Cabinet for Health and Family Services  
Department for Medicaid Services

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</tr>
<tr>
<td>Reviewer</td>
<td>EDS Implementation leads, PMO</td>
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<td>EDS Management</td>
<td>Glenn Jennings</td>
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<td>Client</td>
<td>Commissioner Elizabeth Johnson</td>
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<td>Claims Division Director Rhonda Poston</td>
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<td>Executive Director/CIO Lorna S. Jones</td>
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<td>Chief Technical Officer Sandeep Kapoor</td>
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**DELIVERABLE TITLE:** KY MMIS System Operating Procedures User Manual  
**DATE SUBMITTED:** June 24, 2008

**FILE NAME:**  
**AUTHORING TOOL:** MSWord2003
# Document Change Log

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1 Introduction

This manual details the Operating Procedures of the new Kentucky Medicaid Management Information System (KY MMIS). The production operating procedures for the new KY MMIS have been developed but may be added to, or updated, after the new KY MMIS is in production. As these processes and procedures change, the sections in this manual will be updated to reflect the production processes being followed and maintained.
2 Overview

The KY MMIS System Operating Procedures User Manual is oriented toward the activities and tasks that occur to maintain and operate the KY MMIS. For information about processes which occur in the individual KY MMIS subsystems, please refer to the subsystem-specific user manuals listed in section 2.1.1.

2.1 Supporting/Supplemental Documentation

The System Operating Procedures User Manual details the processes and procedures used in data processing operations within all subsystems.

This document complements and/or references, where applicable:

2.1.1 User Manuals
- Member User Manual;
- Provider User Manual;
- Third Party Liability User Manual;
- EPDST User Manual;
- Reference User Manual;
- Benefits Administration User Manual;
- Financial User Manual;
- Claims User Manual;
- Service Authorization User Manual;
- SUR User Manual;
- MAR User Manual;
- DSS User Manual;
- Quality Assurance and Audits User Manual;
- MEUPS User Manual;
- OnBase User Manual; and,

2.1.2 Departmental Operating Procedures Manuals

Each department maintains operating procedure manuals pertinent to its functional area. These will be available via PWB when complete.
2.1.3 Project Workbook (PWB)
Additionally, Project Workbook serves as a reference point for staff who are responsible for executing the tasks described in this manual. The manuals referenced in section 2.1.1 are available on the PWB.
3 Processing Schedules

The processing calendars and matrices show the following:

- When certain jobs are scheduled to run;
- What type of cycle is run on specific days: and
- Calendar of scheduled events.

3.1 Processing Matrices

Processing schedule/matrix information is located on the Project Workbook and can be accessed from the Cycle page:

https://ddipwb.kymmis.com/KYXIXDDI/subsystem/cycle/

Or by accessing the PWB and clicking the “Cycle” link on the blue bar on the left side of the home page, as shown below.

3.2 Cycle Types

Cycles are listed by the following types/names:

- Daily Cycles (jobs that run daily either 5 days a week or 7 days a week);
- Weekly Cycles (jobs that run once each week);
- Monthly Cycles (jobs that run once each month, typically at the end of the month);
- Quarterly Cycles (jobs that run once each quarter, typically at the end of the quarter);
- Semi-Annual Cycles (jobs that run twice each year, typically at the end of the quarters two and four);
- Annual Cycles (jobs that run once each year, typically at the end of the year);
- On Request Cycles (jobs that are run by request only); and,
- Holiday Cycles (Cycles that coincide with Commonwealth Holidays).
3.2.1 Cycle Lists
A detailed list of jobs (by cycle type) is available on the PWB at:

https://ddipwb.kymmis.com/KYXIXDDI/subsystem/cycle/

Or by accessing the PWB and clicking the “Cycle” link on the blue bar on the left side of the home page (as shown above). The lists appear under the heading “Processing Matrices” on the “Cycle” page, as shown below.
3.3 Calendar Schedule of Events

In addition to cycles that occur at regular intervals, some processes are scheduled to run on specific dates, such as the Member- Monthly ID card job.

Calendar scheduled items may be referenced on the PWB at:

https://ddipwb.kymmis.com/KYXIXDDI/subsystem/cycle/

Or, access the PWB and click the “Cycle” link on the blue bar on the left side of the home page. The lists appear under the heading “General Cycle Items.”

3.4 Cycle Processing Schedules

Processing matrices are located on the PWB and may be accessed from the Cycle Page under the Processing Matrices heading. See section 3.1.

3.4.1 Daily Cycles

Information on the daily cycles can be located under the Daily Cycles hyperlink. This hyperlink takes the requestor to a listing of all the jobs that run on a daily basis. This includes all jobs that run on a daily basis from Monday through Sunday.

3.4.2 Weekly Cycles

Information on the weekly cycles can be located under the Weekly Cycles hyperlink. This hyperlink takes the requestor to a listing of all the jobs that run on a weekly basis. This includes all jobs that run on a weekly basis regardless of the day.

3.4.3 Monthly Cycles

Information on the monthly cycles can be located under the Monthly Cycles hyperlink. This hyperlink takes the requestor to a listing of all the jobs that run on a monthly basis. This includes all jobs that run on a monthly basis regardless of the day or week of the month.

3.4.4 Quarterly Cycles

Information on the quarterly cycles can be located under the Quarterly Cycles hyperlink. This hyperlink takes the requestor to a listing of all the jobs that run on a quarterly basis.
3.4.5 Semi-Annual Cycles
Information on the semi-annual cycles can be located under the Semi-Annual Cycles hyperlink. This hyperlink takes the requestor to a listing of all the jobs that run on a semi-annual basis.

3.4.6 Annual Cycles
Information on the annual cycles can be located under the Annual Cycles hyperlink. This hyperlink takes the requestor to a listing of all the jobs that run on an annual basis.

3.4.7 On Request Cycles
Information on the on request cycles can be located under the On Request Cycles hyperlink. This hyperlink takes the requestor to a listing of all the jobs that run on an on request basis.

3.4.8 Holiday Cycles
There is no specific holiday cycle schedule as the MMIS system runs on every day including holidays. Some files received from outside vendors will arrive outside the regular schedule due to a holiday, but the MMIS cycles run on holidays.
4 Configuration Management

4.1 Overview

Configuration management from an EDS perspective includes all the activities around receiving, reviewing, designing, coding and implementing changes to the KYMMIS system. Configuration Management refers to the control of changes, including the recording thereof, that are made to the hardware and software throughout the system lifecycle. EDS has a process for executing customer change orders and overall coding standards which govern configuration management, as detailed below. EDS also has procedures for software version control, integration and interoperability, internal and external interfaces, change management, promotions, database promotions, .NET promotions and UNIX promotions; all of which are detailed in this section.

The interChange system has an established work pattern developed for software modifications. This work pattern uses the Systems Life Cycle (SLC) methodology in conjunction with the Configuration Management procedures listed below.

4.2 Change Order Process

4.2.1 Change Order Process Overview

The Technical Design work pattern below lists (at a high level) the tasks necessary to research and identify changes needed for a system object (Pages, Panels, Business Entities, XML files). This work pattern lists the normal steps for creating design deliverables.

<table>
<thead>
<tr>
<th>No</th>
<th>Task</th>
<th>Resources</th>
<th>Who</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>DMS or EDS submit a Change Order (CO)</td>
<td>N/A</td>
<td>DMS staff or EDS staff</td>
</tr>
<tr>
<td>2</td>
<td>DMS coordinator receives CO from requestor and assigns and internal tracking number</td>
<td>N/A</td>
<td>DMS CO Coordinator</td>
</tr>
<tr>
<td>3</td>
<td>CO is sent to EDS</td>
<td>N/A</td>
<td>DMS CO Coordinator</td>
</tr>
<tr>
<td>4</td>
<td>CO delivered to Technical Delivery Team Manager (TDTM)</td>
<td>N/A</td>
<td>Mailroom Delivery</td>
</tr>
<tr>
<td>5</td>
<td>TDTM assigns SE/BA and SA enters in the PWB</td>
<td>Project Work Book</td>
<td>TDTM</td>
</tr>
<tr>
<td>6</td>
<td>CO entered into PWB and CO # assigned on the day of receipt</td>
<td>Project Work Book</td>
<td>SA</td>
</tr>
<tr>
<td>7</td>
<td>Receipt memo to DMS in five business days of receipt of CO</td>
<td>N/A</td>
<td>SA</td>
</tr>
<tr>
<td>8</td>
<td>Refine/Analyze CO specifications received</td>
<td>N/A</td>
<td>BA/SE</td>
</tr>
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</table>
### Commonwealth of Kentucky – MMIS

#### KY MMIS System Operating Procedures User Manual

<table>
<thead>
<tr>
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<th>Task</th>
<th>Resources</th>
<th>Who</th>
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<tr>
<td>9</td>
<td>SE/BA prepare estimate of work for the CO to be sent to DMS in five business days</td>
<td>N/A</td>
<td>SE/BA</td>
</tr>
<tr>
<td>10</td>
<td>Five-day estimate and updated release schedule is sent to DMS within five business days of receipt of CO (occurs concurrently with no. 7)</td>
<td>N/A</td>
<td>SA/TDTM</td>
</tr>
<tr>
<td>11</td>
<td>DMS approves release schedule</td>
<td>N/A</td>
<td>DMS</td>
</tr>
<tr>
<td>12</td>
<td>SE/BA notified to start work on CO</td>
<td>N/A</td>
<td>TDTM</td>
</tr>
<tr>
<td>13</td>
<td>Design – Coding changes</td>
<td>N/A</td>
<td>SE</td>
</tr>
<tr>
<td>14</td>
<td>SE Peer Review and Peer Walkthroughs SE Unit Test</td>
<td>N/A</td>
<td>SE/SE Peers</td>
</tr>
<tr>
<td>15</td>
<td>Model Office testing by BA Acceptance Testing</td>
<td>N/A</td>
<td>BA/DMS</td>
</tr>
<tr>
<td>16</td>
<td>Testing is approved or denied</td>
<td>N/A</td>
<td>DMS</td>
</tr>
<tr>
<td>17</td>
<td>Changes implemented to Production</td>
<td>N/A</td>
<td>SE</td>
</tr>
<tr>
<td>18</td>
<td>Post implementation review</td>
<td>N/A</td>
<td>BA/SE</td>
</tr>
<tr>
<td>19</td>
<td>Close Change Order</td>
<td>Project Work Book</td>
<td>BA/SA</td>
</tr>
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**Acronym Definitions:**

- **DMS** – Department for Medicaid Services
- **SA** – System Administrator
- **TDTM** – Technical Delivery Team Manager
- **SE** – Systems Engineer
- **BA** – Business Analyst
4.2.1.1 Change Order Process Flow Layout

Change Order Process Flow

- DMS or EDS submit a Change Order (CO)
- DMC Coord. receives CO from policy group & assigns internal number
- CO sent to EDS
- CO delivered to Technical Delivery Team Manager (TDTM)
- TDTM assigns SE/BA and BA enters in PWB
- CO entered in PWB and CO # assigned on day of receipt
- Receipt memo to DMS in five business days of receipt of CO
- SE/BA prepare estimate of work for CO to be sent to DMS in five business days
- Five-day estimate and updated release schedule is sent to DMS within five business days of receipt of CO
- DMS approves release schedule
- SE/BA notified to start work on CO
- Refine/Analyze CO & specs recall
- Design - Coding changes
- SE Peer Review and Peer Walkthroughs
  - SE Unit
  - MO testing by BA
  - Acceptance testing
- Testing Denied
- Testing Approved
- Implement (move to production)
- Post Implementation Review (PIR)
- Close Change Order
4.2.2 Change Order Process Documentation
The most current Change Order process information is available to EDS and Commonwealth staff via PWB at this link:


Access the PWB and click the “Developer” drop-down menu on the left side of the blue bar.

Select “Change Orders” from the drop-down menu.
4.3 Coding Standards

The KYMMIS system has developed in a controlled manner throughout the DDI project. EDS has established a set of coding standards for each piece of the interchange system to ensure solution quality within KYMMIS. We will review the location of coding standards for each of the major pieces of the KYMMIS system. Coding standards are available to EDS and Commonwealth staff via the PWB at the following link:


Access the PWB and click the “Help” link on the far right of the black bar.
Click “Training Resources” under Workbook Links.
4.3.1 Online

Online includes all code developed in Visual Studio .NET. The .NET programming standards are accessible via the PWB at this link:


Access the PWB and click the “Help” link on the far right of the black bar.

Click “Training Resources” under Workbook Links.
Click the “interChange CSharp Coding Standards” link under the .NET Training Tools heading on the left.
A message will appear with the option to Open or Save the document. Selecting “Open” will open the Word document in your browser. Selecting “Save” will allow you to save the document to your computer.
4.3.2 Batch

Batch includes C code and all supporting objects necessary to run the C code, such as AutoSys (scheduling tool) updates, job scripts (C shell), sysin (control cards) and so on. There are C programming standards as well as various C, AutoSys, job script training documentation located on the Training Resources Programming Standards page of the PWB at the following link:


Access the PWB and click the “Help” link on the far right of the black bar.

Click “Training Resources” under Workbook Links.
Click the “C Programming Standards” link under the Programming Standards heading on the left side of the page.
4.3.3 Additional Information- Tips and Pointers

System Engineers are encouraged to post information and to review the Tips & Pointers page on the PWB at the following link:

https://ddipwb.kymmis.com/KYXI/XDDI/help/Developer/

Access the PWB and click “Developer” on the far left of the blue bar.
4.4 Software Version Control

This section explains the software version control within interChange. The headings below break down and describe how version control is attained for different applications.

Software updates are done following release schedules that have been approved by DMS. These schedules are located on the Project Workbook and can be accessed from the Testing page. Each environment has a separate schedule to accommodate testing. All Change Orders included in a release may be viewed by clicking on a release number and date.

4.4.1 interChange

Software version control is accomplished in several ways within interChange due to the integration of varied tools and platforms. The headings below break down and describe the ways version control is attained.

4.4.1.1 Database Changes

Movements of database changes are documented on the Project Workbook and can be accessed from the Help page by clicking on Model Office Promotion and then Database Promotion Procedures. The source information for the KYMMIS databases is controlled through the Erwin data modeler software.

4.4.1.2 Data

Movements of database changes are documented on the Project Workbook and can be accessed from the Help page by clicking on Model Office Promotion then Promoting Data to Model Office.

4.4.1.3 Online

The online subsystem has been developed in Visual Studio .NET. The source code for the online subsystem is controlled using Visual SourceSafe version 6.0. The .NET programming standards are located on the PWB. See link in section 4.3.1.

4.4.1.4 Batch

Movement of batch objects is accomplished using the VCTL command. The VCTL command is a comprehensive, straightforward front end to the various utility programs of the Source Code Control System (SCCS) available in the Solaris operating system. Each of the subcommands provided by VCTL actually translates to a series of SCCS commands. Version control is automatically achieved through the promotion process. C source code resides only in the Test environment as the compiled executable code (ubin) is promoted to all environments. Movement of batch code is documented on the Project Workbook and can be accessed from the Help page by clicking on Model Office Promotion and then Promoting system objects to Model Office.

The -h function in VCTL is used to get a version history of changes to a module. The version listing shows all the versions of that module that have been checked into the SCCS system via VCTL. The version numbers along with the line-by-line changes made to that module are stored in a "delta" file inside of SCCS. The significance of this is that it is possible to retrieve from SCCS a copy of any specific version of that module identified with the ‘vctl –h’ command. This ability along with the implementation of SCCS keywords into the interChange executables (which contain the version number) allows the recreation of any executable exactly and without question as to whether the correct source was used. The batch C programming standards are located on the PWB. See link in section 4.3.2.
4.4.2 Ancillary Systems

4.4.2.1 Internet - .NET
The Internet subsystem has been developed with C#, HTML, JavaScript, XML and XSLT. The source code for the internet subsystem is controlled using Source Gear Vault server. The internet programming standards are located on the PWB. See link in section 4.3.1.

4.4.2.2 Automated Voice Response System (AVRS)
The Automated Voice Response system uses interVoice software (a 4GL code generator) that is maintained by the vendor. This software is a 4GL code generator. The AVRS application is maintained in Plano, TX. Modifications are recorded on the PWB and can be accessed from the Tech Design page. Click on AEVS (Automated Eligibility Verification System); click on Call Flows; and one of the following flows:

- VRES (Voice Response Eligibility System) Application Call Flow – Eligibility Verification Call Flow; or,
- TPL Application Call Flow – TPL Spanlink Call Flow.

4.4.2.3 Internet
The internet sites for the Commonwealth have been developed in Visual Studio Interdev. The source code for the internet applications are controlled using Visual SourceSafe version 6.0. The Internet programming standards are located on the PWB at the following link:


Access the PWB and click the “Help” link on the far right of the black bar.

Click “Training Resources” under Workbook Links.
4.4.2.4 OnBase
When change requests come in for OnBase (reports images or other documents), the OnBase administrator creates a new “folder” exports the associated loading components (application group and application) for the folder to production. The existing “folder” is still available to users because it holds data that was previously loaded. OnBase changes to Visual Basic scripts include a modification entry logged at the top of the script describing the change, which modified the code and the date that the change occurred. Information regarding the OnBase system is located on the Project Workbook and can be accessed from the Tech Design page by clicking on Data Capture – Cold.

4.4.2.5 Medicaid Enterprise User Provisioning System (MEUPS)
The MEUPS system has been developed with C#, HTML, JavaScript, XML and XSLT. The source code for the MEUPS system is controlled using Source Gear Vault server.

4.4.2.6 Ad-Hoc Request Query Code
The Ad Hoc request process is detailed in section 5.12 of this document. Please refer to that section for process details. This process should be used for all non-EDS initiated Ad Hoc requests so that they can be appropriately tracked and so that workload can be managed. The code for customer initiated Ad Hoc requests is part of the BusinessObjects query built to gather the data. The SQL used will be maintained as part of the BusinessObjects report document. If changes are made to a BusinessObjects report document and need to be retained separately then the name of the document must be changed and the document must be saved individually.
4.4.3 Oracle

Oracle software may be periodically updated or patched to fix issues discovered during development or production or to stay current with Oracle releases. If it is determined that an upgrade is needed, then certain steps must be followed to ensure minimal impact to the end user, developers and the application.

Oracle provides release notes with each patch or release. These are reviewed to determine what is affected and to determine the steps necessary in performing the upgrade. Some questions of particular interest to consider when preparing for an upgrade are:

Is there an operating system patch needed?

Is it a software only patch?

Is the data dictionary touched?

Each Oracle release and fix patch set has different prerequisites and may employ a variety of methods to implement. Some general steps to follow when evaluating and planning for an Oracle upgrade or patch implementation are:

a. Become familiar with the features of the new release or the problems addressed by the patch set;

b. Assess any system, database and resource prerequisites for the release or patch set;

c. Develop a plan to address all prerequisites prior to upgrading or patching the database software;

d. Choose an implementation method suited to the upgrade or patch requirements and complexity;

e. Prepare a back-out strategy;

f. Prepare a plan to test the upgrade or patch;

g. Set up an area (Oracle home directory) for installing the new release software or patch set in a test environment;

h. Install the new Oracle release software or patch set in a test environment;

i. Implement the upgrade or patch in the databases in the test environment;

j. Test the newly upgraded or patched databases in the test environment until all is confirmed to be stable and working properly;

k. Prepare a plan to implement the upgrade or patch in all remaining environments;

l. Set up an area (Oracle home directory) for installing the new release software or patch set in all remaining environments;

m. Install the new Oracle release software or the patch set in all remaining environments; and,

n. Implement the upgrade or patch in the databases in all remaining environments.
Once the steps required to perform the Oracle upgrade or fix have been determined, any necessary outages are scheduled. If the database availability is affected by the upgrade or fix, the affected databases are backed up prior to applying the upgrade or fix.

Additionally, whenever downtime is required for Oracle upgrades and fixes, the database administrators contact the SE Manager at the EDS account along with other key persons at the account with proposed downtime information. These key EDS account contacts in turn ensure that appropriate account and client personnel are notified and agree to the proposed downtime. The database administrators also coordinate and communicate any necessary database downtime with the EDS support center staff and system support personnel such as the system administrators.

Upgrades are applied to the development/test server first. This provides time to test before applying the changes to the production environment. The time frame for testing can vary, depending upon the reason for the software upgrade and the scope of change in the upgrade.

4.4.4 Sun Hardware
There are only three scenarios that can impact the Sun hardware.

- Hardware failure. In the event of a hardware failure, hardware is replaced by Sun. This is done during a scheduled maintenance window unless the severity is such that immediate action is required;

- Hardware upgrade. When new hardware is purchased, it is installed during a regular maintenance window, unless the installation can be done without impacting the system’s performance; and,

- New firmware and/or recommended patches are released by Sun. Periodically, Sun Microsystems releases new firmware and/or recommended patches. When this happens, maintenance is scheduled and performed during the regular maintenance window.

The following conditions apply in each case:

- All parts, patches and updates are supplied from Sun or an authorized dealer; and,

- Maintenance is performed on the test environment (dskssun0) first, whenever possible.

The evaluation and approval process related to the impact of updates is detailed in section 5.13.

4.5 Integration and Interoperability
This section explains the relationship between platforms and environments within interChange and how they are used to perform testing, development and maintenance of the interChange system. This section also provides a listing of some of the points of integration between the KYMMIS and other entities. The KYMMIS receives input from numerous different sources in order to update files and process claims correctly. Integration with external sources is accomplished through the use of a messaging platform in order to provide a centralized point of integration as well as to ensure security of the KYMMIS itself. EDS is utilizing Microsoft BizTalk™ Server 2004 to support the Kentucky Medicaid System Electronic Data Interchange (EDI) messaging processes.
4.5.1 Integration Points

The MMIS requires integration with external systems to operate. The following systems send and/or receive files with the MMIS:

- Commonwealth of Kentucky Systems – this includes KAMES, PA-62, SDX, KASES, eMARS, Vital Stats and Impact Plus;
- First Health Systems – this includes the various systems implemented by First Health for the KMAA and PBA;
- Passport Systems – this is the Passport Health Plan system run by AmeriHealth Mercy;
- PCG Systems – this includes the various systems operated by Public Consulting Group for third party liability operations and Medicare Buy-in;
- SHPS Systems – this includes the systems for prior authorization processing including MaxMC and interQual;
- Transaction Service Provider Systems – these systems are the transaction service provider systems that interact with the MMIS sending real-time eligibility inquiry and claim status inquiry. An example would be Emdeon formerly WebMD; and,
- Other vendors – there are various other vendors that contract with the Commonwealth of Kentucky for DMS purposes. Monthly and quarterly data is extracted from the Data Warehouse and transmitted to these vendors. Examples of this are Artemetrix, PwC and so on.

Below are the BizTalk™ 2004 integration points. The integration points are Channels (inbound) and Ports (outbound) within the context of Microsoft BizTalk™ Server 2004. These logical integration points describe the configuration of inbound and outbound traffic points that can be used for planning.

4.5.2 Platform

There are two primary platforms that interChange involves for interoperability with external systems, which includes the UNIX and Windows platforms. There are three Windows server farms that guide file transmission in and out of interChange: the Cold Harbor EDI environment; the ODC EDI environment and the EDS Frankfort environment.

The Cold Harbor EDI Environment primarily houses the DMS BizTalk environment, managed by EDS but physically located at the Commonwealth data center in Frankfort. This server farm is used for messaging in such instances as Provider real-time updates coming from First Health to the MMIS or the XML translation of financial data being transferred from the MMIS to eMARS. This environment is also used as an entry point for any file transfer between the Commonwealth Systems and interChange.

The ODC EDI environment is the BizTalk, HIPAA Translator and FTP servers located at the EDS Orlando Data Center (ODC). This handles the messaging traffic of the real-time HIPAA inquiry transactions and the various other HIPAA transactions such as the 837 claim transactions. There are two FTP servers also in this group: one for internal FTP between EDS subsystems and one for external access such as PCG and Passport.

The third environment is the servers located at the EDS Frankfort facility at Chamberlin Avenue. These servers include the BBS server that receives inbound claim transactions, the Captiva
servers used for imaging and data entry and the FTP server used as a termination point for inbound and a source for outbound data on hard media, including sources such as CDs, DVDs, Tapes and Diskettes.

The BizTalk servers pass data back and forth with the interChange primary platform which is a group of Sun servers running on a Solaris operating system. The core interChange subsystems and the Data Warehouse runs on these Sun servers.

The final EDS/KY BizTalk™ 2004 Server solution utilizes the following Microsoft products:

- Microsoft BizTalk™ Server 2004;
- BizTalk™ Accelerator for HIPAA v 3.0;
- Microsoft XML Core Services (MSXML) 4.0 SP2;
- Microsoft XML Cord Services (MSXMD) 3.0 SP4;
- Microsoft .NET Framework 1.1 SP1;
- SQLXML 3.0 SP2;
- Microsoft Office Web Controls 10;
- Microsoft Windows Server 2003 SP1;
- Microsoft SQL Server 2000 SP3a;
- Microsoft Operations manager 2005;
- Microsoft Visual Studio .NET 2003;
- Microsoft host Integration Server 2004;
- Microsoft Visual SourceSafe 2003 SP6d;
- Microsoft Application Center 2000 SP2 (Optional);
- The primary development language/tool is Microsoft Visual C# .NET 2003; and,
- Microsoft Visual SourceSafe 2003 SP6d is used for source code control.

There are two production BTS 2004 systems. One hosted at the Commonwealth Data Center in Frankfort KY and the other is hosted at the EDS Orlando Data Center in Orlando, FL.
4.5.3 **BizTalk™ 2004 Environment**

This paragraph describes the basic structure of the BizTalk™ Server 2004 environment at the EDS Orlando Data Center and Commonwealth Data Center.

EMC Storage Area Network (SAN) on the backend for SQL database files.

Dell 6850 Server as the SQL server cluster machine

Dell 2850 Server as BizTalk™ Server farm.

Software Configuration

- Microsoft Windows Server 2003 Enterprise edition;
- Microsoft SQL Server 2000 PS 3a Clustered (Active/Passive) with EMC storage devise as the Storage Area Network to support 24X7 solution;
- Microsoft BizTalk™ Server 2002 load balance on the BizTalk™ Message Box Database;
- Microsoft .net framework 1.1 SP1;
- Microsoft BizTalk™ Server 2004 prerequisite software;
- Microsoft Internet Information Server 6.0; and,
- Microsoft Operation Manager Server (performance monitoring).
4.5.4 **Developer Environment**
There are several development environments for interoperability components.

**DMS EDI Environment at Cold Harbor**

The development environments for both Cold Harbor BizTalk and FTS are located on the developers desktop.

- BizTalk; and,
- FTS.

**ODC EDI Environment**

The development environments for ODC BizTalk, Edifecs, NCPDP and FTS are located on the developers desktop.

- BizTalk;
- Edifecs;
- NCPDP; and,
- FTS.

4.5.5 **UAT Environment**
There are several test environments for interoperability components.

**DMS EDI Environment at Cold Harbor**

The test environment for BizTalk is virtualized across 5 SUN Poweredge 2850 servers located at the Cold Harbor facility.

- BizTalk; and,
- FTS.

**ODC EDI Environment**

The UAT environment for BizTalk runs on 3 virtual servers distributed across numerous physical servers in the ODC. The UAT environment for Edifecs runs on 2 virtual servers. The NCPDP environment runs on 1 virtual server. The FTS environment runs on 1 virtual server.

- BizTalk;
- Edifecs;
- NCPDP; and,
- FTS.

4.5.6 **Model Office Environment**
There are several model office environments for interoperability components.

**DMS EDI Environment at Cold Harbor**
The model office environment for BizTalk is virtualized across 5 SUN Poweredge 2850 servers located at the Cold Harbor facility.

- BizTalk; and,
- FTS.

**ODC EDI Environment**

The Model Office environment for BizTalk runs on 4 virtual servers distributed across numerous physical servers in the ODC. The Model Office environment for Edifecs runs on 2 virtual servers. The NCPDP environment runs on 1 virtual server. The FTS environment runs on 1 virtual server.

- BizTalk;
- Edifecs;
- NCPDP; and,
- FTS.

### 4.5.7 Production Environment

There are several production environments for interoperability components.

**DMS EDI Environment at Cold Harbor**

The production environment for BizTalk runs on 2 Poweredge 6850 servers and 5 Poweredge 2850 servers at the Cold Harbor facility.

- BizTalk; and,
- FTS.

**ODC EDI Environment**

The production environment for BizTalk runs on 6 virtual servers distributed across numerous physical servers in the ODC. The production environment for Edifecs runs on 3 virtual servers. The NCPDP environment runs on 2 virtual servers. The FTS environment runs on 1 virtual server.

- BizTalk;
- Edifecs;
- NCPDP; and,
- FTS.

### 4.5.8 Production Support

EDS has a production support person who serves as the on-call primary for the KYMMIS. This individual is also responsible for the support of interoperability issues with external entities. The on-call SE should be contacted first for issues related to external entities. The external entities will be provided with contact information for the on-call cycle monitors by the EDI support desk or interfaces manager when an interface is initially established.
The following table shows primary contact information for external systems.

<table>
<thead>
<tr>
<th>System</th>
<th>Contact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Artemetrx</td>
<td>Harry Hughes</td>
</tr>
<tr>
<td>CMS</td>
<td>CMS Files come through the Commonwealth, primary contact is Cliff Robey</td>
</tr>
<tr>
<td>COBC</td>
<td>Becky Able</td>
</tr>
<tr>
<td>CDP</td>
<td>Mike Combs</td>
</tr>
<tr>
<td>DMS</td>
<td>Various contacts, see InterOperability Plan for detail</td>
</tr>
<tr>
<td>eKASPER</td>
<td>Michael Smithson</td>
</tr>
<tr>
<td>eMARS</td>
<td>Gary McDonald</td>
</tr>
<tr>
<td>First Data Bank</td>
<td>Shama Pillai</td>
</tr>
<tr>
<td>First Health</td>
<td>Christine Lilly</td>
</tr>
<tr>
<td>Impact Plus</td>
<td>Vic Eleazor</td>
</tr>
<tr>
<td>Ingenix</td>
<td>Ingenix Tech Support</td>
</tr>
<tr>
<td>IPRO</td>
<td>Chuck Merlino</td>
</tr>
<tr>
<td>KAMES (incl.PA62 &amp; SDX, KASES)</td>
<td>Gregg Whitt</td>
</tr>
<tr>
<td>McKesson</td>
<td>Sarah Hawkins</td>
</tr>
<tr>
<td>Navigant</td>
<td>James Peterson</td>
</tr>
<tr>
<td>Passport Health Plan</td>
<td>Gail Gatto</td>
</tr>
<tr>
<td>PCG</td>
<td>Chris Sallee</td>
</tr>
<tr>
<td>PwC</td>
<td>Vanessa Sam</td>
</tr>
<tr>
<td>Public Health</td>
<td>Marcella Wright</td>
</tr>
<tr>
<td>Transportation Cabinet</td>
<td>Larry Pilcher</td>
</tr>
<tr>
<td>VAN’s</td>
<td>See InterOperability Plan for complete list</td>
</tr>
<tr>
<td>Vital Stats</td>
<td>Rebeka Collins</td>
</tr>
</tbody>
</table>

Email addresses, phone numbers and specific rules for specific cases are documented in the InterOperability Plan, which is currently available on PWB at:

To access the document in its current location:

Log on to the PWB.

1. Go to "Documentation" on the blue menu bar on the PWB home page and select "User and Operational Manuals" from the drop down menu.

2. Select "Desktop Procedure Manuals"

3. The KY MMIS Interoperability Plan is available from this page.

**4.5.9 Development/Build/Deployment Tasks Flow for Interoperability/Interface Changes**

The development, build and deployment task flow for changes to the KYMMIS that relate to either interoperability or interfaces will follow the same flow as other change orders. When a change to the system involves outside entities as many of the changes to interfaces will then EDS will involve the outside entity in acceptance testing of the changes to ensure that data can be exchanged correctly. This step will be part of the BA testing step in the change order process that is detailed in section 4.2.1.

**4.5.10 Leveraged Technical Resources**

The interChange system and its various components are administered by members of the EDS team. The administrators for the various components may be remote or on-site based on the need, skills needed and contract requirements. EDS has centralized groups that provide support for numerous accounts with specialized skill sets. Some of the groups that are centrally supported include Windows system administrators (SA), UNIX system administrators (SA), AVR support staff, internet support staff and BizTalk support staff.

<table>
<thead>
<tr>
<th>Support Group</th>
<th>Primary Resource Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Windows SA</td>
<td>Plano, TX</td>
</tr>
<tr>
<td>UNIX SA</td>
<td>Plano, TX</td>
</tr>
<tr>
<td>AVR</td>
<td>Plano, TX</td>
</tr>
<tr>
<td>Internet</td>
<td>Plano, TX</td>
</tr>
<tr>
<td>BizTalk</td>
<td>Plano, TX</td>
</tr>
<tr>
<td>SAN (on-site)</td>
<td>Orlando, FL</td>
</tr>
<tr>
<td>Phone System</td>
<td>Plano, TX</td>
</tr>
</tbody>
</table>

**4.6 Internal and External Interfaces**

EDS supports data transfers to/from external entities through several types of media which includes file transfer, magnetic tape and compact discs.

File transfer occurs through private networks, virtual private networks and the internet. Files transferred over the public internet are encrypted according to HIPAA requirements. MMIS jobs wait on expected input files. A longer than expected wait period initiates a call to the MMIS on-call support person to determine what went wrong. The MMIS on-call support numbers are used to report any files not received that the MMIS was supposed to send.

Interfaces supported through private networks are:
• Passport Health Plan interfaces;
• First Health PBA interfaces;
• First Health KMAA interfaces;
• HMS interfaces;
• McKesson interfaces;
• SHPS interfaces;
• Financial interfaces with COT;
• KAMES and PA62/SDX interfaces;
• Kentucky Vital Statistics;
• Public Health; and,
• Medicare Crossovers from the COBC.

Magnetic tapes are created for sending MSIS data to CMS. This is a quarterly process to provider CMS with claim and member information.

Current business rules require the processing of compact discs (CDs). This media is processed at the EDS Frankfort facility at 656 Chamberlin Avenue. EDS is responsible for creating and shipping CDs and for receiving and processing CDs that come in. This media type is sent/received according to a schedule. The corresponding external entity is contacted if anything unexpected occurs with this media processing.

CDs are sent/received from:

• CDP;
• DMS; and,
• DMS agents.

EDI and Interface documentation is maintained in the KYMMIS Interoperability Plan accessible from the PWB. Trading partner information, including all submitters is maintained in the Trading Partner Management Interface. EDS maintains call tracking for phone calls, faxes, emails and mail; and provides support for electronic submitters through the EDI Help Desk. This information can be reported on whenever it is requested and is accessible through Project Workbook.
4.7 Change Management Processes

4.7.1 interChange Online
The interchange system is accessed through a web client and does not require updates at an individual user level. A desktop procedure will exist to cover updates to OnBase active X controllers.

4.7.2 interChange Batch
Updates are made to batch code when called for by a change order. Updates to batch code occur through the promotion process and backups are maintained within the UNIX system backups.

4.7.3 Ancillary Systems

4.7.3.1 Internet - .NET
The procedure to implement updates to .NET code is located on the Project Workbook and can be accessed from the Help page by clicking on Training Resources, then looking at the information available via the links under the .NET training tools heading.
4.7.3.2 AVRS
The Automated Voice Response System (AVRS) consists of two parallel systems. To promote changes to the systems (once the customer has approved them and established the date of promotion) the following steps are followed:

1. The calls are busied out on System 1 during off peak calling times, forcing all calls to be answered by System 2.
2. The walkthrough-approved modules are then transferred to the system, replacing the old modules after they have been backed up on the system, creating version control.
3. The system is then refreshed, enabling the new copy of the application to be active.
4. A test call is made to ensure that the system is working properly.
5. When System 1 is complete, the block is removed from the lines and the system starts taking calls.
6. The procedure is then repeated for System 2.
7. A backup copy of the previous version of code is kept on the servers so that changes can be easily rolled back if needed.

4.7.3.3 Internet
The procedure to implement updates to Internet code is located on the Project Workbook at the following link:


Access the PWB and click the “Help” link on the far right of the black bar.
Click “Training Resources” under Workbook Links.

Internet programming standards appear under the heading “Provider Internet Standards.”
4.7.3.4 OnBase
The procedures for executing Change Orders involving OnBase appear below.

1. Determine if this new document will belong to a new disk group or an existing disk group.
   - If new disk group, then we have to create the disk group configurations and volume configurations
2. Determine what keyword(s) are used for this document and set up the configurations
3. Determine the document type group configurations
4. Determine the document type configurations
   - Auto-name string to display to users
   - Document type settings (see below)

Configuring Document Type Setting

Document Type Settings allow you to configure options for the document type.

To access the [document type] Configuration dialog box select Document | Document Types in the Configuration module, select a Document Type and click Settings.

Click Save to save the Document Type settings. Click Clear to undo any changes or selections that were made.

<table>
<thead>
<tr>
<th>Document Setting</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Document Type Group</td>
<td>Defines the Document Type group associated with the document type.</td>
</tr>
<tr>
<td>Default File Format</td>
<td>Defines the default file type characteristics for the Document Type (e.g., text format, image format, WAV audio file, MS Word).</td>
</tr>
<tr>
<td>Default Disk Group</td>
<td>Defines the storage location for the data files in the document type.</td>
</tr>
<tr>
<td>Show Text With Greenbar</td>
<td>When enabled, displays text documents of this document type with a greenbar background. Note: The color of the bar display can be changed in the Workstation Options in the Client module.</td>
</tr>
<tr>
<td>Show Thumbnails</td>
<td>When enabled, displays thumbnails vertically (to the right of the document) or horizontally (beneath the document). Horizontal or Vertical display is determined by the User Options in the Client module.</td>
</tr>
<tr>
<td>Allow File Caching</td>
<td>When enabled, allows documents of this Document Type to be placed into a cache during a workflow process Doc - Push Document into Cache action.</td>
</tr>
<tr>
<td>Document Setting</td>
<td>Description</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Force Thumbnail Caching</td>
<td>This option is used in conjunction with image file format documents. When selected, this option allows all pages to be cached. Thumbnail caching is useful when the DMS is using removable media (example: Jukebox) so requests for pages are received from the cache and not from the removable media, which speeds document retrieval.</td>
</tr>
<tr>
<td>Create Column Index</td>
<td>Enables column indexing to be performed during COLD processing for that document type, if the COLD Processor is properly configured.</td>
</tr>
<tr>
<td>Indexing Migrate File</td>
<td>If selected, documents of this type will be migrated to the document type's default Disk Group during indexing done in the scan queue (or during scanning if the Document Type is known via bar code or singular Document Type on the scan queue).</td>
</tr>
<tr>
<td></td>
<td>This ensures that documents adhere to Retention schedules when Document Retention is used.</td>
</tr>
<tr>
<td>Overlay First Page Only</td>
<td>When enabled, displays an overlay only on the first page of a document if an overlay has been configured for this document type.</td>
</tr>
<tr>
<td>Compute Page Ref</td>
<td>Generates transparent reference markers throughout documents at intervals of approximately 100K of information.</td>
</tr>
<tr>
<td></td>
<td>These markers speed the &quot;go to&quot; function available from an open document in the Client module, allowing you to more quickly navigate to specific pages in long documents.</td>
</tr>
<tr>
<td></td>
<td>Page references do not affect the navigation speed when the page up and page down keys are used.</td>
</tr>
<tr>
<td></td>
<td>If the document being viewed has not yet been committed (exists in a pre-committed batch status such as Awaiting Commit, Awaiting Index, or Index In Progress), the page references must be generated each time the document is opened, slowing the time it takes to open a document. Once the document has been committed, page references are &quot;set&quot; and are not re-calculated when the document is opened.</td>
</tr>
<tr>
<td>Property-Based Indexing</td>
<td>Provides the ability to automatically map values from ODMA document properties (e.g. the values displayed when you right-click an Excel document from your desktop and select Properties.)</td>
</tr>
<tr>
<td></td>
<td>Upon enabling Property-Based Indexing, the system makes the Property Mapping button available from the Keyword Type Selection dialog box.</td>
</tr>
<tr>
<td></td>
<td>See the Related Topics for Configuring Document Type Keywords.</td>
</tr>
</tbody>
</table>
### Document Setting | Description
--- | ---
Keyword - Based XML | When enabled, the system automatically associates XML style sheets to XML documents, per user-defined keywords values. Refer to Document Type XML Configuration in the Related Topics.

Allow Redaction Bitmaps | This settings enables the right-click menu's Redaction Bitmap options for open image documents in the selected document type.

| Note: In addition to this setting, in order to use Redaction Bitmaps, the user must have User Group Modify Privileges. |

Autodisplay | Defines the location for the display of keyword information at any of the four quadrants of the open document.

| Note: To view the keyword values in an autodisplay location, the Keyword Type Settings must be configured for autodisplay. |

Retrieval List Sort Order | Defines the sort criteria for documents returned from a Document Search Results list. Sorting can be based on document date (oldest/newest), Document Handle (last/first stored), or None (random).

| Tip: Random sorting yields faster retrieval times because the documents do not have to be sorted in any specific order. |

**Unrestricted Query Warning**

The options in this section work in conjunction with the warning message that appears when you run an unrestricted query in the Client module.

The message basically says that the query operation will take a long time if no data or keywords are entered to narrow down the search.

### Document Setting | Description
--- | ---
No Warning | When selected, the system returns the queried documents without issuing any warning messages.
<table>
<thead>
<tr>
<th>Document Setting</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warn and Run Queries</td>
<td>When selected, the system issues the user a warning message similar to this when trying to run an unrestricted query in the Client module. When user sees this message in the Client module, he can click Yes to continue with the query operation or click No to cancel it or enter keywords to limit the search results. Below are the types of Warn and Run Queries. They differ in the type of information required to run the query. Warn and Run, Date Required - will ask you to enter a date before running the query. Warn and Run, Keyword Required - will ask you to enter a keyword before running the query. Warn and Run, Date OR Keyword Required - will ask you to enter a keyword OR Date before running the query. Warn and Run, Date AND Keyword Required - will ask you to enter a keyword AND Date before running the query.</td>
</tr>
<tr>
<td>Warn and Cancel Queries</td>
<td>When selected, the system issues the user a warning message in the Client module, asking the user to enter a keyword or the query does not run at all. Note: When the Client user or user group happens to have Override Query Restrictions product rights, the Warn and Cancel Query selection will function the same way as the Warn and Run Query. This means that the user will see the Warn and Run warning message and can select either Yes or No to continue with the query operation. Below are the types of Warn and Cancel Queries. They differ in the type of information required to run the query. Warn and Cancel, Date Required - will ask you to enter a date before canceling the query. Warn and Cancel, Keyword Required - will ask you to enter a keyword before canceling the query. Warn and Cancel, Date OR Keyword Required - will ask you to enter a keyword OR Date before canceling the query. Warn and Cancel, Date AND Keyword Required - will ask you to enter a keyword AND Date before canceling the query.</td>
</tr>
</tbody>
</table>

**Note:** If a Document Type Group search is performed, and one or more of the Document Types has a required keyword, but there are no common keywords between the Document Types, a warning will not be issued despite any warning settings a Document Type has.

5. Set the OnBase security for this new document type
6. Create the Document Import Processing (DIP) processor for .TIF, .PDF, or other image type format. Create COLD processor for text format

7. Schedule the process

8. Add processes to VB scripts depending on how the file was FTP to the OnBase server

9. Add routing to the iCE panels

10. Add routing to the FTP scripts

4.7.3.5 Captiva

4.7.3.5.1 Captiva Change Control
The task flow for changes to Captiva will follow the same flow as other change orders. When a change to the system impacts the Captiva system, the systems team will involve the EDS data entry team in acceptance testing of the changes to ensure that claims can be keyed correctly. This step will be part of the BA testing step in the change order process that is detailed in section 4.2.1.

4.7.3.5.2 Captiva Code Promotions
   4. Download the zip files from the FTP site.
   5. Unzip to a neutral location.
   6. Check for Index files, and then remove them.
   7. Collapse any duplicate files into a single appropriate directory.
   8. Back up any files you don't want to destroy or overwrite.
   9. Move all files except IAP and IPP to their respective folder in the FWShare\FormWare structure.
   10. Move the IPP files to FWShare\FormWare\Other\IA.
   11. Go into Process Developer, and rename the current processes.
   12. Open Project; choose the IPP to work with.
   13. Create MDF. Save Project.
   14. Modify Instances. Make sure we have the Custom-written CLAIMPAK and CUSTOM instances.
   15. Make IAP.
   16. Create the new processes. Several steps to this:
      a. Modify Instance, Choose Completion step, double click;
      b. Change department to be one of the following:
         1. HCFA_RejectRepair_KFI;
         2. HCFA_RejectRepair_KFI_Crossover;
         3. UB92_RejectRepair_KFI; or,
         4. UB92_RejectRepair_KFI_Crossover.
      a. Save Make IAP;
b. INSTALL the new processes;
   1. HCFA Single1;
   2. HCFA Multi1;
   3. HCFA Crossover1;
   4. UB92 Single1;
   5. UB92 Multi1; and,
   6. UB92 Crossover1.

c. Note you can only do one while on the departments for Crossover. But you can do two, Single and Multi, while on RR_KFI;

d. Save the process;
17. Go back to Modify Instance, and do the next one;
18. Repeat all steps until new processes exist with correct DEPT;
19. From IA – Admin;
   a. Copy the settings from the prior copy, into the new name1 processes; and,
   b. Do this for each process.
20. If the file settings for "Import Settings From File" came from the PSG;
   a. Fix the paths; and,
   b. Make all \Export reference the G: drive, without the \FWSHARE path. Then, Make all C:\\FWSHARE be\\\\USFFSCAP002\\FWSHARE.
21. Copy the IASCAN settings from the individual steps, process by process, from old to new;
   a. Use "Copy settings to Clipboard" in the right-hand panel (process-step-specific), instead of the left (full job).
22. Delete the existing versions;
23. Rename the name1 processes to name; and,
24. We should now be installed and ready to look at the new code.

4.7.3.6 Medicaid Enterprise User Provisioning System (MEUPS)
The change control process for MEUPS goes through a similar progression as the processes used for other areas of the KYMMIS. Changes to the MEUPS system are anticipated to be infrequent. The development and unit testing of MEUPS changes will occur on an individual developers desktop. Once the changes have been developed and successfully testing on an individual desktop they will be promoted to the Model Office environment. The changes will be tested in the Model Office environment to ensure that the changes function correctly in a more robust environment. After successful testing of changes to the MEUPS system in Model Office the changes will be moved to the production environment. Due to the infrequent nature of changes to the MEUPS application promotions will not be scheduled, however, changes to MEUPS will be coordinated so that they move into production at the same time as other changes to the KYMMIS.
4.8 Database Promotions

4.8.1 Database Promotion Schedule

EDS releases database changes to the system on a periodic basis. Changes are first released to a test environment, then a model office environment, a UAT environment, and finally, promotion to production. The database changes are released to the various interChange environments in the following manner each week:

- Monday – Promotion to Test environment;
- Thursday – Promotion to Model Office environment; and,
- Friday – Promotion to UAT environment.

The promotion to production only occurs once a month after the cutoff for the last financial cycle of the month. This ensures that all claims that process through a financial cycle are processed the same. This schedule allows for regular database change promotions as well as consistency in environments during the testing process.

4.8.1.1 Database Test environments

The Database Change Control process is used to modify the interChange data model, to implement data model changes into a physical database and to promote database changes throughout the various database environments. All database changes originate from the interChange data model. All proposed database changes must be documented using the Database Change Request form, including the Data Model Relationship Form and Secondary Index Form, if necessary. These forms must be attached to a corresponding change order (CO).

To initiate a data model change, a change order must be created. The change order must contain the data model change request forms and an impact analysis of the change. A technical walkthrough must be held to review the change order, attached forms and impact analysis. The walkthrough may be performed via e-mail unless it is a complex change, in which case a meeting is scheduled. The walkthrough for COs that include a database change request must include all required participants documented on the Walkthrough Schedule and Summary Report form. Once the technical walkthrough is finished with consensus from all attendees, the Walkthrough Schedule and Summary Report must be updated to reflect individual responses.

Once a database change request has been approved by all walkthrough participants, the corresponding ERwin data model diagram is updated by a data modeler. Once the ERwin data model has been updated, the change is reflected in the database compare reports for the Test database environments. The changes need to be associated with a release on the Project Workbook in order to be promoted to the Test database. Approved changes from the compare reports are then implemented in the Test database environments via the database change control process.

Forms are available at:


To access via PWB links: Click the Developer drop down menu and select “processes.”

4.8.1.2 Beyond Database Test Environments

Once a change order has been successfully tested in the test environment, the related database changes are promoted to the Model Office environment. Once Model Office testing has been
completed for a CO, the related database changes are promoted to the User Acceptance Test environment and so on. The process used to promote database changes from the Test environment to other subsequent environments consists of a database compare to identify the changes, followed by a database upgrade to implement the changes. During the Model Office compare process the test databases are compared to the Model Office databases and a compare report of all pending Model Office database changes is created. In similar fashion the Model Office databases are compared to the User Acceptance Test databases, and the User Acceptance Test databases are compared to the Production databases.

An email is sent to the SE teams each time compare reports are generated. The Release Coordinators and TDTMs associate each database change and corresponding CO with a release for the appropriate environment, thereby providing the DBA team with a list of approvals for the changes that are complete and ready to be promoted into each database environment. Approvals are collected for each environment at specified times. The changes are implemented in each database environment according to a pre-determined change control schedule.

4.8.1.3 Database Change Promotion Progression
All database changes follow the same promotion path throughout the interChange environments. Changes are initially promoted from the data model into the test database environment. After being successfully tested and verified in the test database environment, changes may be promoted to the Model Office database environment. Once successfully tested in Model Office, changes may be promoted to the User Acceptance Test database environment. After being successfully tested in User Acceptance Test, changes may be promoted to the Production database environment and onto the Training database environment.

4.8.2 Database Promotion Procedures
4.8.2.1 Database Promotions to Test environments
1. Identify a needed Data Model Change;

2. Create a data model Change Order and attach all required supplemental documentation. This should be a separate change order from the application change;
   • Database Change Request form, including the Data Model Relationship Form and Secondary Index Form, if necessary;
   • Impact Analysis Form; and,
   • Walkthrough Schedule and Summary Report.

3. Create all co-related .NET and Batch COs that are needed as a result of the impact analysis and document them on the Change Order;

4. Contact the TDTM for each impacted functional area via e-mail;
   • All impacted functional areas must review the Change Order;
   • All impacted functional areas must approve and/or acknowledge the change. See the Walkthrough Schedule and Summary Report for a list of required walkthrough participants; and,
   • Update the Walkthrough Schedule and Summary Report with the response from each reviewer.
5. Change the CO status to “Ready for DM (Data Model) Review” and notify the Data Model Review Board team (currently, the KY DBA team and the Solution Architect);

6. A member of the DM Review Board team verifies that everything is in order and change the status to “DM Review Board Approved”;

7. The Data Modeler is notified to enter the change into the data model;

8. The Data Modeler changes the status of the CO to “Ready for Const Wthru” once the change has been typed and notifies the requestor. The requestor must verify that the changes were accurately keyed in the data model;

9. DBAs run Compare Reports for all Test databases on Fridays to reflect all data model changes that may be promoted to the Test databases in the next Test release;

10. Associate table approvals with the corresponding test release for the applicable site(s). NOTE: For instructions on how to associate a database table with a given release, please see the Release and Promotion Process Overview;

11. Release Coordinator and assigned SE confirms the database approvals before the changes are promoted to the Test databases; and,

12. DBAs promote the approved changes from the compare reports into the Test database environments via the database change control process

Additional information about the promotion procedures can be found on the PWB at the following link:


Access the PWB and click the “Developer” drop-down menu on the left side of the blue bar.

Select “Processes” from the drop-down menu.
Click the “Database Promotion Procedures” link.
4.8.2.2 Database Promotions to Model Office environments

1. DBAs run Compare Reports for all Test databases on Fridays to reflect all data model changes that may be promoted to the Test databases in the next Test release;

2. Associate table approvals with the corresponding test release for the applicable site(s);

3. NOTE: For instructions on how to associate a database table with a given release, please see the Release and Promotion Process Overview;

4. Release Coordinator and assigned SE confirms the database approvals before the changes are promoted to the Test databases; and,

5. DBAs promote the approved changes from the compare reports into the Model Office database environments via the database change control process.

Additional information about the process can be found at the link referenced in section 4.8.2.1, Database Promotions to Test Environments.

4.8.2.3 Database Promotions to Production Environments

1. DBAs run Compare Reports for all Test databases on Fridays to reflect all data model changes that may be promoted to the Test databases in the next Test release;

2. Associate table approvals with the corresponding test release for the applicable site(s);

3. NOTE: For instructions on how to associate a database table with a given release, please see the Database Promotion Procedures on the PWB at:


   To access via PWB links: Click the Developer drop down menu and select “processes.”

4. Release Coordinator and assigned SE confirms the database approvals before the changes are promoted to the Production databases; and,
5. DBAs promote the approved changes from the compare reports into the Production database environments via the database change control process.

Additional information can be found at the link referenced in section 4.8.2.1, Database Promotions to Test Environments.

4.9 .NET Promotions

4.9.1 .NET Promotion Schedule
EDS releases .NET changes to the system on a periodic basis. The .NET changes are released to the various interChange environments in the following manner each week:

- Monday – Promotion to Test environment;
- Thursday – Promotion to Model Office environment; and,
- Friday – Promotion to UAT environment.

The promotion to production only occurs once a month after the cutoff for the last financial cycle of the month. This ensures that all claims that process through a financial cycle are processed the same. This schedule allows for regular .NET change promotions as well as consistency in environments during the testing process.

4.9.2 Test Build Procedure
Warning:

In order to avoid problems with Vault, whenever you work on the test build, be sure to log into the VM using akyxix_NETDev user id, and log into Vault using id TestBuildUser.

4.9.2.1 Getting the Code from Vault – Reuse TestBuild Folders Previous Day Build
1. Open Vault client. Log into the Kentucky Vault using the TestBuildUser;
2. Pick the KentuckyTest repository;
3. Click on the interChange folder;
4. As a precaution, set the working folder to d:\testbuild\interChange, and force all subfolders to inherit;
5. In the lower screen of Vault client, click on the tab "Pending Change Set", to see if there are any files checked out;
6. No files should be checked out. If there are, then please investigate to find out whether to check the change in or whether to undo the check-out; and,
7. Verify that the following vault folders are cloaked:
   - AR – no longer cloak interChange/dnn/kentucky. Follow the same process as you would for a Model Office build;
   - interChange/additionalInstallPackages;
   - interChange/dnn/msseclib;
   - interChange/dnn/installLib;
• interChange/dnn/installPortal;
• interChange/dnn/v3.1.1_customizations;
• interChange/dnn/v4.0.3_customizations;
• interChange/ky ddi;
• interChange/ky ddi 05;
• interChange/mockup;
• interChange/VisualBuildProfessional; and,
• Any of the backup folders (name + underscore + number, like WebUI_1).

8. Right click on interChange and then choose Get Latest;

9. Make sure interChange is still selected in Vault, then click on the Search tab on the bottom, and pick "Any status" in the dropdown;

10. No files should be in Need to Be Merged status. If there are, then you have to go that file, right click on it, and resolve merge status;

11. No files should be in Missing status;

12. In windows explorer, right click on the interChange/dnn/kentucky/install folder and remove any read-only attributes on all the files and subfolders within; and,

4.9.2.2 Getting the Code from Vault to a new TestBuild folder

1. Rename the TestBuild folder. Create a new, empty TestBuild folder;

2. Open Vault client;

3. Log into the Kentucky Vault using the TestBuildUser;

4. Pick the KentuckyTest repository;

5. Click on the interChange folder;

6. As a precaution, set the working folder to d:\testbuild\interChange, and force all subfolders to inherit; and

7. Verify that the following vault folders are cloaked:
   - AR – no longer cloak interChange/dnn/kentucky. Do it like the MO build;
   - interChange/additionalInstallPackages;
   - interChange/dnn/msseclib;
   - interChange/dnn/installLib;
   - interChange/dnn/installPortal;
   - interChange/dnn/v3.1.1_customizations;
   - interChange/dnn/v4.0.3_customizations;
   - interChange/ky ddi;
   - interChange/ky ddi 05;
   - interChange/mockup;
   - interChange/VisualBuildProfessional; and,
   - Any of the backup folders (name + underscore + number, like WebUI_1).

8. Right click on interChange and then choose Get Latest;

9. In windows explorer, right click on the interChange/dnn/kentucky/install folder and remove any read-only attributes on all the files and subfolders within;

10. Open Visual Studio 2005. On the main menu, choose Source Control, then Open from Source Control; and,

11. When the Create local project from Vault window opens, choose $/interChange/Build (see screen picture below). Choose to override the solution on your PC.
4.9.2.3 Building Test
1. (In the previous step, you have opened the Kentucky.sln in Visual Studio);
2. Stop the Default app pool;
3. In the Solution Explorer, right click on the BuildProject, and choose Rebuild;
4. (Warning -- Do not ever choose to Build or Rebuild the entire solution!);
5. If any errors occur, then contact the TDTM for that subsystem, and the developer too, if you know who it is;
6. After the errors are fixed, get the changed files from Vault and Rebuild the BuildProject again;
7. In the Solution Explorer, right click on the DnnBuild project, and choose Build;
8. Note -- Since the Default app pool is stopped, the DnnBuild is not able to update localhost/kentucky with the new zip files. This is good, since we want to capture those before they are consumed by DNN; and,
9. After all the postbuild scripts are finished, make sure there are no errors in Visual Studio and then close Visual Studio.

4.9.2.4 Checking Zip Files into Test
Note – if you know for a fact that there are no changes in skins or containers, you can skip to step 7 below.
1. Open Vault client and go to interChange/dnn/kentucky/install/container;
2. Check out the container zip files, changing the option so that the existing files are not over-written;
3. Check in the new container zip files. Use “test build” as the comment;
4. Go to interChange/dnn/kentucky/install/skins;
5. Check out the kyskin.zip file, changing the option so that the existing file is not over-written;
6. Check in the new kyskin.zip file. Use “test build” as the comment;
7. Go to interChange/dnn/kentucky/install/module;
8. Check out just the changed module zip files (ic.*.zip), changing the option so that the existing files are not over-written;
9. Check in the new module zip files. Use “test build” as the comment; and,
10. It is rare to have changes in the CustomProvider project and/or the DNNADFSProvider project. The postbuild events on these projects move the DLL’s directly into the dnn/kentucky/bin folder. So when these occur, you need to check these new DLL’s into the interChange/dnn/kentucky/bin folder.
4.9.2.5 Deploying the Test Site

1. Copy the interchange/dnn/kentucky folder and its subfolders to usolwkyvm061. Copy it to the folder d:/KentuckyTestSites/kentuckymmdd, where mm is the month and dd is the day of the month;

2. On the Test VM, in IIS, start the Default Application Pool;

3. Copy the KentuckyTestSites\kentuckymmdd\install\ic_mmis.install.resources file from the previous day to today’s folder;

4. Change the contents of the ic_mmis.install.resources file so that the <portalaliases> section at the end has the real month and date, not just the placeholder kentuckymmdd;

5. Open as read-only the configUtil.config.xml in the previous day's kentuckymmdd/bin folder; and,

6. Run the portal installer on the desired VM. Use the following inputs:
   - DNN Portal Directory: KentuckyTestSites\Kentuckymmdd;
   - Oracle Database: kymist1;
   - Oracle user id: kyui;
   - Oracle password: get password from previous day's configUtil file;
   - SQL Database name: dnn_Kentuckymmdd;
   - Is Server 2K3: checked (yes); and,
   - Add Nunit DB: not checked (no).

The installer complains that it must use SSL, so you have to change the URL in Internet Explorer to https instead of http. Warning: If something goes wrong with the install, make sure you complete the following steps:

1. Delete the dnn_kentuckymmdd database;

2. Delete the kentuckymmdd virtual folder in IIS;

3. Save the ic_mmis.install.resources file to a safe place, then delete the interchange/dnn/kentuckymmdd folder;

4. You may have to shutdown the default app pool if there is a lock on the files; and,

5. Then copy or unzip the original Kentucky folder or zip file to KentuckyTestSites\Kentuckymmdd, copy the saved ic_mmis.install.resources file back into the install folder, and start the installer again.
4.9.2.6 Fixing the Test Config
1. Open the configUtil.config.xml file in the KentuckyTestSites\Kentuckymmdd\bin folder, where mm is the month and dd is the day of the month;
2. Open the configUtil.config.xml file in the previous day’s bin folder;
3. Be careful not to mix them up otherwise it may cause you issues;
4. Copy the MARConnectionString values to today’s ConfigUtil.config.xml file. For example: 
   `<property name="MARConnectionString" type="Oracle" value="Data Source=kymart1;User ID=kymar;Password=xxxxxx" />
5. Copy the <ReportingServicesManager> values. For example:
   - `<property name="ServerURL" value="http://localhost" />
   - `<property name="UserName" value="rssuser" />
   - `<property name="Password" value="xxxxxx" />
   - `<property name="Domain" value="USOLWKYVM094" />

4.9.2.7 Checking/Preparing the Test Site
1. In your browser, bring up http://localhost/kentuckymmdd;
2. Check various application menu options to make sure things are talking to Oracle, SQL server and so on;
3. On the main menu, take Security, then Controls;
4. Click on the Parse link on the right. This takes quite a while. After it is finally finished, then click on the Update link on the bottom left of the page;
5. On the main menu, take Security, then Roles. For search criteria, enter EDS_IC_TST_Tester, then click on the Search button;
6. On the Role information page, click on Permissions in the navigation bar. When the control tree appears on the page, change the permissions to editable for all subsystem menus except for read-only for Security, and change the permissions to None for Admin and Host. Click the Save button to save these;
7. In the mini Search, enter role name EDS_IC_TST_Developer, then click on the Search button. Change the permissions to editable for all subsystem menus except for read-only for Security, and change the permissions to Read-only for Admin and Host. (AR – currently can’t get DNN pages to show read-only) Click the Save button to save these; and,
8. In the mini Search, enter role name EDS_IC_TST_Super, then click on the Search button. Change the permissions to editable for all menus. (AR – currently can’t get DNN pages to show editable or Host menu even at all.) In the control tree, right click on the Admin and Host menu options and mark them editable. Click the Save button to save these. NOTE: if you need to add a role, then the only way to do this is under the DNN Admin menu, Security Roles. If you need to delete a role, then delete it on the Security
Role Information page first; then delete it under the DNN Admin Security Roles page as well.

- On the main menu, take Admin, Pages (or Tabs);
- Log in as host, password XXXXXX;
- Click on the home page;
- Click on the magnifying glass. The home page appears in design mode;
- Click on the pencil in front of the announcement;
- Change the title to "Kentucky Test Site", followed by the date; and,
- Place more information in the details area.

Sample: Welcome to the Kentucky DDI interChange Test site. This site was built and deployed at 5:30 pm EDT on Monday, September 25, 2006.

- Click on Update link to save changes; and,
- Click on the Admin menu, and then click Logoff.
4.9.2.8 Swapping the Test Sites

1. Copy the Kentuckyxx/web.config to a file named web.config.nosec;

2. Edit the web.config file and follow the instructions to turn on security. (Search for the string “KYSSO” in the file.) Save the file changes;

3. Alternative – if the web.config (dnn/kentucky/release.web.config in vault) has not changed since yesterday, then it’s much easier to copy it from yesterday’s Kentucky folder to today’s Kentucky folder, and then do a find and replace on the right Kentuckymmdd string;

4. Send an email to the KY DDI All distribution, warning them that the test site is going to be unavailable for a while;

5. Stop the TestPool application pool in IIS;

6. Right click on the Kentucky virtual folder and choose properties;

7. Change the physical folder that it refers to, so that it is today’s kentuckymmdd folder;

8. Verify application pool is still the TestPool;

9. Click the configuration button to verify that session timeout is still set to 60 minutes;

10. Save your changes;

11. Start the Test Pool;

12. Bring up the application from your PC, verifying that it works. It must be brought up using https://testic.kymmis.com/kentucky because ADFS does not recognize the application if it has localhost or an IP address in its URL; and,

13. Send out an email to KY DDI All telling them that the site has been updated and is available.
4.9.3 Model Office Build Procedure

Warning

In order to avoid problems with Vault, whenever you work on the MO build, be sure to log into the VM using akyxix_NETDev user id, and log into Vault using ID MOBuildUser.

4.9.3.1 Release Documentation

The documentation for what is in each model office build of interChange is in the Kentucky Vault, in the Test repository, in the interChangeReleaseDoco folder. The naming convention is that each spreadsheet starts with ky_mxx, where xx is the model office release number. An override that occurs between scheduled releases uses the previous release number with b, c, d, etc appended.

An “override” is the terminology used for the UNIX code. In terms of the interChange .NET code, it is the same thing as a new build and release. Even for a small change, the entire application is built so that none of the zip files contain an old copy of one of the interface or framework DLL’s.

From the last MO release you need the following:

- The **master spreadsheet** (KY_Mxx.xls) -- This is a list of all the revisions that were promoted. It should also contain a note telling what the cutoff date and time were for the release. If any CO revisions were promoted after the cutoff date/time, then they are marked in green; and,

- The **omit spreadsheet** (KY_Mxx_omit.xls) -- This is a list of all the revisions checked in before the cutoff time that have never been promoted.

4.9.3.2 Override versus Release

Sometimes there is a need to create a new model office build and deploy it between regularly scheduled releases. The terminology used for the UNIX system for this is a “model office override.”

The difference between an override and a release is in how we determine which files revisions are included. For an override, we don’t need to look at the project workbook. Instead, the developer or TDTM must send us an email and ask for a certain CO to be included. The list of all COs that should be included is the starting point for an override.

Normally, the number of COs in an override is small compared to the number of COs that has been checked into Test since the last model office promotion. That means it is easier to start with the last set of source code for model office, and then add the new file revisions.

Normally, almost all COs that were checked in since the last MO promotion, are promoted. That means it is easier to start with a copy of Test at the cutoff time, and then remove the COs that should not be promoted.

But if a particular situation is the opposite of the normal, you can do a regular release like an override; and you can do an override like a regular release. Just pick whichever is easier to do.
4.9.3.3 Model Office Override

1. Copy the MOBuildxx folder to MOBuildxxb;

2. For each CO you are supposed to include in the override, find all the file revisions in the
   Vault history. Save all these in the master spreadsheet for the override;

3. For each file revision in the master spreadsheet;

4. Bring up the history in Vault;

5. Verify that there are no revisions earlier that the revision in the spreadsheet that have not
   already been promoted. If there is such a situation, you need to contact the developers
   and TDTM involved clarifying whether to promote the module or not;

6. Go into Vault client;

7. Set the working folder to MOBuildxxb; and,

8. For each file revision in the master spreadsheet (sort by filename.)
   - Bring up the history in vault;
   - Right click on the desired revision and pick Get; and,
   - At this point, go to the section called “Building Model Office”, and proceed from
     that point in the procedure.
4.9.3.4 Getting the Code from Vault at the Code Cutoff time

Each model office release normally has its code cutoff on Tuesdays at 3:00 eastern time. At this time, you need to get a copy of what’s in the test repository.

1. Create a new MOBuildxx, where xx is the number of the build;
2. Open Vault client;
3. Log into the Kentucky Vault using the MOBuildUser;
4. Pick the KentuckyTest repository;
5. Click on the interChange folder;
6. Set the working folder to d:\mobuildxx\interChange, and force all subfolders to inherit;
7. Verify that the following vault folders are cloaked:
   - interChange/additionalInstallPackages;
   - interChange/dnn/msseclib;
   - interChange/dnn/installLib;
   - interChange/dnn/installPortal;
   - interChange/dnn/v3.1.1_customizations;
   - interChange/dnn/v4.0.3_customizations;
   - interChange/kyddi;
   - interChange/kyddi05;
   - interChange/mockup;
   - interChange/VisualBUildProfessional; and,
   - Any of the backup folders (name + underscore + number, like WebUI_1).
8. Right click on interChange and then choose Get Latest. This takes a while;
9. Make note of when the GetLatest started and finished, and do a history in Vault to make sure that you didn’t miss a file being checked in;
10. Close Vault. Zip the entire MOBuildxx folder and put this backup in a safe place;
11. Run the vault history report on vault’s $/interChange to find all files that were checked in since the last MO promotion and before this promotion’s cutoff date time. (Check to make sure that all the revisions are included, because Vault truncates if there are more than 1000 rows. You might have to do it in multiple queries.) Save it to CSV files, and consolidate it into a single excel spreadsheet named KY_Mxx.xls where xx is the release number.
12. From the spreadsheet, remove all items that occurred before the cutoff of the last promotion. Remove all items that occurred after the cutoff of this promotion;
13. Change the sorts around to make it easier to:
   - Remove items in interChange/KY DDI 05 (that's the public internet portal);
   - Remove items that were Actions that occurred to folders, not to files; and,
   - Remove the daily zip file check-ins from the Testbuild.

14. Compare the spreadsheet to the last release's emergency promotions (green rows). Remove any rows from this release’s spreadsheet that have already been promoted; and,

15. Sort the spreadsheet by comment and save it. This is the master spreadsheet for this release.

4.9.3.5 Late COs (before the MO build begins)
1. If you receive any requests for CO promotions that missed the cut-off deadline, you must make sure that these code changes have been promoted to the Test site and that someone knowledgeable (like the TDTM) has verified that they work and don't break anything;

2. Do a history search in vault to find all the files checked in for each late CO. Make sure you know exactly which file revisions they want promoted if there is any ambiguity. Save these and then copy them into the master spreadsheet for this release. Mark them green so you can find them easily;

3. RDC to the build VM, login in as akyxix_NETDev2;

4. Log into Vault using id MOBuildUser. Verify that the working folders still point to the MOBuildxx folder for this release; and

5. Get each of the green file revisions, by selecting the file in Vault, right clicking and choosing to see the history, and then right clicking on the right revision number and choosing to Get that revision.
4.9.3.6 Old Omitted COs

6. From the last MO release you need to know the following: which COs have been checked into Test but not yet promoted? For each of these, you need to know the Date Time of the earliest revision that has not been promoted. Let’s call this list the omit spreadsheet for the last release; and,

7. For each CO on the omit spreadsheet from the last release: Check the status in MO to see if the CO is now Ready for Model Office and marked for inclusion in this new release.

If there are any COs that are still not supposed to be promoted, send an email to the developer and TDTM to find out what is going on. If they really can’t be promoted, then you must create a new omit spreadsheet for this release and copy the still-omitted rows from the last release omit spreadsheet to this release’s spreadsheet.

The ones that are no longer omitted should have their rows copied to the master spreadsheet for this release, but mark them yellow first.

4.9.3.7 Backing COs out of Model Office

1. Sort the master spreadsheet by comment, and make a list of all the distinct COs. If an item in the CO spreadsheet has a comment with two or more KY COs, then those COs must be treated as a single CO for purposes of promotion. If there are rollbacks, continue onto step 2;

2. For each of these COs, check the status in the project workbook. It must be Ready for Model Office, and the CO must be tied to this MO release;

3. Please note that you’ve already checked the yellow rows in the previous section. Don’t check those again. Once you’re done with the previous step, you can make the rows white again, since you don’t really care that they came from the last release’s omit spreadsheet;

4. Send emails to TDTM and Developers who checked in the code to resolve the following situations:
   - A CO is in this release, but not Ready for Model office;
   - A CO is Ready for Model office, but not in this release; or,
   - A CO was released in a previous release, is not tied to this release or any future release, and yet there was code checked in for it.

5. Make a list of all CO/defects that are supposed to be omitted from this release. Go back to the CO spreadsheet and mark all the revisions that are supposed to be backed out in red. Then cut and paste the revisions that are supposed to be backed out. Cut out of the master spreadsheet and into a new spreadsheet, called the omit spreadsheet for this release;

6. Sort the omit spreadsheet by file name. Watch out for any duplicates (the same file checked in more than once). Let’s call the earliest revision that you are supposed to back-out the “poisoned” revision;
7. RDC to the build VM, login in as akyxix_NETDev2; log into Vault using id MOBuildUser. Verify that the working folders still point to the MOBuildxx folder for this release; and,

8. For each file in the omit spreadsheet:
   - Make sure that no revisions after the poisoned revision are supposed to be promoted in this release (due to another CO, of course).
   - If you find such a situation, you must resolve it with the TDTM and developers before you can proceed.
   - This may mean that one or more other COs have to be added to the omit spreadsheet. So go back to the previous step.
   - Use vault to get the revision just before the poisoned revision. If the poisoned revision is revision 1, then delete the file from the build folder.

NOTE: Please be aware that you might need to get an earlier version of the portal template file (interChange/dnn/kentucky/portals/_default/ic_mmis.template) since the template could have been changed for a CO that has not yet been promoted.
4.9.3.8 Building Model Office

1. In Windows Explorer, turn off the read-only attribute on the MOBuildxx/interChange folder and its files and subfolders;

2. In Visual Studio, Open d:/MObuild/interChange/build/kentucky.sln. Visual Studio gives you an error message about source control. Do NOT log into Vault; tell it to ignore source control and if it offers to, let it permanently remove source control bindings;

3. After the solution is finally open, chose File, Source Control, and Change Source Control. If any of the projects or solution shows up with a source control binding, then click on it, and then click the UnBind button. After the status of everything is Not Controlled, click on the OK button;

4. Stop the Default app pool;

5. In the Solution Explorer, right click on the BuildProject, and choose Rebuild. (Warning – Do not ever choose to Build or Rebuild the entire solution!);

6. If any errors occur, then contact the TDTM for that subsystem, and the developer too, if you know who it is. This can be rather time-consuming and generally leads to including another CO in the release, or removing a CO from the release. So you have to get the particular revisions of the particular files from Vault. You do that by getting all history for a given file, and then when Vault displays the list of all the revisions of that file, you right click the one you want, and then choose Get;

7. After the file revisions are corrected, Rebuild the BuildProject again;

8. In the Solution Explorer, right click on the DnnBuild project, and choose Build;

9. Note – Since the Default app pool is stopped, the DnnBuild is not able to update localhost/kentucky with the new zip files. This is good, since we want to capture those before they are consumed by DNN; and,

10. After all the postbuild scripts are finished, make sure there are no errors in Visual Studio and then close Visual Studio.
4.9.3.9 Deploying a Model Office Build to a Web Server:

1. If you have not done so already, create a shortcut or map a drive on the build VM to the VM where you want to install the new instance of the application;

2. Copy the dnn/kentucky folder from the MOBuildxx folder on the Build VM to the C:\KentuckyInterchange\kentuckymxx folder on the desired VM. **Warning** – the case is important on the folder name; use all lowercase letters;

3. Use remote desktop connection to connect to the desired VM;

4. **Warning** – Remember that you adversely impact response time on the server when you are remotely connected to it. So logoff or disconnect if you are interrupted for a while when you are working on that server;

5. Copy the KentuckyInterchange\kentuckymxx\install\ic_mmis.install.resources file from the previous release to the new folder. Change the kentuckymxx in <portalaliases> section to refer to the current release. **Warning** – the case is important on the portal aliases; use all lowercase letters;

6. Open as read-only the configUtil.config.xml in the previous kentuckymxx /bin folder;

7. If the Default App Pool is not started in IIS, then start it; and,

8. Run the portal installer on the desired VM.

   - Get the oracle database name and password from the previous build’s config file. The user id is normally “kyui”;

   - If the SQL/Server database is on a different VM, get the name of that VM, the user id (normally it’s “interChange”) and the password for that user id from the web.config of the previous build;

   - The SQL database name should be dnn_kentuckymxx if there is only one web server. Otherwise, use dnn_kentuckymxx_n, where n is the number or letter of the site;

   - “Is Server 2K3” should be checked;

   - “Add Nunit DB” should not be checked; and,

   - The portal installer tries to use http but not https. If this application does not allow http, then you need to fix the URL that is in the browser instance that it brings up to https://localhost/...”

**Warning:** If something goes wrong with the install, make sure you:

9. Delete the dnn_kentuckymxx_n databases;

10. Delete the kentuckymxx virtual folder in IIS;

11. Save the ic_mmis.install.resources file to a safe place, and then delete the KentuckyInterchange\KYMxx\kentuckymxx folder. (You may have to shutdown the default app pool if there is a lock on the files.); and,
12. Then copy or unzip the original zip file to KentuckyInterchange\KYMxx\kentuckymxx, copy the saved copy of the ic_mmis.install.resources file back to the install folder, and start the installer again.

4.9.3.10 Pre-compiling the User Controls
A user control is the ASP.NET term for anything that can be shown on a web page. This can include a text box, a check box or a drop down menu.

The UAT, training, and performance/production sites should be precompiled. To do this, start a command prompt on each VM that hosts the web application. Then enter:

```
cd C:\WINDOWS\Microsoft.NET\Framework\v2.0.50727
aspnet_compiler -v /kentuckymxx
```

Where xx is the release number.

4.9.3.11 If ADFS Security should be turned on
1. On the main menu, take Security, then Controls;

2. Click on the Parse link on the right. This takes quite a while. After it is finally finished, then click on the Update link on the bottom left of the page;

3. On the main menu, take Security, then Roles. For search criteria, enter EDS_IC_UAT_TEMPACCESS, then click on the Search button;

4. On the Role Information page, click on Permissions in the navigation bar. Change the permissions to editable for all subsystem menus, read-only for Security, and None for Admin and Host. Click the Save button to save these;

5. In the mini Search, enter role name EDS_IC_UAT_Developer, then click on the Search button. Change the permissions to editable for all subsystem menus, read-only for Security, and Read-only for Admin and Host. (AR – currently can’t get DNN pages to show read-only.) Click the Save button to save these; and,

6. In the mini Search, enter role name EDS_IC_UAT_Super, then click on the Search button. Change the permissions to editable for all menu options. (AR – currently can’t get DNN pages to show editable or Host menu even at all.) Click the Save button to save these.

NOTE: If you need to add a role, then the only way to do this is under the DNN Admin menu, Security Roles. If you need to delete a role, then delete it on the Security Role Information page first; then delete it under the DNN Admin Security Roles page as well.
4.9.3.12 Fixing the configUtil file
1. Open the configUtil.config.xml file in the d:\KentuckyInterchange\KYMxx\kentuckymxx folder;

2. Open the configUtil.config.xml file in the previous release’s bin folder. Don’t get them mixed up;

3. Copy the MARConnectionString values to today’s ConfigUtil.config.xml file. For example: <property name="MARConnectionString" type="Oracle" value="DataSource=kymarm1; User ID=kymar; Password=xxx" />

4. Copy the <ReportingServicesManager> values. For example:
   • <property name="ServerURL" value="http://localhost" />
   • <property name="UserName" value="rssuser" />
   • <property name="Password" value="xxxx" />
   • <property name="Domain" value="USOLWKYVM088" />

5. Stop the Default App Pool, if it’s already started; and,


4.9.3.13 Checking/Preparing the new web application
1. In your browser, bring up http://localhost/kentuckymxx;

2. Check various application menu options to make sure things are talking to Oracle, SQL server and so on;

3. On the main menu, take Admin, Pages (or Tabs);

4. Log in as host;

5. Click on the home page;

6. Click on the magnifying glass. The home page appears in design mode;

7. Click on the pencil in front of the announcement;

8. Change the title to something appropriate. For example, in model office, you can make the title "Kentucky interChange Model Office xx;"

9. Place more information in the details area. Sample:
   “Welcome to the Kentucky DDI interChange User Acceptance Testing Web site! This is Site A, build KYM87b, installed at 2:45 pm EDT on Friday, October 27, 2006.”

10. Click on Update link to save changes; and,

11. Click on the Admin menu, then click Logoff.
4.9.3.14 Changing the Virtual Directory

1. Copy the Kentuckyxx/web.config to a file named web.config.nosec;

2. If the web.config file has not changed since the last release, then the easiest thing to do is to copy it from the last release and change the two places where the release number is part of the SQL server database name; then go on to step 3. But if the web.config has changed since the last release, then do the following:
   - Edit the web.config file and follow the instructions to turn on security. (Search for the string “KYSSO” in the file.);
   - Find the <websso> section in the web.config and make sure that the <returnurl> refers to the right URL, not the testic URL. For example:

```
<websso>
  <authenticationrequired />
  <cookies writecookies="true">
    <path>/kentucky</path>
    <lifetime>240</lifetime>
  </cookies>
  <urls>
    <returnurl>https://uatic.kymmis.com/kentucky/</returnurl>
  </urls>
  <section name="caching" requirePermission="false"
    type="DotNetNuke.tp://Framework.Providers.ProviderConfigurationHandler,
    DotNetNuke" />
  <fs>https://tfs01adfs.kymmis.com/adfs/fs/federationserver service.asmx </fs>
</websso>
```

3. Save the changes to web.config;

4. Send an email to the KY DDI All distribution, warning them that the site(s) are going to go down for a few minutes so an update can occur. Give them at least 15 minutes advance notice so they have time to finish any lengthy test cases;

5. Stop the application pools in IIS;

6. Right click on the main virtual folder and choose properties. (This folder is called Kentucky on UAT, Training, Performance; called kentuckymo on model office.);

7. Change the physical folder that this virtual folder refers to, so that it is this release of kentuckymxx folder;

8. Verify application pool is correct;
9. Click the configuration button to verify that session timeout is still set to 60 minutes. (120 minutes on training sites);

10. Save your changes;

11. Start the correct Application Pool;

12. Bring up the application from your PC, verifying that it works. It must be brought up using the domain name (for example, https://uatic.kymmis.com/kentucky) because ADFS does not recognize the application if it has localhost or an IP address in its URL;

13. Do not start the DefaultAppPool;

14. Send an email to the KY DDI All distribution list, like so:
   The Kentucky interChange .NET model office release xx has been built and successfully deployed to the model office web site.
   
   In Frankfort:   http://144.10.26.221/kentuckyMO
   Otherwise:   http://144.10.176.166/KentuckyMO/

For model office, your email should list any COs/defects that were supposed to be in the release but had to be pulled; and explain what dependency caused them to be pulled. Then list all the CO/defect numbers that were included in the release.
4.9.3.15 Checking In the Model Office Code
Warning: Since this check-in sucks up all of Vault's attention, you must wait until off-hours before checking in the MO code.

1. On build VM, go into Vault client, and pick the MO repository;
2. Create a new Vault folder at the root named interChangeMxx;
3. Map this new interChangeMxx folder to the one in the MOBuildFolder/interChange;
4. Right click on interChangeMxx in Vault and pick Add New Files/Folders;
5. In the Add window that pops up, check the following folders once, so that the check mark is gray instead of dark (** see note below):
   - ASP;
   - Build;
   - Kentucky;
   - MMIS;
   - Soda; and,
   - WebUI.
6. Do not check the interChange folder. Do not check the DNN folder;
7. Click OK to start the check-in. (When I do this late at night, it takes about an hour for this to finish. Most of that time there is a message in the status bar of Vault telling me that it is "Ending Transaction". So I usually disconnect from the build VM and reconnect in the morning to finish up.);
8. In Vault, create a new DNN folder under interChangeMxx. Right click on this DNN folder and choose to Add New Files/Folders;
9. In the Add window that appears, check the following folders once (so that the check mark is gray instead of dark);
   - Custom Providers;
   - And check the following folders so that the check mark is dark (you might have to check them twice);
   - Containers;
   - Skins; and,
   - Kentucky_uninstalled.
10. Click OK to start the check-in. (This one doesn't take so long (about 10 minutes), so I usually do it the morning after the MO build.)
4.9.3.16 Light and Dark Checkmarks
On the Add Files/Folders window, there is an Excludes button. There is a set of suffixes defined in the repository that is the starting point, and this button lets you change those if you want. We use this exclude list to avoid checking in local PC files, intermediate files, or executables.

If you check a folder with a light checkmark, then it excludes the kinds of files defined by the exclude list. If you check the folder with a dark checkmark, then it ignores the exclude list and checks in all the files. If a folder doesn’t have any files in it that match the exclude list, Vault is smart enough to always use a dark checkmark for that folder.

So if a folder is a Visual Studio project folder, we use a light checkmark so that we don’t check in all the compile outputs. But for the dnn/Kentucky_uninstalled folder we check in everything.

4.9.3.17 Building after you’ve already checked it into Model Office
The check-in has marked most of the files with a read-only attribute. So right click on the interChange folder and remove those attributes before you try to rebuild the Build project.

4.9.3.18 Checking Doco into Model Office
Check the master spreadsheet and the omit spreadsheet (if there is one) into the Kentucky Test repository, into the interChangeReleaseDoco folder.

4.10 UNIX Batch Promotions

4.10.1 UNIX Batch Promotion Schedule
EDS releases batch changes to the system on a periodic basis. The batch changes are released to the various interChange environments in the following manner each week:

- Monday – Promotion to Test environment;
- Thursday – Promotion to Model Office environment; and,
- Friday – Promotion to UAT environment.

The promotion to production only occurs once a month after the cutoff for the last financial cycle of the month. This ensures that all claims that process through a financial cycle are processed the same. This schedule allows for regular batch change promotions as well as consistency in environments during the testing process.

4.10.2 Production Process Overview
The production promotion process for the UNIX environment mirrors the one used to promote code in the Model Office UNIX environment. Regular promotions to the UNIX production environment occur only once a week on Saturday at 1:00 a.m. Daily promotions for override jobs occur daily at 1:00 a.m., with the exception of Sundays, when it runs at 12:01 a.m.

4.10.3 Model Office Process
Monday:

1. Check for COs that are ‘Not Ready for Model Office’;
   - Go to PWB, The Kentucky New MMIS, Testing;
   - Under Model Office Promotions, select Release# for that week;
• Open each Subsystem to view which COs are ready for Model Office and which are not; and,

• For COs that are Not Ready for Model Office, open the CO, copy the name of the LAST person associated with the CO and send that person an e-mail, informing him or her that this CO is Not Ready for Model Office.

2. On UNIX;

• Execute the Script - verifyRelease XXX. This tells you any files that are in the ReleaseXXX Directory, that can’t be found;

• Copy these ‘file not found’ to a TEXT Document;

• Execute the Script – releases XXX. This displays all the Files and their corresponding CO # that are in the ReleaseXXX Directory;

• Search through this display to find the CO# associated with the ‘file not found’;

• Look up that CO# on the PWB and send the last person associated with the CO an e-mail with the ‘file not found’ display, including the file name and inform him or her that this information was received; and,

• Utilize the display from the ‘releases XXX’ script, which shows all the CO numbers in the Release Directory, and match it against the COs that are in the ‘Model Office Promotions Release#XX, on the PWB. If the CO is in the UNIX Release Directory, then it MUST be in the Release#XX folder under the Model Office Promotions on the PWB. If it is not, e-mail the person associated with the CO informing him or her of same.

Tuesday:

1. Lock the ReleaseXXX directory;

2. Repeat the steps from Monday; and,

3. 15:00, the ReleaseXXX directory is to be Locked (permissions on the files in the directory changed).

Wednesday:

1. Repeat the steps from Monday of searching for ‘Not Ready for Model Office’ and verifying the ReleaseXXX Directory.

Thursday - Promotion Day:

1. At 5:00 p.m. or 7:00 p.m., contact release coordinator, inform them you wish to execute the Model Office Promotion;

2. When release coordinator gives the go ahead;

• Run the script - processRelease XXX; and,

• When processRelease XXX completes, run the script runRelease XXX.

3. When runRelease XXX completes, there is a display that says: ERRORS --------------
• If it just looks like this, there are no errors; and,
• If there are errors, copy them into an e-mail and send them to the TDTM.

**Friday:**

1. Repeat Monday’s Steps.
5 Operational Processes

Detailed processes and procedures for each operational section listed below are included in their respective Operational User Manuals.

5.1 Electronic Data Interchange

The Electronic Data Interchange (EDI) and Electronic Claims Capture (ECC) Help Desk Manual (available via the link below) contains the information specific to the Business Practices related to EDI.


To access via the PWB links:

1. Go to "Documentation" on the blue menu bar on the PWB home page and select "User and Operational Manuals" from the drop down menu.
2. Select "Desktop Procedure Manuals"
3. The EDI Help Desk Manual is available from this page.

5.1.1 Media Management

EDS receives data on a number of input/output media types in the following forms:

1. CD/DVD Rom;
2. FTP Files; and,
3. Provider Network Files.

The EDI helpdesk and KYMMIS interface manager are responsible for the receipt and processing of media. Data received on physical media (CD/DVD, Tape, Diskette) are handled in the following manner:

1. Physical media is received by EDS staff (front desk or mailroom staff);
2. Physical media is given to a member of the systems team based on who is copied in (CC) on the package by the initial receiver (front desk or mailroom staff);
3. Physical media is given to the EDS operations team for handling;
4. EDS operations team catalogs and processes the physical media;
5. EDS operations team stores source media in on-site storage location; and,
6. Physical media is kept on-site until either moved to off-site storage for long-term retention or destroyed based on the type of data contained on media.
5.1.2 Submitter Authorization Assign a New TPA Procedures

5.1.2.1 Receive Agreement
1. Two copies of the signed TPA must be received by mail, for quick setup a faxed copy of the signature page is required but follow up to make sure the signed agreement is mailed;
2. Verify Agreement is correctly filled out;
3. Gather information on incomplete applications from submitter;
   a. Call and/or email submitter to obtain missing information; and,
   b. Log call and details of information that was missing and gained from the contact in EDI database.
4. Notify submitter of need for additional agreements;
   c. Call and email submitter regarding needed agreement; and,
   d. Log call in database.

5.1.2.2 Record Agreement
The EDI Tracking Database allows the EDI team to add or modify the EDI status of individual EDI submitters.
1. The Agreement Sent Date must be filled out when it is sent;
2. The Agreement Received Date must be filled out when it is received and is complete and signed; and,
3. The Test/Production indicator remains “T” until the testing process is complete.

5.1.2.3 Document Management
1. The Commonwealth receives the TP Agreements;
2. When the Commonwealth has signed the agreements, they keep one copy and send us the other; and,
3. File paper copy.

5.1.2.4 Vendor or Provider Request for a TPA
A trading partner ID is requested by filling out the “Kentucky MMIS BBS EDI Application” and submitting it to the EDI Help Desk.

5.1.2.5 Phone requests:
1. Ask the caller if they have an email address that you may email the TPA to. If the caller has an email address, bring up outlook and type in the email address. Attach the TPA file and instructions to the email and click send. If the caller does not have an email address, proceed to step 2;
2. Ask if the caller has a fax number you can send the TPA to. If the provider does not have a fax number proceed to step 3; and,
3. Ask for the address the caller would like the TPA forms and instructions mailed to. Complete the mailing envelop, include the TPA forms and instructions.
5.1.2.6 Email Requests:
   1. Click Forward; type in the email address of the sender; Attach the TPA file and instructions to the email and click send;

5.1.2.7 Mail Requests:
   1. Complete the mailing envelop, insert the TPA forms and instructions; and,
   2. At the end of each business day, deliver outgoing mail to the mailroom.

5.1.3 EDI Procedures

5.1.3.1 Batch File Transfers
The FTP application allows providers to perform batch file transfers of claims and other transactions to the MMIS through the internet.

5.1.3.2 Registration Procedures
Providers are not required to register for use of the DDE application available through the internet. The registration process is done along with the provider’s initial KyHealth Choices registration for a provider number. When a new provider signs up for KyHealth Choices they are automatically issued a pin letter which provides them access to the internet and the DDE functionality. All existing providers have been issued a pin letter by default which allows them to use the DDE functionality. In order to use the upload functions from the internet a provider is required to work with the EDI helpdesk to test transactions before they are authorized to upload files.

5.1.3.3 Electronic 837 Transmission
Trading Partners should call the EDI helpdesk to request testing of the 837 4010A file format. A trading partner ID number is assigned and the appropriate paperwork is completed and returned to EDS. The trading partner demographic information is entered in the EDI Contact Database. Claims are submitted through the EDS Bulletin Board System (BBS). The claims are adjudicated and reviewed for accuracy and HIPAA compliance by the EDI helpdesk. A trading partner is complete with testing once they have successfully passed the adjudication process and all necessary paperwork is completed. All trading partners completing this process are approved and given access to send compliant production claims to KyHealth Choices. If a trading partner wished to receive an 835 Remittance Advice appropriate paperwork is completed and returned to EDS. Once claims are processed an 835 transaction is available for trading partners to retrieve to reconcile payments.

5.1.3.4 Web Interface
Providers submit claims by using a web interface application known as Direct Data Entry (DDE) http://provider.kymmis.com. A transaction can be submitted by completing a web form. Upon entering all of the information required to generate a complete transaction, the form’s data is transmitted by clicking on the form’s ‘Submit’ button. The data transmitted is formatted into X12 for processing by BizTalk and submitted to the appropriate system for processing.

5.1.3.5 KY Health Net support
The EDI Helpdesk provides user support for provider calls and emails about KY Health Net. The EDI helpdesk addresses new user account setups, password reset, navigation functionality and all general questions.

5.1.4 Connectivity Problems
When a call is received from a Value-Added Network (VAN) a network technician is engaged to assess the situation for the lost connection with EDS. Troubleshooting EDI procedures are then followed. These procedures are located on the Project Workbook and can be accessed from
the Cycle Page by clicking on Troubleshooting EDI under the General Cycle Items heading and then POS Troubleshooting under the Jobs heading.

Internal and other external connectivity problems are escalated to the on-call Network or Systems Administrators who escalates to EDS Leadership as appropriate.

5.2 Captiva

5.2.1 System Monitoring
The monitoring of the Captiva system is primarily performed by the supervisor and manager of the claims data entry team. They periodically review the queues and workloads on the Captiva system. The details of this process is covered in the claims data entry user manual.

5.3 Cycle Monitoring

5.3.1 Overview
The interChange system uses an automated method for cycle balancing as well as a double check by manual means. Values are compared between subsystems to ensure the system is in balance.

The financial subsystem contains the FIN-0005-W report, which contains system-generated financial counts and dollar totals on claim and non-claim transactions processed in the weekly financial cycle. If this report be out of balance, the job abends and the cycle monitor must research and correct the problem before the cycle can complete.

5.3.2 Daily Balancing
The cycle monitor is responsible for reviewing the daily balancing as part of their cycle monitoring duties.

5.3.3 Weekly Balancing
The cycle monitor is responsible for reviewing the weekly balancing as part of their cycle monitoring duties.

5.3.4 Monthly Balancing
The cycle monitor is responsible for reviewing the monthly balancing as part of their cycle monitoring duties.

5.3.5 Cycle Reports
The cycle monitor uses the cycle reports that are produced as part of the normal cycle during their cycle monitoring duties. The system performs automated balancing and also produces reports.

5.3.6 Escalation Procedures
If any job fails/abends, the on-call Cycle Monitor immediately upon notification or observance takes the following steps to resolve the issue:

1. Verification in AutoSys that a job has failed is performed by utilizing cycle monitoring tools (AutoSys monitoring, on-call cell phone notification) available to the cycle monitor. The cycle monitor makes every effort to check the cycle status every few minutes while it is running;
2. If verification validates that a job is in a failure status, the cycle monitor tries to determine the cause and restart the job;

3. If after 15 minutes the cycle monitor cannot determine how to get the job restarted, the Escalation Contacts documentation is used to contact the correct systems engineer (SE) for the failed job. The SE works to correct the problem. The cycle monitor is responsible for making sure the issue is resolved by working closely with the SE.;

4. If after 15 minutes the primary SE has not been reached, the secondary SE is contacted. If there is no secondary SE listed, proceed to the next step;

5. If either the primary or secondary SE has not returned a call within 25 minutes, the cycle lead is contacted; and,

6. If there has been no response from the cycle lead, the Technical Delivery Team Manager or Systems Manager is called immediately.

5.4 Security Administration Procedures

5.4.1 Overview
The KYMMIS Security Procedures Manual is the primary information security document for all EDS staff. It states general policies and practices established for proper handling and safeguarding of information assets that belong to DMS. This portion of the Systems Operating Procedures Manual focuses on specific responsibilities carried out by data center staff to ensure data integrity. Refer to the EDS Security Procedures Manual for more detailed information. Use the link below to access the document:


To access via the PWB links:

1. Go to "Documentation" on the blue menu bar on the PWB home page and select "User and Operational Manuals" from the drop down menu.

2. Select "Desktop Procedure Manuals"

3. The Security Procedure Manual is available from this page.

5.4.2 Requesting Access
Refer to section 5.4.5.2

5.4.3 Security Guidelines
EDS provides information management services to its customers. EDS information security was created to establish the controls that protect information against accidental or unauthorized use, modification, destruction or disclosure.

There are several areas of security on which EDS focuses. Those areas include the following:

1. Local area network (LAN) security;

2. Physical security;

3. Logical security; and,
4. KYMMIS security.

5.4.4 User ID Creation and Maintenance

5.4.4.1 Password Guidelines
For passwords associated with the EDS Net ID:

1. Do not use passwords incorporating your Global ID (NET ID);
2. Do not use any character more than twice;
3. Do not use more than two numeric characters;
4. Do not use alphabetic characters only;
5. Do not re-use your existing password;
6. Password must contain a minimum of eight alphanumeric characters;
7. Do not use uppercase or special characters; and,
8. Do not use easily recognizable passwords, incorporating things such as "password," your name, birth dates, names of children, or words found in a dictionary.
9. Do not change more than once in a 24-hour period;
10. Do not be changed to any of your previous six passwords;
11. Do change when there is a possible compromise;
12. Do not be disclosed to another person;
13. Do not appear in readable format when entering the password for authentication; and,
14. Do not be stored in scripts, files, or applications unless compensating controls are in place.

5.4.4.2 Resetting Passwords
Each user of the Medicaid Enterprise User Provisioning System (MEUPS) can reset their own passwords by selecting the “Change Password” link from the main screen. Requests for KYMMIS password resets are handled by either the DDI Help desk for external users or the KY_MMIS_Helpdesk for internal users. Log into the https://home.kymmis.com/home/ and select the help desk function. Locate the user and click on the Manage button. Then select the reset password button to change the password. Under no circumstances can we give out passwords by unencrypted e-mail or by fax.

5.4.5 Profile Creation and Maintenance

5.4.5.1 User Types
EDS implemented the Medicaid Enterprise User Provisioning system as a single-sign on solution for both internal and external users. MEUPS defines users as “internal” or “external.”

5.4.5.1.1 External Users
An “external user” is a user who is a Kentucky Medicaid provider, or someone working on behalf of a provider.
5.4.5.1.1.1 Provider

A Provider is an external user type. A Provider can create Agents (of type Agent), and thus become that Agent’s account owner. A Provider can delegate applicable roles to either Billing Agents or Agents. A Provider cannot have an account owner. A Provider account can be created either by (1) migrating from a legacy system using the combination of Provider ID and a PIN that they will receive in a letter or (2) manual account creation by the System Administrator. This user type requires a Provider Medicaid ID and can have an optional Provider NPI, Provider Taxonomy ID, and Trading Partner ID.

5.4.5.1.1.2 Billing Agent

A Billing Agent is an external user type. A Billing Agent can create Agents (of type Agent), and thus become that Agent’s account owner. A Billing Agent can be delegated roles by a Provider or another Billing Agent. A Billing Agent cannot have an account owner. A Billing Agent can be created by going through the registration process located on the Sign In page or by manual account creation by the System Administrator. This user can have an optional Trading Partner ID.

5.4.5.1.1.3 Agent

An Agent is an external user type. An Agent can be delegated roles by a Provider or a Billing Agent. An Agent can not have direct roles to an application; only in the context of the Billing Agent or Provider they are working on behalf (their “Delegator”). An Agent can be created by either a Provider or Billing Agent creating the new account (the Agent’s account owner) or by the System Administrator who will specify the Agent’s account owner.

5.4.5.1.2 Internal Users

An “internal user” is a Commonwealth, EDS or other contractor staff member who has access to internal applications. This user can be assigned roles that are defined as Internal Only. Only an Internal user can be assigned a Help Desk or System Administrator role.

5.4.5.2 Self-Administration

MEUPS provides users the ability to administer their own profiles. A user may request access to an application and specific roles in that application. The request follows a predefined workflow process that is specific to the users organization and the application access being requested. The workflow processes generally involve the individuals immediate supervisor, a central approver for their organization and a person responsible for the application.

EDS and the Commonwealth have agreed on the principles that guide the creation of a workflow process. These principles are driven by the organization of the user and application to which access has been requested.

5.4.5.2.1 Applications Supported by EDS

5.4.5.2.1.1 EDS Employees and Sub-contractors

DMS does not require EDS to have DMS in the approval process for EDS’ employees. DMS is in the approval process for all non-EDS employees, this includes all sub-contractors that EDS contracts with that requires access to DMS data.

5.4.5.2.1.2 FH Employees and Sub-Contractors

DMS requires to be placed in the approval process for FH employees; this includes all sub-contractors that FH contracts with that require access to DMS data.
5.4.5.2.1.3  **DMS Employees and Sub-Contractors**
Each department within CHFS has a unique workflow configured for each application they can access. The first approver is the manager of that department, the second approver is the CHFS security manager and the third approver is the application owner.

5.4.5.2.2  **Applications Supported by First Health**

5.4.5.2.2.1  **FH Employees and Sub-contractors**
DMS does not require DMS in the approval process for FH’s employees. DMS is in the approval process for all non-FH employees, this includes all sub-contractors that FH contracts with that requires access to DMS data.

5.4.5.2.2.2  **EDS Employees and Sub-Contractors**
DMS requires to be placed in the final stage of the approval process for EDS employees; this includes all sub-contractors that EDS contracts with that require access to DMS data.

5.4.5.2.2.3  **DMS Employees and Sub-Contractors**
Each department within CHFS has a unique workflow configured for each application they can access. The first approver is the manager of that department, the second approver is the CHFS security manager and the third approver is the application owner.

5.4.5.3  **Helpdesk Administration**
The EDS EDI helpdesk can provide manual administration of user rights when exceptions to the self-administration rules are required. The helpdesk usually supports password resets and access to applications where the workflow configurations are still under construction.
5.5 User Access Administration

User Access Administration is performed by the EDI and KYMMIS Help desk personnel. This includes processes covered in sections 5.4.2, 5.4.4 and 5.4.5.

5.6 EDS Print Operation Procedures

5.6.1 Overview

The EDS Print Center supporting the Kentucky MMIS is located in the EDS facility at 656 Chamberlin Ave, Frankfort, Kentucky. The Print Center is a secure, climate-controlled environment with access restricted to personnel who are critical to the continual operation of the facility.

For detailed Print Center operational processes and procedures refer to Section 9 in the Computer Operations Procedures Manual.

5.6.2 Report Distribution Listing Procedures

MMIS reports must be produced in the format and type of media approved by DMS. EDS delivers MMIS reports to the personnel and the location specified by DMS. The report distribution list, including delivery location, number of copies and media is defined by the Commonwealth during the Design, Development and Implementation. EDS is required to update and maintain the report distribution list during the Operations phase to incorporate any changes to existing reports at no additional cost to DMS.

5.6.3 Remittance Advice Printing Procedures

Remittance Advice statements (RAs) are printed and delivered to the mailroom for processing once each week. The RA files arrive at the Xerox DP 180 high-speed printer located in the printer room. The cover letter containing the addressing information and standard disclaimers is printed in portrait page layout on blue paper stock, while the actual statement is printed in landscape on white, pre-drilled three-hole paper.

Although dependent on current business needs, the Computer Operators normally print the RAs on Monday of each week. The size of the file varies slightly each time, but the job usually requires at least eight to 10 hours to complete. The RA files print in Provider Number order. As each batch of printed output is removed from the machines, it is carefully placed into bulk paper boxes in the same order and taken to the mailroom for processing.

5.6.4 Archived Image Retrieval Procedures

Documents such as claims, incoming checks, and other provider correspondence are scanned with the document images archived. EDS also receives some images from vendors including PA forms and Provider enrollment forms. They are available for retrieval and viewing via OnBase. Please reference the OnBase User Manual currently available at the link below:


To access via the PWB links:

1. Go to "Documentation" on the blue menu bar on the PWB home page and select "User and Operational Manuals" from the drop down menu.
2. Select "User Manuals"

5.6.5 Help Desk Procedures
The Help Desk is located in operations. The EDS and KYCA Help desks are fully integrated into one system. The help desk operational hours are between 7:00 a.m. and 6:00 p.m. Datacenter staff members are logged into this help desk at all times. It is the responsibility of the on-duty operator to take incoming calls, e-mails and monitor the Unicenter Service Desk web application for opened tickets. Trouble tickets entered by EDS are accessible by KYDMS. The EDS print center operators monitor trouble tickets entered by KYDMS. Tickets are acted on and monitored until successfully resolved.

For detailed Help Desk processes and procedures refer to Section 14 in the Computer Operations Procedures Manual.

5.7 Automated Voice Response System
This is addressed in Configuration Management; see section 4.4.2.

5.8 interChange Client Internet
This is addressed in Configuration Management; see section 4.4.2.

5.9 Integration and Interoperability Procedures
This is addressed in Configuration Management; see section 4.5.

5.10 Internal and External Interfaces
All information related to internal and external interfaces is maintained in the Trading Partner Database referenced in section 7. When a new external interface is identified the information is entered into the Trading Partner Database using the following steps:

1. Open trading partner database;
2. Gather the following information;
   - Entity (such as KAMES, CMS, First Health and so on.);
   - Description of information passed;
   - Frequency (such as daily, weekly, monthly); and,
   - Media (such as FTP, eCart, diskette).
3. Enter the information into the Trading Partner Database; and,
4. Confirm information with new trading partner.

5.11 Systems Request Procedures
This is addressed in section 4.2.1, Change Order Process Overview.

5.12 Ad Hoc Request Procedures
This is addressed in section 5.12, Ad Hoc Requests.
5.13 ODC Hardware/Software/Firmware Upgrades

This section describes the process for updating hardware, software or firmware in the Orlando Data Center. The process has two different routes for approval depending on the extent of the change and the potential impact. EDS consults with SUN Microsystems and/or Falconstore to help to determine impact depending on the nature of the change. SUN is the manufacturer of many of the boxes and operating system used on many of the boxes which support the KYMMIS. SUN has a detailed knowledge of the equipment run in Kentucky and the impact of changes to that equipment. As the vendor of this equipment SUN and Falconstore are looked to as the experts on the maintenance of this equipment. Falconstore along with SUN were the architects for the SAN and E25K solution in place in the ODC.

Local Impact Process:

1. Need for change is identified by account support team or ODC support team;
2. Support team identifies change as Kentucky specific or as a change with multi-customer impact;
3. Support team works with infrastructure manager(s) for the impacted account(s) to discuss potential approaches to resolution;
4. If Kentucky only impact then goes to ODC CCB team and customer for review and approval, else;
5. If multi-customer impact then move to step 1 of Multi customer impact list below;
6. Change request reviewed and scheduled by ODC CCB team (This team includes ODC staff);
7. If approved the change request continues, otherwise it is returned to author with comments and will begin again at step 1;
8. Request is routed to the customer for approval;
9. Request implemented into production; and,
10. Changes are tested in the production environment.

Multi-Client Impact

1. Change request posted on Sharepoint site for review by MIS CCB team;
2. Change request reviewed by the MIS CCB team (This team includes CDEs from the various accounts or their representatives – CDE or Alternate – infrastructure manager);
3. If approved the change request continues, otherwise it is returned to author with comments and will begin again at step 1;
4. Change assigned to ODC staff;
5. Request implemented into production; and,
6. Changes are tested in the production environment.
5.14 Network Support Procedures

5.14.1 Infrastructure Services
This section describes an integrated set of processes and enabling technologies that are deployed at the EDS Orlando Data Center (ODC) designed to manage the Kentucky infrastructure environment.

The KY interChange environment is located in the Orlando Data Center in Orlando, Fl. The ODC provides a secure data center environment complete with UPS arrays, multiple diesel generators, and redundant power circuits for rack equipment. ODC personnel provide the following services:

1. Receipt and installation of customer equipment according to MIS installation specifications;
2. “Smart hands” capability to assist MIS with troubleshooting and resolving equipment problems;
3. Monitoring of ODC LAN and WAN premise equipment;
4. SAN provisioning and monitoring services;
5. Tape backup/recovery services;
6. Workflow task prioritization with MIS personnel; and,
7. Change Control Board.

5.14.2 Move, Add, Change
All ODC work activity is prioritized and tracked using Microsoft Sharepoint services. All submitted tickets enter a pending state where an MIS Platform Area Architect will review the ticket for completeness and to ensure that the requested task conforms to accepted environment standards. Once the tickets are approved by the PAA, they are then routed to the appropriate ODC expertise queue (SAN, UNIX, Windows, Network, Backup, and DBA) to be worked. All tasks are prioritized by MIS and reviewed with ODC personnel.

5.14.3 Network Monitoring
The networks are monitored with tools such as audit and event logs to ensure that a breech in security has not taken place and cannot take place through inherited/granted rights or through intentional tampering. This monitoring is addressed along with the other monitoring mentioned earlier in this documentation.

In addition to the above responsibilities, systems staff is responsible for connectivity between the KYCA and all Wide Area Network Links. This includes all EDS-owned network equipment at customer sites. Each morning, systems staff visually inspects equipment for proper operations and connectivity is checked via pinging known devices.

Open Source NAGIOS is used to monitor all hosts within the ODC. NAGIOS is configured to send out e-mails to MIS staff as well as to page MIS on-call staff in the event of a problem. MIS personnel will then follow-up to perform troubleshooting and problem resolution. When necessary, ODC personnel and vendors are used for problem troubleshooting and resolution.
5.14.4 Network Fault Management
ODC uses a monitoring tool called Solar Winds to monitor WAN interfaces coming in to the ODC. In the event of problems, MIS Network On-Call personnel are paged and then work with ODC Networking personnel to achieve problem resolution.

5.14.5 Network Configuration Management
All network changes in the ODC must go through a Change Control Board mechanism so that MIS, Medicaid account staff, and ODC personnel can discuss the impacts of any proposed changes to the network infrastructure.

5.14.6 Network Performance Management
ODC Network personnel utilize Solar Winds to monitor the WAN and also use provided Cisco tools to monitor the LAN switches.

5.14.7 Server Virus Protection
Symantec Antivirus is installed on the servers and signature update checks occur every 24 hours. Symantec Antivirus automatically installs signature file updates when a new update is available.

5.15 Performance Management

5.15.1 Performance Reporting
The SA team currently uses Sarcheck with Zonehound, which is a performance analysis and performance tuning tool that is installed on the Sun E25K that hosts Production and UAT environments. Performance data is presented in html format with graphs that provide visual clues to performance issues and possible bottlenecks.

5.15.2 Analysis and Recommendations
The SA makes specific recommendations on how to improve system performance based on numerous factors. System performance analysis data, database performance data, application requirements and feedback from the user community all are considered when making determinations on how to most efficiently allocate system resources.

5.15.3 Tuning
The SA implements recommended adjustments to the system based on analysis and recommendation in section 5.15.2.

5.15.4 Server Monitoring
Nagios, an open source host, service and network monitoring application has been deployed on all servers hosted in the ODC. In addition to Nagios, EDS developed monitoring tools provide information regarding the health of mission critical hardware, software and processes. SA's are notified via email or alpha page when monitored elements meet specific conditions deemed to be cause for investigation or are potentially service affecting. During normal business hours, the Account SA will respond to alerts; after hours an on-call SA will handle any events, engaging ODC personnel, software or hardware vendors and internal EDS employees as required to resolve.

5.15.5 Server Fault Management
The SA remotely isolates, analyzes and resolves server problems. All servers are accessible to SA's via remote console access, enabling remote troubleshooting and problem resolution.
5.15.6 Server Configuration Management
The SA remotely maintains the optimum server environment and provides a disciplined approach to implementing server configuration changes. A Change Control Board is engaged to discuss and provide authorization for systems or data center activity that, potentially, can impact multiple accounts.

5.16 Decision Support System (DSS)
This section explains the processes that are unique to DSS including security, data backup, balancing and the process of requesting data from the system.

5.16.1 Purpose
The Decision Support System provides users the ability to easily query data that is stored on the MMIS. The DSS stores the data in distinct groupings for ease of understanding and access. The system is also set up so that certain types of data are joined so that the information can easily be combined for reporting.

5.16.2 Scope
The DSS stores the vast majority of the information that is retained in the MMIS. There are some items that are not stored but that is based on whether or not it would be something that would be useful for querying purposes.

5.16.3 DSS Processing Schedules
The DSS has essentially three types of schedules for processing. The first type of cycle is the weekly processing cycle. The second type of cycle is a monthly cycle. The third type of cycle is a quarterly processing cycle. Use the link below to see the DSS processing calendar:

https://ddipwb.kymmis.com/KYXIXDDI/subsystem/cycle/DSS_MAR_SUR_QAA_Processing_Schedule_02182007.doc

NOTE: This link is to a Word document. After you click the link, choose “open” or “save” from the dialog box.

To access via the PWB links:
Go to the cycle page and click the “DSS, MAR, SUR and QAA Schedules” link under “General Cycle Items.”

5.17 Processing Matrices
Processing schedule/matrix information is located on the Project Workbook and can be accessed from the Cycle page:

https://ddipwb.kymmis.com/KYXIXDDI/subsystem/cycle/

Or by accessing the PWB and clicking the “Cycle” link on the blue bar on the left side of the home page, as shown below.
5.17.1 DSS Calendar Schedule of Events
The DSS system has cycles that occur on a periodic basis. The DSS system has weekly,
monthly and quarterly cycles. The schedules are outlined on a physical calendar at the location
listed in the previous section.

5.17.2 DSS Operational Processes

5.17.2.1 Ad Hoc Requests
There is a specific process for the request of Ad Hoc reports from the DSS. The steps in the
process are listed below:

1. The requestor enters the data for the new Ad Hoc in the Requestor log and then gives
   the Ad Hoc Coordinator the DSS Ad Hoc Control Form (Paper copy of the entered
   request);

2. Ad Hoc Coordinator defines the priority for the Ad Hoc request. The coordinator comes
   up with the due date based on the requestor assigned date. The coordinator also
   considers the opinion of the reporting specialists to agree upon this date;

3. Ad Hoc Coordinator enters all pertinent information concerning Ad Hoc into the EDS
   provided MS Access database;

4. Ad Hoc Coordinator files original paper copy of Ad Hoc Control Form and Ad Hoc
   request letter in Ad Hoc log file (Commonwealth needs to define what is filed – Could
   use control form or paper-version of electronic equivalent and printout/report from MS
   Access database);

5. Reporting specialists, DSS Manager, original requestor and Commonwealth staff
   receive an e-mail from the database once the request information has been entered into
   it (E-mail includes Ad Hoc number, Ad Hoc type, Ad Hoc due date and Comments);

6. Reporting specialists either begin work on the Ad Hoc once they are aware of its
   existence or they route the request to the MMIS Ad Hoc coordinator or they route the
   request to the SHPS Ad Hoc coordinator. The reporting specialists log has the data
   related to the new Ad Hoc request on their end (EDS log / Reporting Specialists Log) as
   soon as the coordinator enters it in the Coordinator log;

7. The assigned resource completes the work on the Ad Hoc request and sends the results
   to the Commonwealth staff member who requested the Ad Hoc and DMS Ad Hoc
   coordinator and CC’s the DSS manager and reporting specialist who coordinates the Ad
   Hoc process;
8. Reporting specialists notify the Commonwealth when the Ad Hoc request has been completed and where the electronic version of the report can be found. They update the delivered date in their log as soon as they send this email; and,

9. Ad Hoc Coordinator enters completion date and time as well as status into the access database. This also updates the reporting specialists log with the completed date.

5.17.3 Holiday Cycle
There is no impact to the DSS cycle for holidays. The daily cycle runs regardless of any holidays.

5.17.4 Cycle Escalation Procedures
The primary responsibility for the cycle resides with the DSS cycle monitor. The DSS cycle monitor is the first point of contact for any issues with the DSS cycle. See the steps below:

1. If the cycle monitor cannot resolve a particular issue within a reasonable amount of time the cycle monitor should contact their backup in relation to the issue;

2. If the cycle monitor and backup still cannot resolve the issue working together then the issue should be escalated to the DSS/Data Warehouse manager;

3. If the DSS team locally cannot resolve the issue then escalate to include resources from Plano or other places;

4. If the issue means that the cycle is in danger of or does not complete by the contractually required time then notify the operations manager;

5. The operations manager makes the decision on how and when to notify the account manager; and,

6. An e-mail is sent to end users to indicate that the DSS may not be available and includes what portions of the DSS are available vs. unavailable. Include the backup cycles.

5.18 Backup and Restore
This section describes the backup and restore procedures for regular maintenance and disaster recovery situations.

5.18.1 Backup Procedures
The components of the Kentucky MMIS system are set up on a Storage Area Network that allows for periodic backups of the data and system files found on the MMIS. The data and files for the system are backed up locally for a period of time and can be restored from the local backup.

5.18.2 Normal Operations
During normal operations the Kentucky Title XIX account functions using the procedures outlined in this Systems Operations Procedures Manual.

5.18.3 Disaster Recovery
Procedures for disaster recovery can found in the Disaster Recovery procedures located on the PWB at the following location:
To access via the PWB links:

1. Go to "Documentation" on the blue menu bar on the PWB home page and select "User and Operational Manuals" from the drop down menu. Select "Desktop Procedure Manuals"

2. The Disaster Recovery Plan is available from this page.

5.18.4 Restore Procedures
The MMIS system is set up for replication to a disaster recovery site. The replicated data could be used for restoration in the event that local copies of backup data were unavailable or corrupted.

5.18.5 Problem Escalation Procedures
Issues with the MMIS system have a defined path for escalation. The nature of the issue itself helps to determine the specific path used for escalation. The impact of the issue helps to determine the speed with which a problem needs to be escalated.

For system issues the following path should be used:

1. Systems Supervisor for Area;
2. Systems Manager;
3. Operations Manager; and,
4. Account Manager.

For network issues the following path should be used:

1. Network Technician;
2. Network Manager;
3. Systems Manager;
4. Operations Manager; and,
5. Account Manager.

For interface issues the following path should be used:

1. Interface Manager;
2. Systems Manager;
3. Operations Manager; and,
4. Account Manager.
6 Problem Escalation Procedures

This section describes the Problem Management Process and how unplanned events are handled. The problem ticketing system tracks all problems and serves as the primary tool for recording and sharing information about problems.

The following table defines problem severity levels to provide an indication of the target priority and resolution of an event.

<table>
<thead>
<tr>
<th>Severity Level</th>
<th>Severity Definition</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level 1</td>
<td>Critical Impact</td>
<td>Router outage</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Server outage</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Emergency deletion of user ID</td>
</tr>
<tr>
<td>Level 2</td>
<td>Major Impact</td>
<td>Gateway connectivity</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hub outage</td>
</tr>
<tr>
<td></td>
<td></td>
<td>OA service problems</td>
</tr>
<tr>
<td>Level 3</td>
<td>Moderate Impact</td>
<td>Workstation outage</td>
</tr>
<tr>
<td></td>
<td>Single-user problem</td>
<td></td>
</tr>
<tr>
<td>Level 4</td>
<td>Minor Impact</td>
<td>Disk use at 85 percent</td>
</tr>
<tr>
<td></td>
<td>Service degradation</td>
<td>Single user access problem</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Password reset</td>
</tr>
</tbody>
</table>

Problem Management is available continually. In all cases, the EDS Helpdesk responds to individual events as quickly as possible; however, the actual resolution time varies depending on event complexity.

6.1 Incident Response – Emergency Response

This section explains the Computer Incident Response service that combines specialized technical and procedural support to provide guidance in defense against, containment of, and recovery from, IT-based system incidents.
7 Trading Partners List

A trading partner is a licensed health care provider or an entity that submits electronic transactions on behalf of a licensed health care provider.

Currently, EDS has 2,867 trading partners who access the BBS (Bulletin Board System) or internet.

Trading partners are required to file a Trading Partner Agreement form with the Commonwealth prior to submission of 837 transactions. EDS maintains trading partner on an online database. Examples of the data base screens appear below.
8 Vendor Interface Connections

The Vendor Interface Connections are described in the Trading Partner Management (TPM) Database. The EDI helpdesk enters the configuration information for each vendor interface connection into the TPM database based on information provided by the vendor and the EDS systems team. An overview of the relevant information content is listed below:

1. Entity (such as KAMES, CMS, First Health and so on);
2. Description of information passed;
3. Frequency (such as daily, weekly, monthly); and,
4. Media (such as FTP, eCart, diskette).

See sample screen shots of the database in section 7 of this manual.
9 Contact Lists

The current EDS contact list is located on the Project Workbook and can be accessed from the Admin page by clicking on EDS Contact List. The current DMS contact list is located on the Project Workbook and can be accessed from the Admin page by clicking on DMS Kentucky Contact List.

https://ddipwb.kymmis.com/KYXIXDDI/Administrative/Contact%20Info/contact_info.asp

To access via PWB links:

1. Go to PWB, click “Admin” on the black bar at the top; and,
2. Click “Contact List”.