AntigensAbsentCommentQuantity	AntigenAbsentComment	TempPatientAntigenAbsent
AntigensAbsentCommentLength	AntigenAbsentComment	TempPatientAntigenAbsent
AntibodiesIdentifiedQuantity	AntibodyIdentifiedCode	TempPatientAntibodyIdentified
AntibodiesIdentifiedCommentQuantity	AntibodyIdentifiedComment	TempPatientAntibodyIdentified
AntibodiesIdentifiedLength	AntibodyIdentifiedComment	TempPatientAntibodyIdentified
TransfusionReactionDateQuantity	TransfusionReactionDate	TempPatientTransfusionReactionDate
TransfusionReactionQuantity	TransfusionReactionTypeGUID	TempPatientTransfusionReactionDate
BloodBankCommentsQuantity	Comment	TempVBECSSpecialInstructions
BloodBankCommentsLength	Comment	TempVBECSSpecialInstructions

The TempDataConversionVBECSRecordTotal table will be created with the data definitions in Table 6.

Table 6: Data Conversion VBECS Record Totals Table Data Definitions

Column	Data Type
LRDFN	Int
DFN	Int
LastName	Int
FirstName	Int
MiddleName	Int
NameSuffix	Int
Sex	Int
DOB	Int
SSN	Int
ICN	Int
ABO	Int
RHFactor	Int
AntigensPresentQuantity	Int
AntigensPresentCommentQuantity	Int
AntigensPresentCommentLength	Int
AntigensAbsentQuantity	Int
AntigensAbsentCommentQuantity	Int
AntigensAbsentCommentLength	Int
AntibodiesIdentifiedQuantity	Int
AntibodiesIdentifiedCommentQuantity	Int

Column	Data Type
AntibodiesIdentifiedLength	Int
TransfusionReactionDateQuantity	Int
TransfusionReactionQuantity	Int
TransfusionReactionCommentQuantity	Int
TransfusionReactionCommentLength	Int
BloodBankCommentsQuantity	Int
BloodBankCommentsLength	Int

The TempDataConversionVBECSRecordTotal table will be populated from the sources in Table 7.

Table 7: Data Conversion VBECS Record Totals Source SQL Tables

Destination Column	Source Column	Source Table
LRDFN	PtntLRDFN	TempVBECPatient
DFN	VistaPatientID	TempVBECPatient
LastName	PatientLastName	TempVBECPatient
FirstName	PatientFirstName	TempVBECPatient
MiddleName	PatientMiddleName	TempVBECPatient
NameSuffix	PatientNameSuffix	TempVBECPatient
Sex	PatientSexCode	TempVBECPatient
DOB	PatientDOB	TempVBECPatient
SSN	PatientSSN	TempVBECPatient
ICN	PatientICN	TempVBECPatient
ABO	BloodTypeCode	TempVBECPatient
RHFactor	RHFactorCode	TempVBECPatient
AntigensPresentQuantity	AntigenPresentCode	TempPatientAntigenPresent
AntigensPresentCommentQuantity	AntigenPresentComment	TempPatientAntigenPresent
AntigensPresentCommentLength	AntigenPresentComment	TempPatientAntigenPresent
AntigensAbsentQuantity	AntigenAbsentCode	TempPatientAntigenAbsent
AntigensAbsentCommentQuantity	AntigenAbsentComment	TempPatientAntigenAbsent
AntigensAbsentCommentLength	AntigenAbsentComment	TempPatientAntigenAbsent
AntibodiesIdentifiedQuantity	AntibodyIdentifiedCode	TempPatientAntibodyIdentified
AntibodiesIdentifiedCommentQuantity	AntibodyIdentifiedComment	TempPatientAntibodyIdentified
AntibodiesIdentifiedLength	AntibodyIdentifiedComment	TempPatientAntibodyIdentified
TransfusionReactionDateQuantity	TransfusionReactionDate	TempPatientTransfusionReactionDate
TransfusionReactionQuantity	TransfusionReactionTypeGUID	TempPatientTransfusionReactionDate
BloodBankCommentsQuantity	Comment	TempVBECSSpecialInstructions
BloodBankCommentsLength	Comment	TempVBECSSpecialInstructions

The columns in the TempDataConversionVBECSRecordDetail and the TempDataConversionVistARecordDetail tables will be used to create a report detailing differences between the two as shown in Table 8.

Table 8: Record Detail Comparison Report Table Data Definitions

TempDataConversionVBECSRecordDetail	TempDataConversionVISTARecordDetail
LRDFN	LRDFN
LastName	LastName
FirstName	FirstName
MiddleName	MiddleName
NameSuffix	NameSuffix
Sex	Sex
DOB	DOB
SSN	SSN
ICN	ICN
ABO	ABO
RHFactor	RHFactor
AntigensPresentQuantity	AntigensPresentQuantity
AntigensPresentCommentQuantity	AntigensPresentCommentQuantity
AntigensPresentCommentLength	AntigensPresentCommentLength
AntigensAbsentQuantity	AntigensAbsentQuantity
AntigensAbsentCommentQuantity	AntigensAbsentCommentQuantity
AntigensAbsentCommentLength	AntigensAbsentCommentLength
AntibodiesIdentifiedQuantity	AntibodiesIdentifiedQuantity
AntibodiesIdentifiedCommentQuantity	AntibodiesIdentifiedCommentQuantity
AntibodiesIdentifiedLength	AntibodiesIdentifiedLength
TransfusionReactionDateQuantity	TransfusionReactionDateQuantity
TransfusionReactionQuantity	TransfusionReactionQuantity
TransfusionReactionCommentQuantity	TransfusionReactionCommentQuantity
TransfusionReactionCommentLength	TransfusionReactionCommentLength
BloodBankCommentsLength	BloodBankCommentsLength

The TempVBECSDataComparison table will be created with the data definitions in Table 9.

Table 9: VBECS Data Comparison Table Data Definitions

Column	Data Type
LastNameMismatch	varchar(50)
FirstNameMisMatch	varchar(50)
MiddleNameMisMatch	varchar(50)
NameSuffixMisMatch	varchar(50)
SexMisMatch	varchar(50)
DOBMisMatch	varchar(50)
SSNMisMatch	varchar(50)
ICNMisMatch	varchar(50)
ABOMisMatch	varchar(50)
RHFactorMisMatch	varchar(50)
AntigensPresentQuantityMisMatch	varchar(50)
AntigensPresentCommentQuantityMisMatch	varchar(50)
AntigensPresentCommentLengthMisMatch	varchar(50)
AntigensAbsentQuantityMisMatch	varchar(50)
AntigensAbsentCommentQuantityMismatch	varchar(50)
AntigensAbsentCommentLengthMisMatch	varchar(50)
AntibodiesIdentifiedQuantityMisMatch	varchar(50)
AntibodiesIdentifiedCommentQuantityMisMatch	varchar(50)

Column	Data Type
AntibodiesIdentifiedLengthMisMatch	varchar(50)
TransfusionReactionDateQuantityMisMatch	varchar(50)
TransfusionReactionQuantityMisMatch	varchar(50)
TransfusionReactionCommentQuantityMisMatch	varchar(50)
TransfusionReactionCommentLengthMisMatch	varchar(50)
BloodBankCommentsLengthMisMatch	varchar(50)

Table 10 will list differences between the TempDataConversionVBECSRecordDetail and the TempDataConversionVistARecordDetail tables. This example was truncated for clarity: each column in the TempVBECSDataComparison will be populated.

Table 10: Example of VBECS Data Comparison Table

LRDFN	MiddleNameM isMatch	AntigensPres entQuantityMi sMatch	AntibodiesIde ntifiedLength MisMatch	TransfusionR eactionQuanti tyMisMatch
1451	None	0 <VBECS--VISTA> 3	None	None
1278	None	None	None	7 <VBECS--VISTA> 0
15094	None	None	33 <VBECS--VISTA> 0	None
9167	1 <VBECS--VISTA> 0	None	None	None

Appendix E: Example of C:\DBConv Excel File Location

Example of the Contents of the C:\DBCONV Folder on the VBECS Server. These files will be used during the data validation and were created by the DTSRUN shown in Appendix C: Example of DTSRUN (Figure 39).

Figure 39: Example of C:\DBConv Excel File Location

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