

Exhibit A Supporting Documents

Technical Deployment Guide

HEALTHDATA ARCHIVER

Access Historical Records. Simply.

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OVERVIEW

This document is used to verify technical requirements are reviewed and in place prior to the HealthData Archiver (HDA) being deployed in a virtual environment.

Using this Document

This document is used by IT and technical resources to deploy the HDA in a virtual environment. This document should be provided to the appropriate party at the customer for review at the beginning of the project, so that specifications can be verified prior to final deployment.

Document Version – Revision History

Author	Version	Date	Comments	Status
D. Getchell	1.0	05/27/2013	Initial Creation	Draft
D. Mais	2.0	04/29/2014		Release
D. Mais	3.0	09/16/2015		Release
D. Mais	4.0	12/09/2015		Release
D. Mais	5.0	03/23/2016		Release
P. Paris	6.0	02/15/2017		Release
D. Mais	7.0	08/21/2017		Release
D. Mais	8.0	09/03/2017		Draft
D. Mais	9.0	09/08/2017		Release
C. DeLuca	10.0	12/19/2017		Release
D. Mais	11.0	06/11/2018		Release
D. Mais	12.0	07/20/2018		Release

GENERAL INFORMATION

Supported Virtual Environments

The HDA solution is a series of CentOS7/RHEL7-based virtual machine packages that are deployed to the VMWare ESXi 6.x (or later) environment.

If another VM environment is preferred, discussion on specifics are required to validate compatibility.

Hosted vs. Local Instance

The HDA solution can either be hosted or a local instance. A hosted HDA installation is completely setup and managed within Harmony Healthcare IT's (HHIT) data center. A local instance is a guest within your VMWare ESXi (preferred) or alternate virtualization infrastructure.

Indicate your deployment contact(s) in the table below:

Name	Phone	E-mail

TECHNICAL REQUIREMENTS

HDA Solution Virtual Machines

The virtual appliances that comprise the HDA solution must have the following minimum, dedicated host-side resources:

Distributed***	CPU**	RAM (GB)	Storage(GB)	Network
Proxy Server	2	2	25	Static IP
Application Server	4	8	25	Static IP
Index Server	4	8	50*	Static IP
Database Server	4	8	100*	Static IP

Single Stack	CPU**	RAM (GB)	Storage(GB)	Network
HDA Server	4	16	100*	Static IP

*The required total will depend on final number of data sources and resultant archive size(s). Note that scanned and non-structured documents will require additional NAS/SAN storage space, independent of the HDA database server.

** Number of cores for a single-socket virtual appliance.

*** Distributed environments are implemented where the size, number of data sources and/or number of users prohibit use of a Single Stack implementation. HHIT will work with your organization to indicate whether a Distributed implementation is required.

Harmony Healthcare IT Support Workstation

Where the HDA application appliance will be deployed to your local infrastructure, HHIT requires a maintenance workstation to service your HDA solution. This workstation may either be a physical or virtual machine.

This section can be skipped for HHIT hosted HDA implementations.

	CPU	RAM (GB)	Storage (GB)	Network
Support Server*	4	8	100 [O/S] 500 [Data]**	Static IP**
	Applications			
	<ul style="list-style-type: none"> • Adobe Acrobat Reader • A client-approved web browser † 		<ul style="list-style-type: none"> • putty Terminal Emulator • Database client program (i.e. SSMS, pgAdmin) • Microsoft SQL Server 2012 (or later)*** 	
	Security***			
	HTTPs, SFTP			
	Platform			
Microsoft Windows Server 2012 (or later)				

* Local Admin rights are required

** A static IP address is preferred.

*** Both inbound and outbound traffic must be allowed for HTTPS and SFTP. Alternate port numbers may be utilized, if preferred.

† Google Chrome preferred

†† Recommended as base; depending on source system(s) additional space may be require

††† This is only required if the Support Server will also be utilized as an extraction server for non-MSSQL databases.

Database and Scanned/Non-Structured Document (SNSD) Storage Server Information

Use this section to specify details on your database and SNSD storage server(s). This information is used for final deployment of your HDA solution.

Database Server Details

Skip this section if you are not supplying a database server. A database server is only typically required in a MSSQL implementation.

Part	Description
Database server name	
Database name	
Logon credentials	

SNSD Server/Network Storage Device Details

Part	Description
Type	
Name	
IP Address	
Server/Device Logon credentials	
Filesystem Type	
Operating System/Platform	
Database Type	
Database Credentials	
Share Path/Type	

Browser Information

Use the table below to indicate the name and version of the browser(s) you will be using with the HDA solution.

The HDA supports the current version (and one version previous) of the following browsers

- Microsoft Internet Explorer*
- Google Chrome

** If you require Microsoft Internet Explorer Version 9 (or previous), this will require additional review.*

Deployed Browsers

Browser	Version

Certificate Information

The server that hosts the HealthData Archiver (HDA) requires registration to facilitate secure communication. The HDA server is registered by a member of your organization to ensure proper affiliation. HHIT will assist in completing the application of valid certificate files to the HDA server.

Complete the following information for server key generation.

Part	Description
Country Name	US
State	
City Name	
Organization Name	
Organization Unit Name (optional)	
Preferred ("friendly") Server Hostname	
E-mail Address for Registration	

Certificate Process

Step	Action
1	If a friendly DNS name is preferred, this must be supplied by the client to match the certificate.
2	HHIT generates the Certificate Signing Request (CSR) file, using the above info.
3	HHIT provides the CSR file to the client resource.
4	The client purchases their certificate from a proper Certificate Authority (CA) entity (i.e. Comodo). HHIT cannot complete this process; it must be done by the client.
5	The CA entity provides the certificate to the client.
6	The client provides the certificate file (i.e. .cer, .pfx, etc.) to HHIT.
7	HHIT applies the certificate to the HDA server.

- ☞ *Certificate registration will expire one year from initial assignment. Make certain that you store the information properly and have a plan in place to renew this before expiration.*

Audit Log Monitoring Service

Harmony Healthcare IT clients using the HealthData Archiver software application may request assistance with setting up the HDA audit logs for monitoring by a 3rd party solution of their choosing. For more information about this service please refer to the [Audit Log Monitoring Service](#) reference document.

Single Sign On (SSO) Options

Single Sign On (SSO) allows a user who accesses a patient record within the EMR to navigate directly to the HealthData Archiver without having to open the HDA and manually login with a username and password. Through SSO, certain data attributes are passed from the EMR to HDA, such as Patient Last Name, Patient First Name, Patient Date of Birth and Patient SSN. These patient data attributes are passed so they can be used and entered as search criteria when there is not an ID linkage or crosswalk between the EMR and HDA.

If Single Sign On is desired, there are two options to choose from:

- SAML 2.0
- AES SSO

SAML 2.0 – Security Assertion Markup Language

SAML is an XML-based open-standard data format for exchanging authentication and authorization data between parties. This is the more common option and does not require JavaScript.

AES SSO – Advanced Encryption Standard for Single Sign On

AES SSO is a CryptoJS method of Single Sign On that is implemented in JavaScript using best practices and patterns for standard and security cryptographic algorithms.

If SSO is desired, your Harmony Healthcare IT Project Manager can assist to ensure proper timelines and implementation resources are available.

Backup Information

Although the HDA solution is a largely static implementation, there are components that will need to be backed up. It is critical that a good disaster and recovery policy is employed to avoid downtime and data loss.

HHIT recommends an enterprise-grade virtual infrastructure solution, such as VEEAM. There are no product-side backup components of the HDA; therefore, your preferred solution must be used. If you need to discuss possible alternate arrangements for creating iterative backups of specialized HDA solution tables, please make sure to notify your HHIT project manager.

HHIT does not keep archives of deployed HDA solutions once they have been migrated to your virtual infrastructure.

Support Information

<https://harmonyhit.thecustomerspot.com/auth/login>

FairWarning® – Auditing Service

Feature Description:

FairWarning® provides rollup audit log file software and dashboarding across health system enterprises so that compliance staff do not have to review every system individually.

FairWarning® is partnered with Harmony Healthcare IT to provide auditing of user transactions captured in the Health Data Archiver audit log. This service provides an extra layer of auditing efficiency regarding access to ePHI. For more information about FairWarning®, visit their website: www.fairwarning.com.

Health Data Archiver Client Setup:

1. Customers that are live on the Health Data Archiver (HDA) can request that audit logs from HDA be provided to FairWarning® by contacting Harmony Healthcare IT Support – 800.781.1044 to initiate the request.
2. Enterprise customers can reach out through their Harmony Healthcare IT Project Manager. (There is no charge for this service.)
3. The HDA application uses a query to grab the data and then pushes to the audit log file on a nightly basis. The audit log file name is unique and will be stored (not overwritten) based on the client's policy for archiving files.
4. The output file is dropped into the client HDA /custom/log/audit location for transport to FairWarning®.

FairWarning® will load the audit logs daily, mapping them to standard fields used in their analytics library and in reports. Any HR user data will be mapped to the Harmony audit source by user ids and any advanced patient data will also be mapped to Harmony by patient identifiers to provide advanced demographics not inherently available in the audit logs, and the ability to run advanced analytics on the data.

5. The transport method/tool will be worked out between the client and FairWarning project manager.
6. To take advantage of this service, Harmony Healthcare IT customers must be on Health Data Archiver version 7.9.2.4 or above.

What Happens Next?

Once the setup and nightly audit log transfer are in place, then FairWarning® will provide dashboard views to the Health Data Archiver customer along with proactive alerting on known patterns of suspicious behavior and user and patient watch lists and any other activities being monitored.

When alerts are found in FairWarning®, forensic investigations can be opened within the product, fully documented with both internal and external documentation, reporting and notes, and closed with or without remediation. Customers can then go back and review alerts and investigations and run governance reports to assess the effectiveness of their monitoring and compliance programs.

Infrastructure Recommendations for On-premise Deployment

HEALTHDATA ARCHIVER

Access Historical Records. Simply.

Hardware Needs

Production Environment

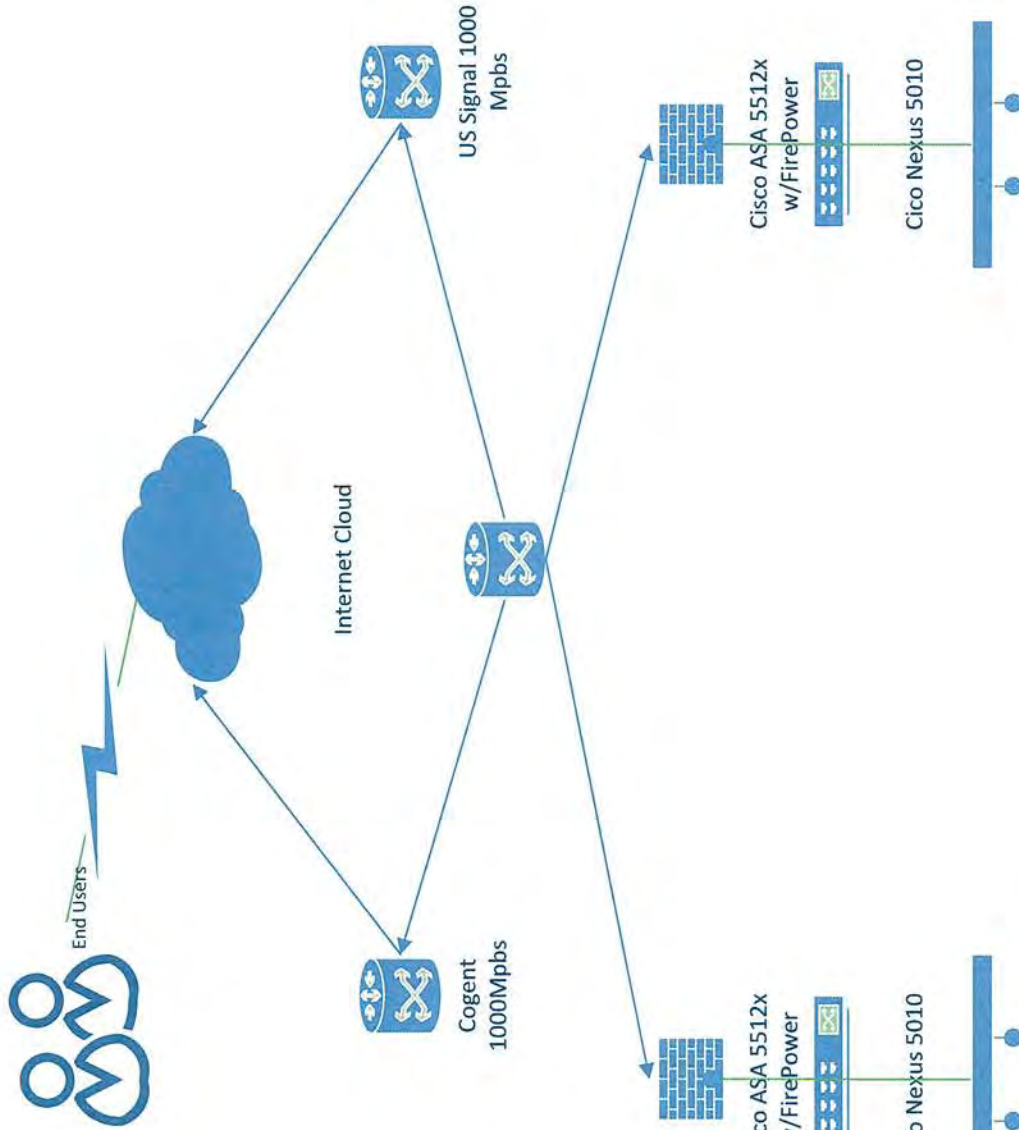
Assumptions:

- Production platform will be configured using our distributed computing model for scalability
- Specs and sizes will vary based on changes in the scope of the overall project
- All virtual machines will be running in an ESX environment

A typical production environment will consist of a high availability VM Host Cluster with access to the needed SAN Storage. Disaster Recovery and backups are typically integrated into your normal processes based on your RTO and RPO requirements.

- Raw Data Storage (SAN)
 - Estimate XX TB (where XX is the database size for each system being archived)
 - Could be less based on transformation size differences
 - High Speed SAN Storage
- Single Stack Production Environment (Smaller archives < 10 apps)
 - HDA Application Server
 - 1 CentOS7 VM
 - 2CPU/4GB RAM
 - Storage of DB local to VM, size is dependent on source DB size(s).
- Distributed Computing Production Environment (Larger archives > 10 apps)
 - HDA Proxy Server – PROD
 - 1 CentOS7 VM
 - 8CPU/16GB RAM
 - HDA Index Server – PROD
 - 1 CentOS7 VM
 - 8CPU/16GB RAM
 - HDA Application Server - PROD
 - 1 CentOS7 VM
 - 8CPU/16GB RAM
 - MS SQL Server – PROD
 - 1 Windows Server 2012 R2 VM
 - 16CPU/32GB RAM
 - MSSQL Server 2012 or Later

Harmony Healthcare IT – Customer Hosted Environment Network Diagram



Hosted Environment Infrastructure:

Dell PowerEdge R630 Hosts

- VMware Enterprise Plus
- High Availability and DRS Enabled

Storage Infrastructure

- Dell 3460 DAS Storage
- 225TB Storage per System
- Replication via VMware Site Recovery Manager
- VEEAM Backup and Replication
- Backups every 24 hours
- RTO <60 Minutes
- RPO <5 Minutes

Network Infrastructure

- Dell PowerEdge N3024 10Gb Network Switches
- Cisco Nexus 5010 Series 10Gb Primary/Secondary Site Connectivity

Internet Infrastructure

- Provider 1/Location 1 – US Signal 1000 Mbps
- Provider 2/Location 2 – Cogent 1000 Mbps
- ARIN Addressing / Full BGP

Primary / Secondary Site Connectivity

- Redundant Private Fiber with East / West entries into each colocation facility

Firewall/Security

- Cisco 5512x with Firepower used for firewalling and Intrusion Protection
- SolarWinds LEM used for logging and event management

Primary Tier 3 Data Center

Secondary Tier 3 Data Center

Service Level Agreement Addendum

This Service Level Agreement defines the terms and conditions for the maintenance and support services performed by Harmony Healthcare IT for the customer (“Licensee”).

The Service Level Agreement covers the following products:

- Health Data Archiver

The Service Level Agreement is valid when the Licensee has a valid Support Agreement in force covered by the Service Level Agreement.

Changes to the Service Level Agreement are effective when agreed upon in writing by both parties.

Incident Management

Service Requests must be submitted to Harmony Healthcare IT through the following methods:

- Telephone – by calling the Harmony Healthcare IT Support Desk at (800) 781-1044
- Customer Portal – by logging an issue through the Harmony Healthcare IT Customer Support Portal at [www. http://harmonyhit.com/portal.html](http://harmonyhit.com/portal.html)
- Email – by emailing the issue to support@harmonyhit.com

All incidents are logged and assigned a case number.

Support Hours

Harmony Healthcare IT provides access to the support services as follows:

- Monday through Friday from 8:00am ET to 5:00pm ET
- After Hours Support – available by calling (800) 781-1044 and selecting the Emergency Support Option

Response and Resolution Times on Incidents

Severity	Response time	Resolution time
Critical	1 hour	4 hours
Important	4 hours	8 hours
Routine	24 hours	2 business days

Response and Resolution definitions

“Response time” is defined as the time it takes for Harmony Healthcare IT to confirm that the reported incident has been logged.

“Resolution time” is defined as the time it takes for Harmony Healthcare IT to investigate and implement a resolution, or to investigate and confirm a reasonable time estimate for implementation of a resolution.

The definition of “response” is confirmation to the Licensee that the incident was received and logged by the Harmony Healthcare IT Help Desk.

Severity Definitions

Severity	Description
Critical	<ul style="list-style-type: none"> Highly critical problem which severely impacts the Client’s live environment systems, causing loss of access or service. No procedural work-around exists. Continued lack of availability.
Important	<ul style="list-style-type: none"> Problem where the Client’s system is functioning but at a severely reduced capacity. The situation is causing significant impact to parts of the Client’s business operations and productivity. Irregular service interruptions. No reliable work-around exists.
Routine	<ul style="list-style-type: none"> A medium to low impact problem that involves non-critical functionality loss and may interrupt some operations but allows the Client to continue to function. Minimal reduction or interruption of the business processes. Work-around exists.

A “work-around solution” is a temporary remedy required to eliminate an issue or error. Work-around solutions may cause minor restrictions in system performance or available system functionality.

A “permanent fix” is the actions required prevent the reoccurrence of an issue or error and any underlying causes of a problem. When a permanent fix is implemented, the system is restored to full functionality and performance.

Exclusions

- Harmony Healthcare IT will make every effort to solve issues reported by the Licensee within a reasonable timeframe and to the satisfaction of the Licensee
- Harmony Healthcare IT is not obligated to prioritize or implement software feature requests from the Licensee.
- Harmony Healthcare IT is not responsible for correcting any issues not attributable to Harmony Healthcare IT.
- Harmony Healthcare IT is not required to provide any maintenance or support services relating to problems caused by:
 - Any alterations of or additions to the software by parties other than Harmony Healthcare IT, unless such alterations or additions are made at the direction of or with the written approval of Harmony Healthcare IT.
 - Accident, negligence, or misuse of the software.
 - Interconnection of the software with other software products not supplied or approved in writing by Harmony Healthcare IT.



Letter of Certification

August 7, 2017

Harmony Healthcare IT
53702 Generations Drive
South Bend, IN 46635

Based upon representation from management as to the accuracy and completeness of information provided, the procedures performed by an approved HITRUST CSF Assessor to validate such information, and HITRUST's independent confirmation that the work was performed in accordance with the HITRUST CSF Assurance Program, the following system and infrastructure of the organization meets the HITRUST CSF v8.1 Certification Criteria:

Harmony Healthcare IT – Extraction/Transformation & Load – ETL (MS SQL-02, MS SQL-04, HDA PROD Servers, and HDA Utility VMs), Infrastructure Environment, and Workstations.

The certification is valid for a period of two years assuming the following occurs:

- A monitoring program is in place to determine if the controls continue to operate effectively over time
- No data security breach reportable to a federal or state agency by law or regulation has occurred
- No significant changes in the business or security policies, practices, controls, and processes have occurred that might impact its ability to meet the HITRUST CSF certification criteria
- Annual progress is being made on areas identified in the Corrective Action Plan (CAP)
- Timely completion of the interim review as defined in the HITRUST CSF Assurance Program Requirements

HITRUST has developed the HITRUST CSF, a certifiable framework that provides organizations with the needed structure, detail and clarity relating to information security tailored to the healthcare industry. With input from leading organizations within the industry, identified a subset of the HITRUST CSF control requirements that an organization must meet to be HITRUST CSF Certified. For those HITRUST CSF control requirements that are not currently being met, the organization must have a CAP that outlines its plans for meeting such requirements.

A full copy of the certification report has also been issued to the organization listed above. This full report includes additional details on the scope of the assessment, a representation letter from management, testing results for those controls required for certification, a benchmark report comparing the organization's results to industry results, details on CAPs required for certification, as well as the completed questionnaire. If interested in obtaining a copy of the full report, you will need to contact the organization directly.

Additional information on the HITRUST CSF Certification program can be found at the HITRUST website: www.hitrustalliance.net.

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Technical Response Supporting Documents



Legacy Data Management

Legacy System Decommissioning, Data Archiving,
and Data Migration/Conversion

3/27/2019

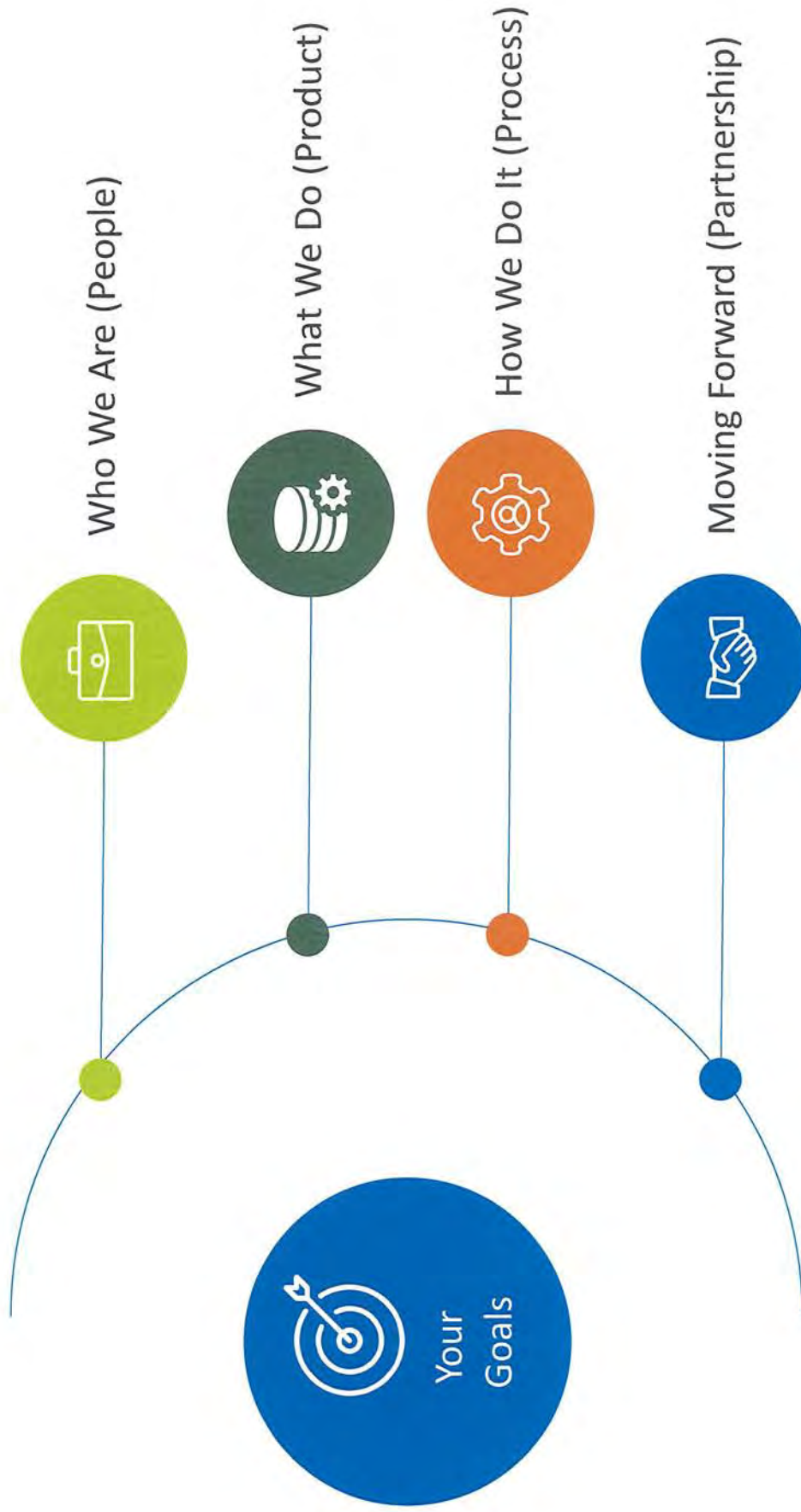


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ARCHIVER

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HAWAII HEALTH SYSTEMS
CORPORATION
Quality Healthcare for All



What We'll Cover Today

Vendor Neutral w/SSO

Easy-to-Use

Scalable

Products

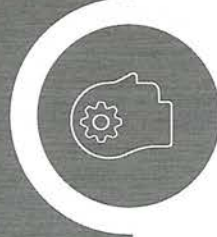


Experts

On-time, On-budget

Full-service

Services



Predictable

No Surprises

Return on Investment

Investment



Engagement Goals



Aurora Health Care*



Indiana University Health



10+ years in business

500+ customers

HQ in South Bend, IN



250+ unique systems

Billions of records

Petabytes of data

Acute & Ambulatory

Clinical & Financials

Business & HR/Payroll



A Proven, Experienced Data Management Partner



- Hosted or VM On-Premise
- Active Directory (LDAP)
- Single Sign-on (SAML)
- Patient Privacy/Audit Log



- Browser-Based Application
- Virtual Server Deployment
- Device Variable
- No Client Software to load
(No JRE, ActiveX, etc.)



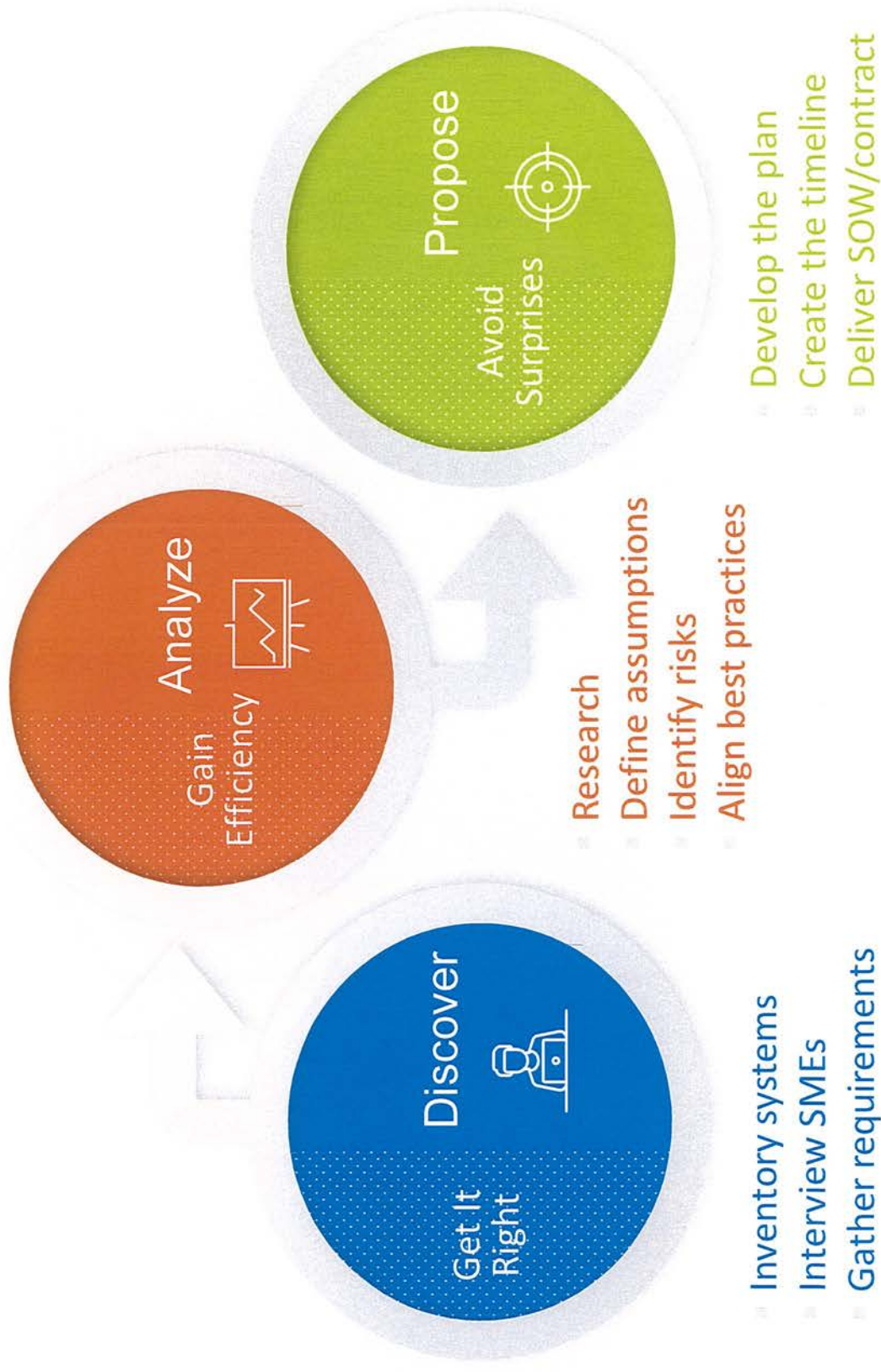
An Easy-to-Use, yet, Powerful Product

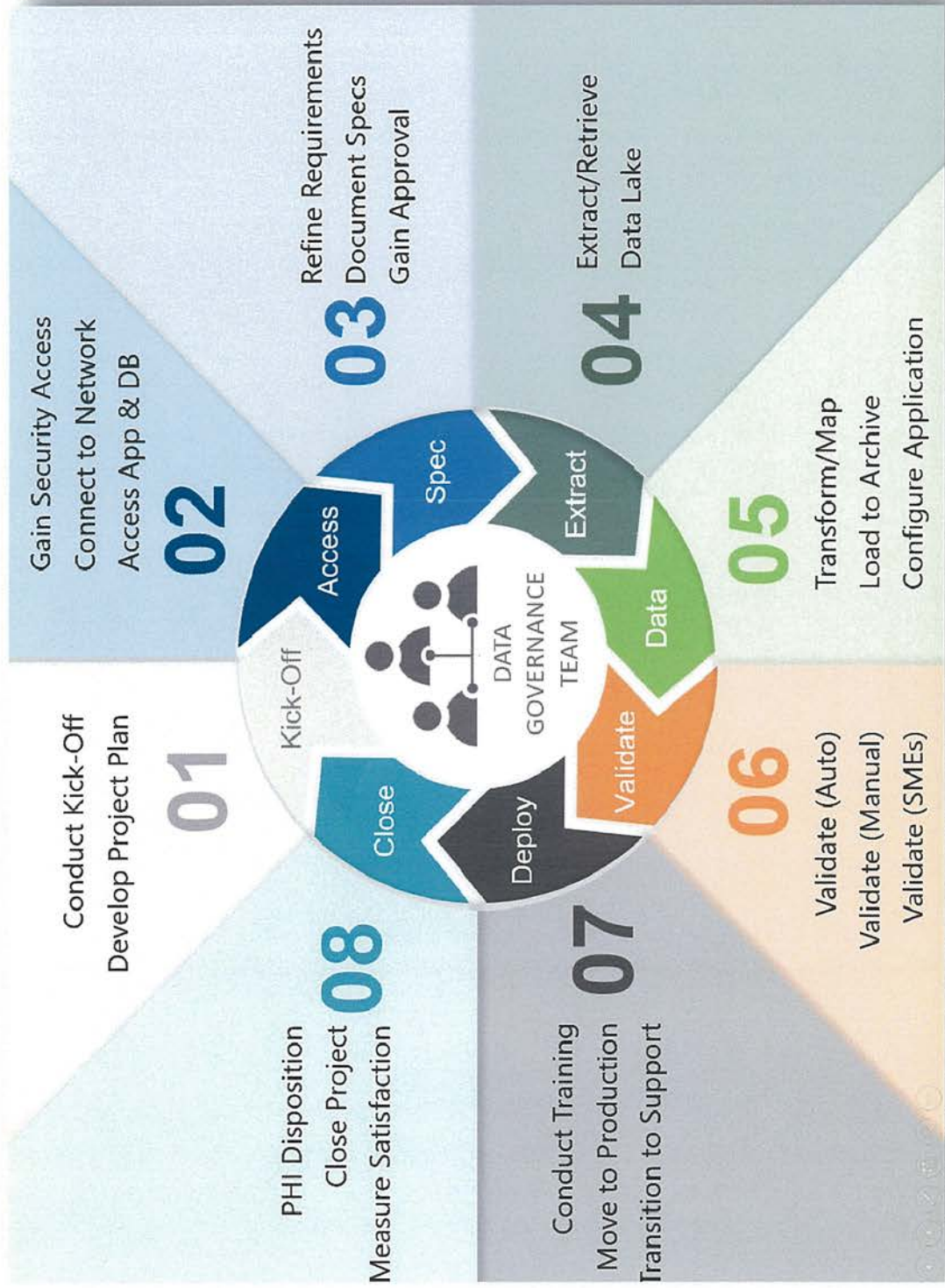


Demo

A live, interactive review
of archive features & workflows







A Standard, Repeatable Process w/ Key Milestones



Executive Sponsor(s) & System Architect



Project Manager

Manage Resources
Communicate



Data Specialists

ETL = Extract, Transform
and Load Data



Business Analyst

Define Requirements
Validate Archive

Our Resources – Project Team Roles



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Executive Sponsor(s) & System Architect



HAWAII HEALTH SYSTEMS
CORPORATION
Quality Healthcare for All

SMEs

Defined Requirements
Validate Archive



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Project Manager

Manage Resources
Communicate



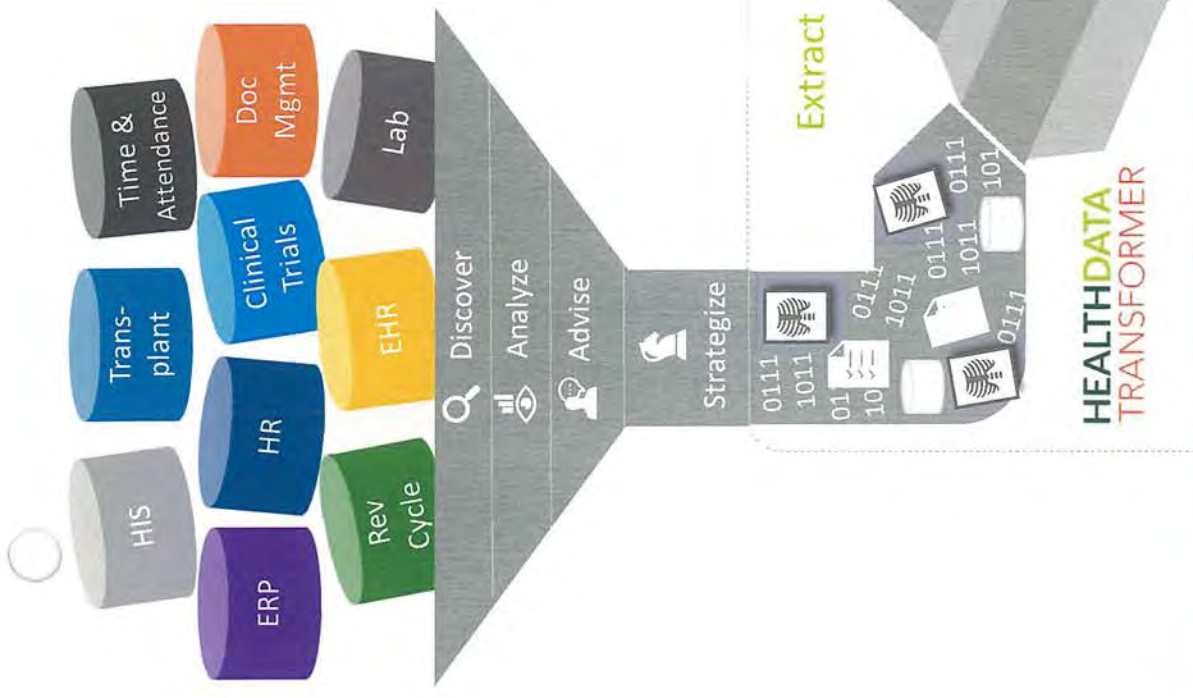
HAWAII HEALTH SYSTEMS
CORPORATION
Quality Healthcare for All

IT Analyst

Assist with Access Setup
Get Us Connected

Your Resources – Roles & Allocation

harmony
HEALTHCARE IT



- ✓ Vendor Neutral
- ✓ Database Agnostic
- ✓ Discrete Data
- ✓ Documents
- ✓ Images
- ✓ PDF Presentation
- ✓ Extreme Flexibility
- ✓ HIPAA Secure



Our ETL & Data Availability Process

 <p>Acute Clinical</p>	 <p>Acute Rev Cycle</p>	 <p>Acute HR/Payroll/GL/AP</p>
4-12 months	3-6 months	2-3 months

 <p>Ancillary Departmental</p>	 <p>Ambulatory Clinical/PM</p>
4-6 months	2-4 months

(Save 3-6 weeks if system access is planned for ahead of time)

Migration and Archival Timelines

Our People



Our Product



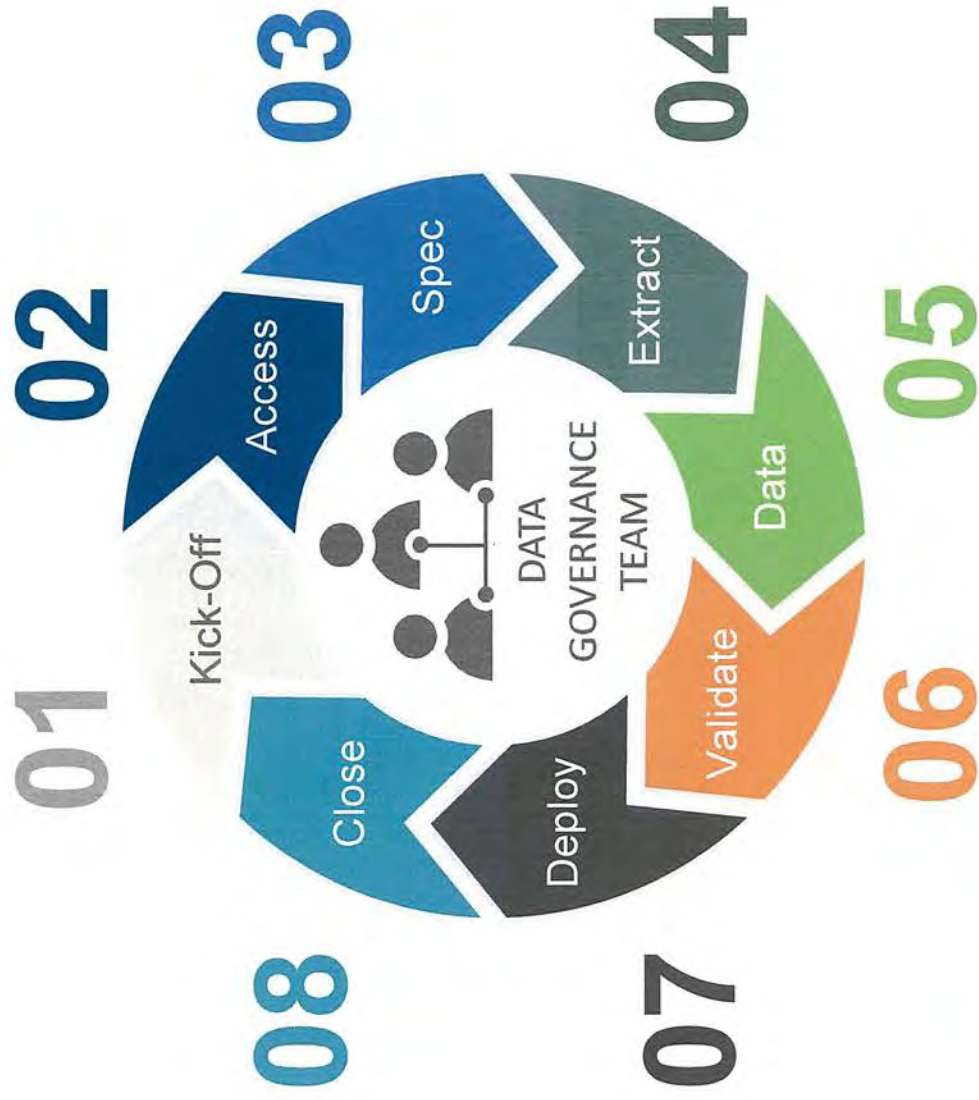
Our Process



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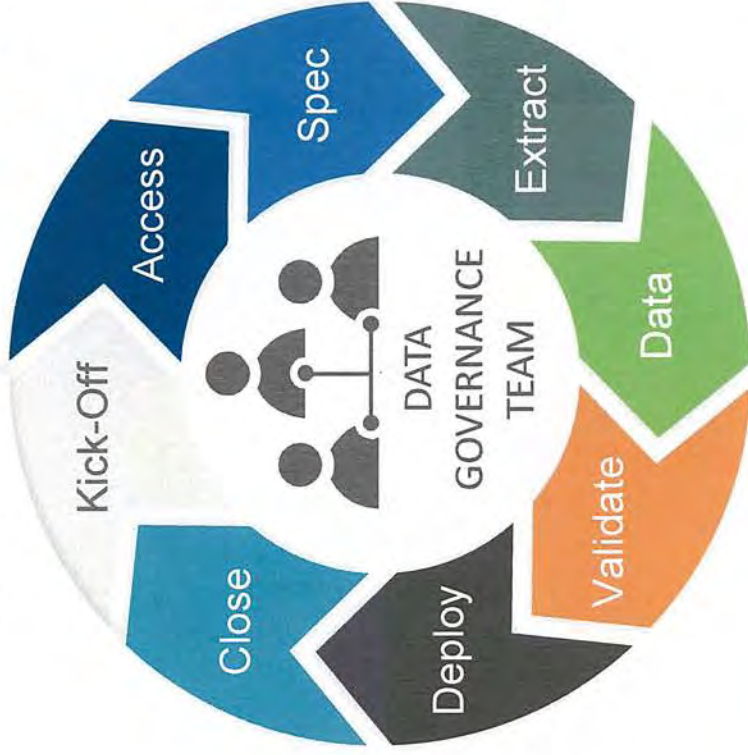
Questions & Answers / Feedback



A Standard Process: Implementation Phase Specifics

Conduct Kick-Off
Develop Project Plan

01



Phase 1: Kick-Off

01 Kick-Off

Program Status Report – Legacy Systems Consulting & Archive Projects

Date: JULY 10, 2015 Prepared By: Fria Kucowski



Executive Summary: *(Click on Hospital/Practice hyperlink to Navigate to specific hospital/practice projects)*

Application/Objective/Tasks	Point Person	Project Phase	Status	In Progress	Next Steps / Target Date(s) / Constraints
CPSI – Accounting	Fria K. / Christy M.	Deploy	Complete	<ul style="list-style-type: none"> Data delivered in validation environment 	<ul style="list-style-type: none"> completed validation Pending deployment to data center until RevCycle is complete and ready to deploy
CPSI – HR & Payroll	Fria K. / Michelle Z.	Deploy	Complete	<ul style="list-style-type: none"> Data delivered in validation environment 	<ul style="list-style-type: none"> Pending deployment to data center until RevCycle is complete and ready to deploy

Name	Project Status	Work	Actual Effort	Duration	Start Date	Actual Start Date	Commit Date	Actual End Date
<ul style="list-style-type: none"> Data deliv 	2.1 Pending Cust Kick-Off	212 h	0 h	76 d	01/01/19		04/16/15	
<ul style="list-style-type: none"> HHIT hanc 		0 h	0 h	1 d	01/01/19		01/01/19	
<ul style="list-style-type: none"> Will J. crez 6/15/15, f 		2 h	0 h	2 d	01/01/19		01/02/15	
<ul style="list-style-type: none"> target dep Gather us 		4 h	0 h	10 d	01/03/19		01/16/19	
		16 h	0 h	5 d	01/17/19		01/23/15	
		12 h	0 h	10 d	01/24/19		02/06/15	
		124 h	0 h	20 d	02/07/19		03/06/16	
		15 h	0 h	5 d	03/07/19		03/13/15	
		10 h	0 h	10 d	03/14/19		03/27/16	
		4 h	0 h	3 d	03/23/19		04/01/15	
		0 h	0 h	1 d	04/02/19		04/02/15	
		0 h	0 h	10 d	04/03/19		04/16/15	
		25 h	0 h	76 d	01/01/19		04/16/15	

Stakeholder Program Status Dashboard

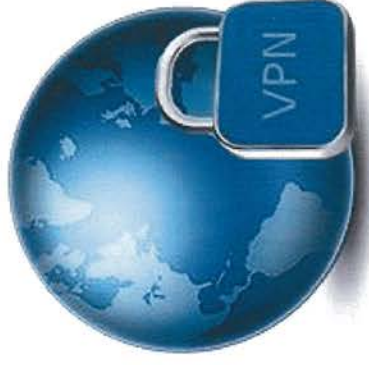
Standard Project Plans (Repeatable)

Phase 1: Kick-Off – Milestone / Completion



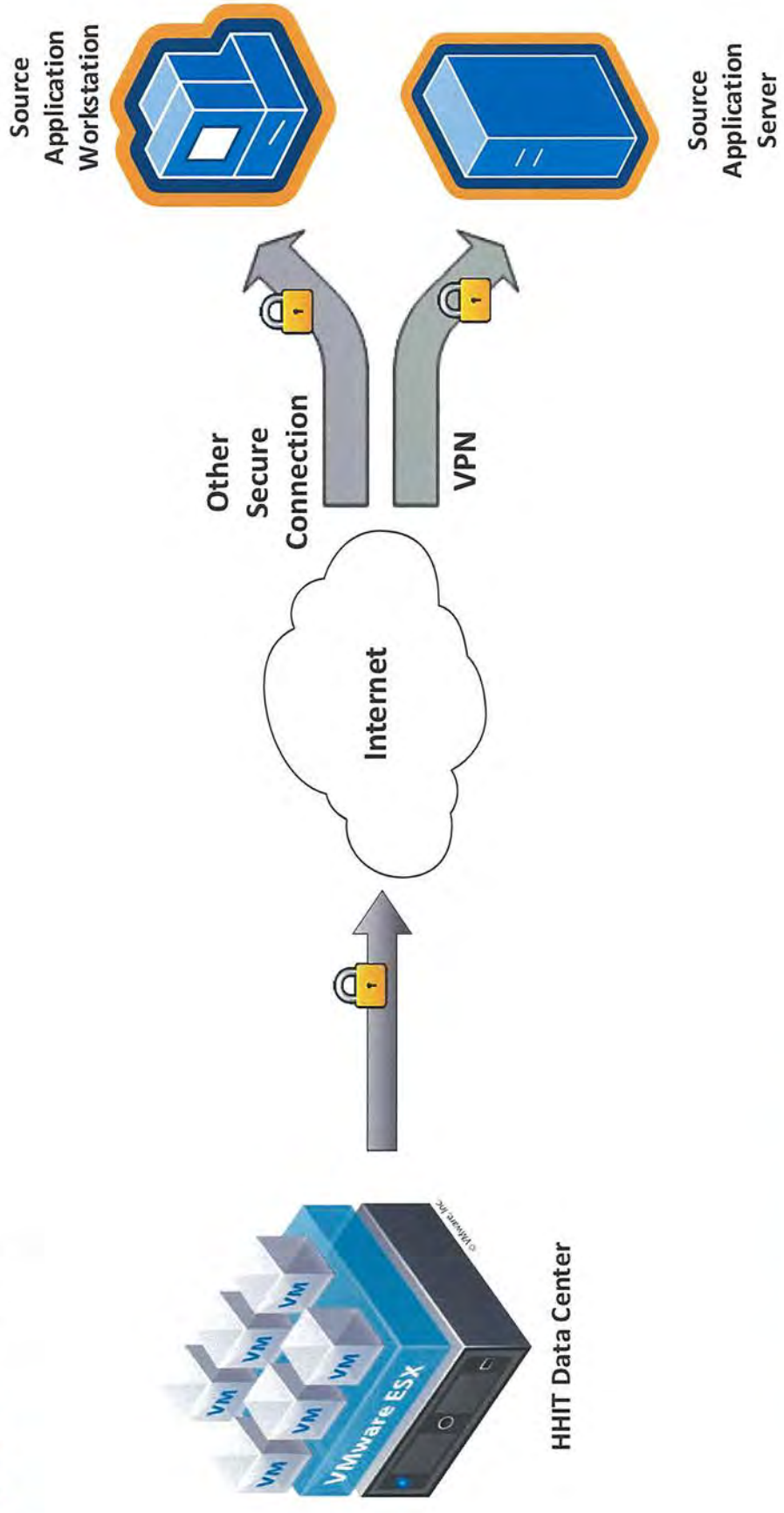
Gain Security Access
Connect to Network
Access App & DB

02



Phase 2: Access

02 Access





03

Refine Requirements
Document Specs
Gain Approval



Phase 3: Requirements

03 Spec

1.0 Area Overviews

Patient Management Overview

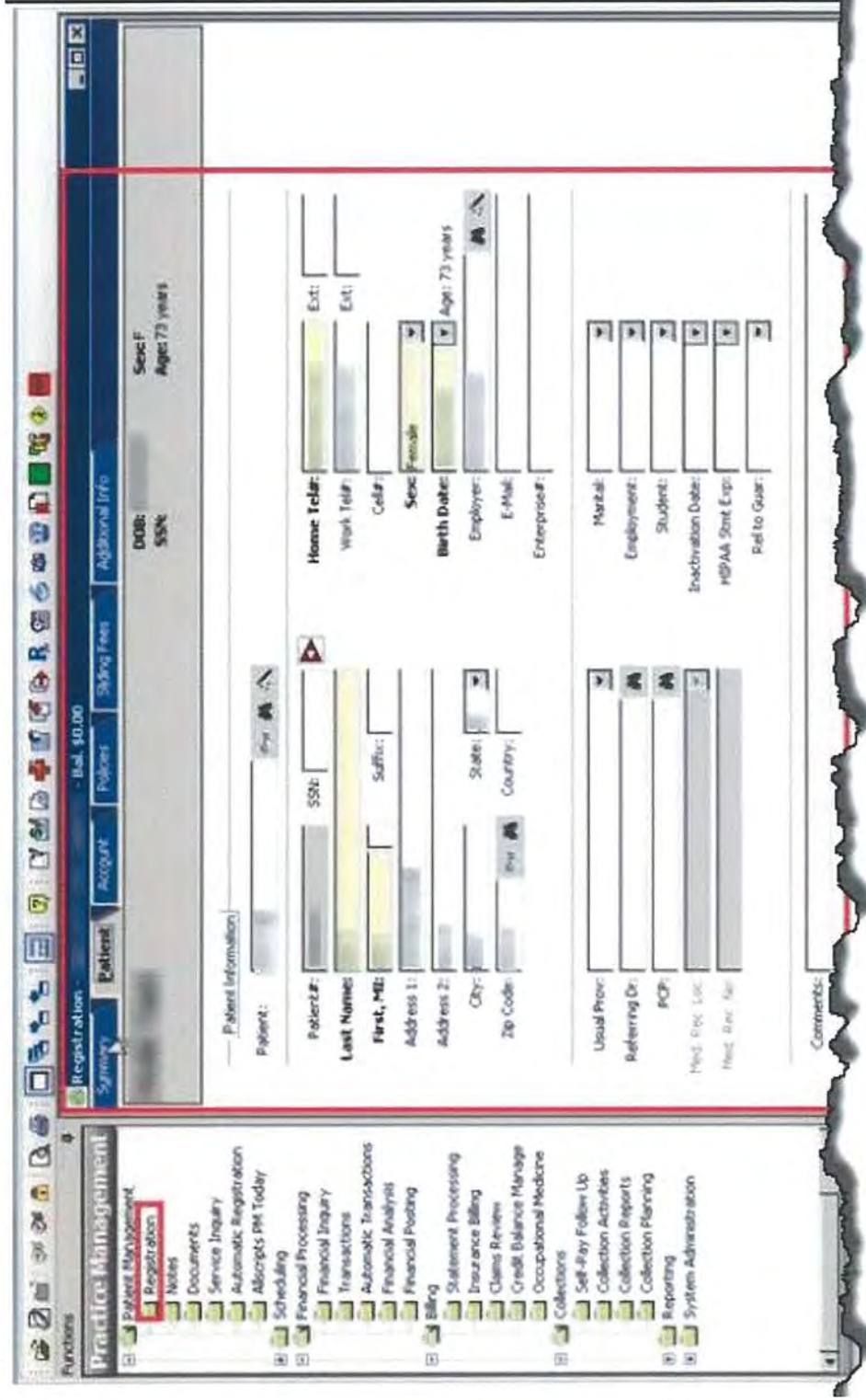
The archive of the Allscripts Ntierprise PM software will include the following Patient Management areas:

Part	Description
Registration	This includes information such as patient, account, policies, and other demographic-related information.
Notes	This tab includes patient, collection, claim, service, voucher, account, and HIPPA notes.
Documents	This section contains patient, collection, recall, outgoing referral, prescription and scheduling documents.
Service Inquiry	Service Inquiry contains patient diagnosis and procedure information. This area is not typically desired for the archive. It often duplicates information that is included in the Financial Inquiry portion of the system.

Scheduling Overview

The archive of the Allscripts Ntierprise PM software will include the following scheduling information. Specific source system screen details can be found in Section 3.0 of this document.

03 Spec



Phase 3: Requirements



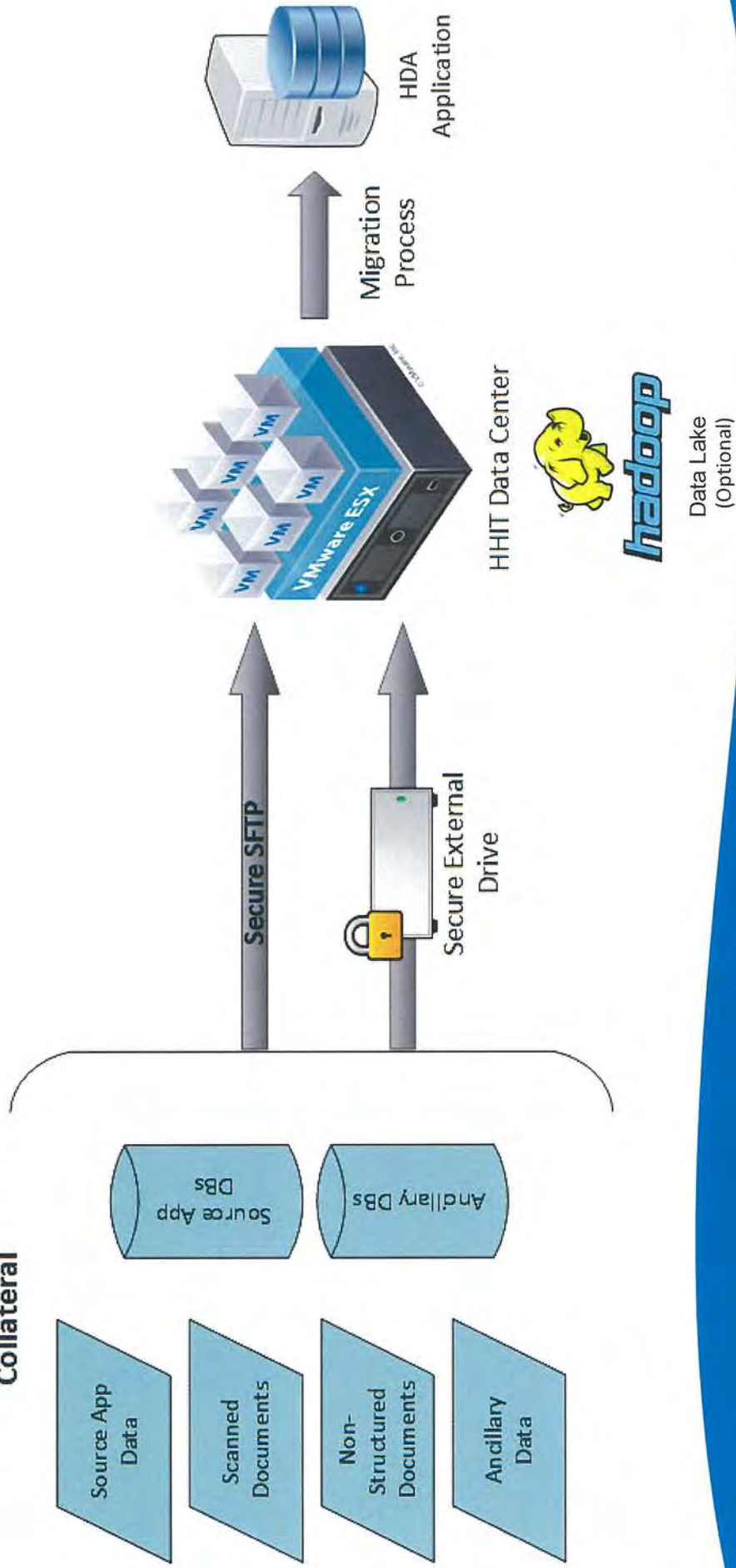
04

Extract/Retrieve Data
MS SQL Server Import

Phase 4: Extract

04 Extract

Source Application
Collateral



Phase 4: Extract – Milestone / Completion

HEALTHDATA TRANSFORMER



or



**HEALTHDATA
ARCHIVER**

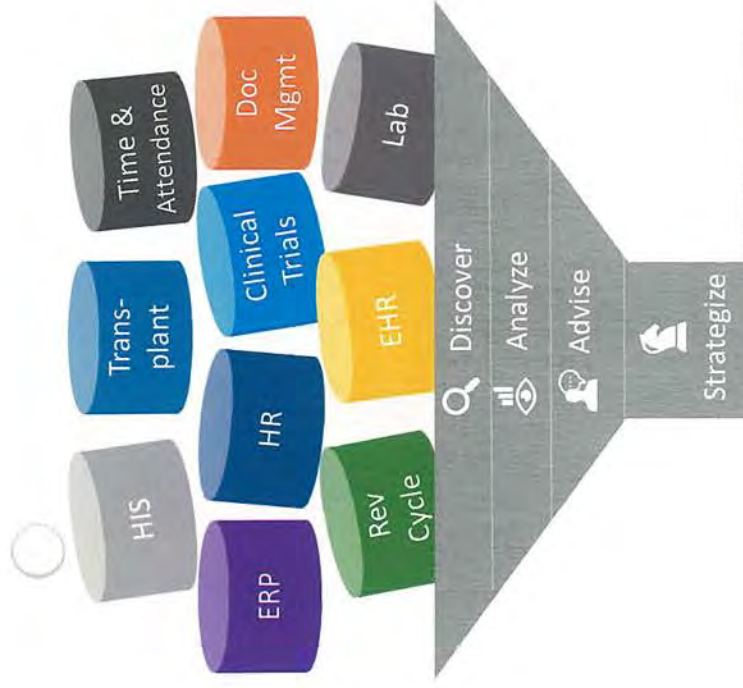
Access Historical Records. Simply.

05

Transform/Map
Load to Archive
Configure Application

Phase 5: Data





Transform & Load

- ✓ Vendor Neutral
- ✓ Database Agnostic
- ✓ Discrete Data
- ✓ Documents
- ✓ Images
- ✓ PDF Presentation
- ✓ Extreme Flexibility
- ✓ HIPAA Secure



Phase 5: Data – Milestone / Completion

PASS
 FAIL



PASS
 FAIL



06

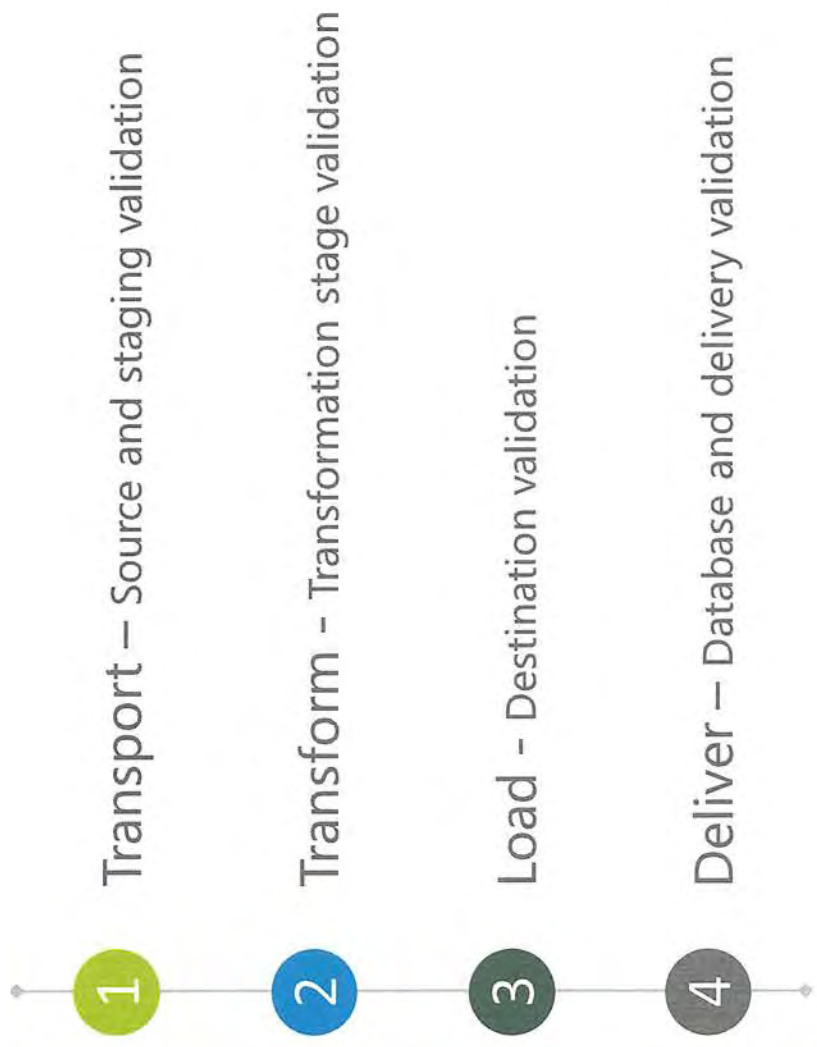
- Validate (Auto)
- Validate (Manual)
- Validate (SMEs)

Phase 6

Multi-Stage Data Validation



06 Validate



Phase 6: Validate

06 Validate

Test Plans provided to assist with SME validation



**Testing and Data Validation Plan
for
GE Carecast (GE data source)**

Last Revised: 11/26/2015

HDA Testing_VValidation Plan
Data Validation Plan
Sample Accounts
Screenshot1

Health Data Archiver Data Validation Plan

<http://val14.harmonyhda.com>

Test #	Patient ID/MRN Validated	HDA Bookmark /Account	Browser:	Pass/Fail	Screenshot (Y or N)	Hyperlink to screenshot	Comments	Data Analyst Response
3.00	ID	Snap Shot				Screenshot3		
3.01		Active Medications	Pass	N				
3.02			Pass	N				
3.03			Fail	Y				
3.04			Pass	N				
3.05			Pass	N				
3.06			Pass	N				
3.07			Pass	N				
3.08								

Multiple medications appear more than once on list; these medications only appear as single entries in Centricity

06 Validate

The screenshot shows the 'SUBMIT VALIDATION ISSUE' form in the HealthData Archiver application. The form is titled 'SUBMIT VALIDATION ISSUE' and is located within the 'HEALTHDATA ARCHIVER' interface. The user is Nancy Denny | 05/24/1991. The form includes the following fields and options:

- Type:** A dropdown menu with 'Missing Data' selected.
- Title:** A text input field containing 'Data should include procedure codes'.
- Description:** A text input field containing 'lest data only'.
- Attachments (Optional):** Three 'Choose File' buttons.
- Facility Name:** A dropdown menu.
- Buttons:** 'Remove Screenshot' (red), 'Submit Issue' (green), and 'Cancel' (orange).

The background shows a navigation menu with options like 'Global Filter', 'Demographics', 'Insurance', 'Allergies', 'Procedures', 'Medications', and 'The Everything Bookmark'. The top navigation bar includes 'HHIT SUPPORT' and various utility icons.

© 2017 Harmony Healthcare IT. All Rights Reserved. Enterprise Version (v8.0.3.1 - PostgresSQL)



Phase 6: Validate

06 Validate

HEALTHDATA ARCHIVER

HHIT SUPPORT     

Validation Issues

Open

Completed

HDAV-267 DATA SHOULD INCLU... ✕


Title	Status	Creator	Date Created
 HDAV-267 Data should include procedure codes	Queue 	HHIT SUPPORT (hhit_support)	10/23/2017 03:04:32 pm

DESCRIPTION
test data only

RECORD DETAILS

app name: Patient Data Archives
bookmark: Procedures
data source name: Facilities
patient.id: 1
url: /medical/4/11/patient/1/Procedures

ATTACHMENTS

 screenshot.png

COMMENTS

This is ok. Not an issue by HHIT SUPPORT (hhit_support)

Add Comment 

https://192.168.21.210/.../version (v8.0.3.1 - PostgreSQL)

Phase 6: Validate



or



24/7

07
Conduct Training
Move to
Production
Transition to
Support

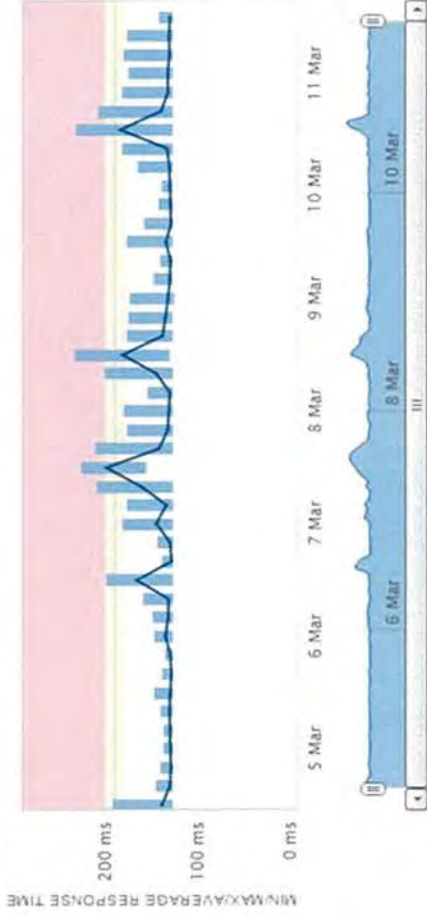
Phase 7: Deploy

07 Deploy

Latest Baseline Details (Response Time)

Latest Baseline Graphs (Response Time)

Occurrences Metric over Time



Latest Baseline Statistics (Response Time)

TIME PERIOD	MIN	MAX	STD DEV (σ)	-3σ	-2σ	-1σ	MEAN	1σ	2σ	3σ
☀	136	242	21	84	106	127	148	170	191	212
🌙	135	243	19	89	108	128	147	167	186	206

LATEST BASELINE DETAILS

Calculated On: March, March, 3, 2015 at 2:15 am (Today)

Baseline Data Used: March 4, 2015 at 12:01 am - March 11, 2015 at 2:14 am

💡 The amount of data to be collected in the baseline is currently set to 7 days -> Change this setting

SELECTED THRESHOLDS

⚠ Warning: 188

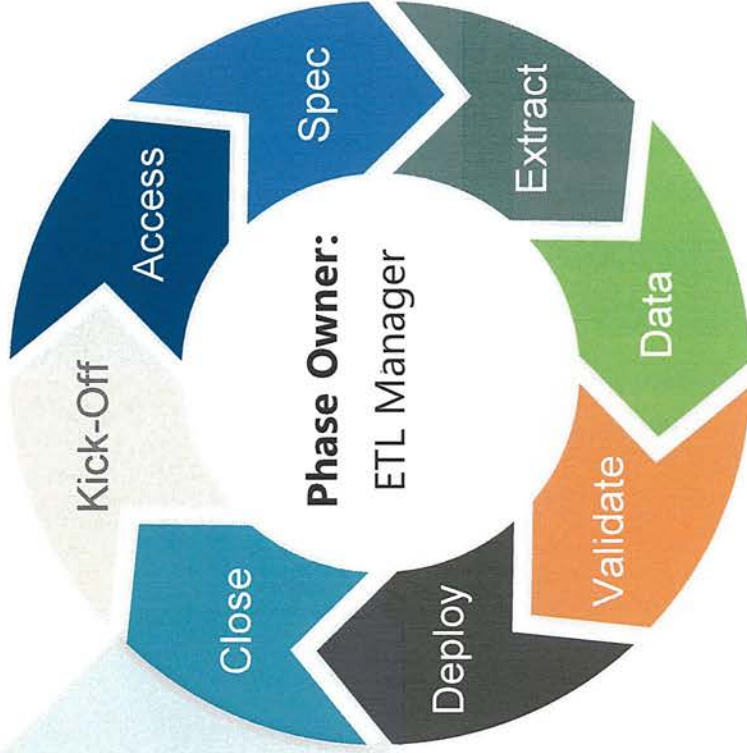
❗ Critical: 208



Phase 7: Deploy – Milestone / Completion

PHI Disposition
Close Project
Measure Satisfaction

08



Phase 8: Close

08 Close

2016 - McKesson HPF - ABC Health System Archival Sign-Off

Archival Data Form	
Originating facility	ABC Memorial Hospital
Common name of source system	McKesson Horizon Patient Folder (HPF)
Common name of destination system	Harmony Health Data Archiver (HDA)
Type of data	Patient Medical Records / Patient Financial Records
Does system include pedial	
Primary system of record & source system medical rx (encounters)	
Medical records archived ()	
Size of data archived	
Archived database contains part of the medical record	
Process for identifying who record	
Description of any data rx	
Process for data validation	
Parties involved in data val	
Data validation dates	
Date form filled out	
Form filled out by	

2016 - McKesson HPF - ABC Health System Archival Sign-Off

By affixing signatures below, parties represent that the information presented fairly and accurately reflects the process of transferring data from production to archival systems for the purposes of meeting various retention requirements.

[Replace with typed name] HIM Signature	Date	[Replace with typed name] PFS Signature	Date
[Replace with typed name] Finance Signature	Date	[Replace with typed name] Clinical Signature	Date
[Replace with typed name] Compliance Signature	Date	[Replace with typed name] Legal Signature	Date
[Replace with typed name] IT Signature	Date		

Survey to Measure Success

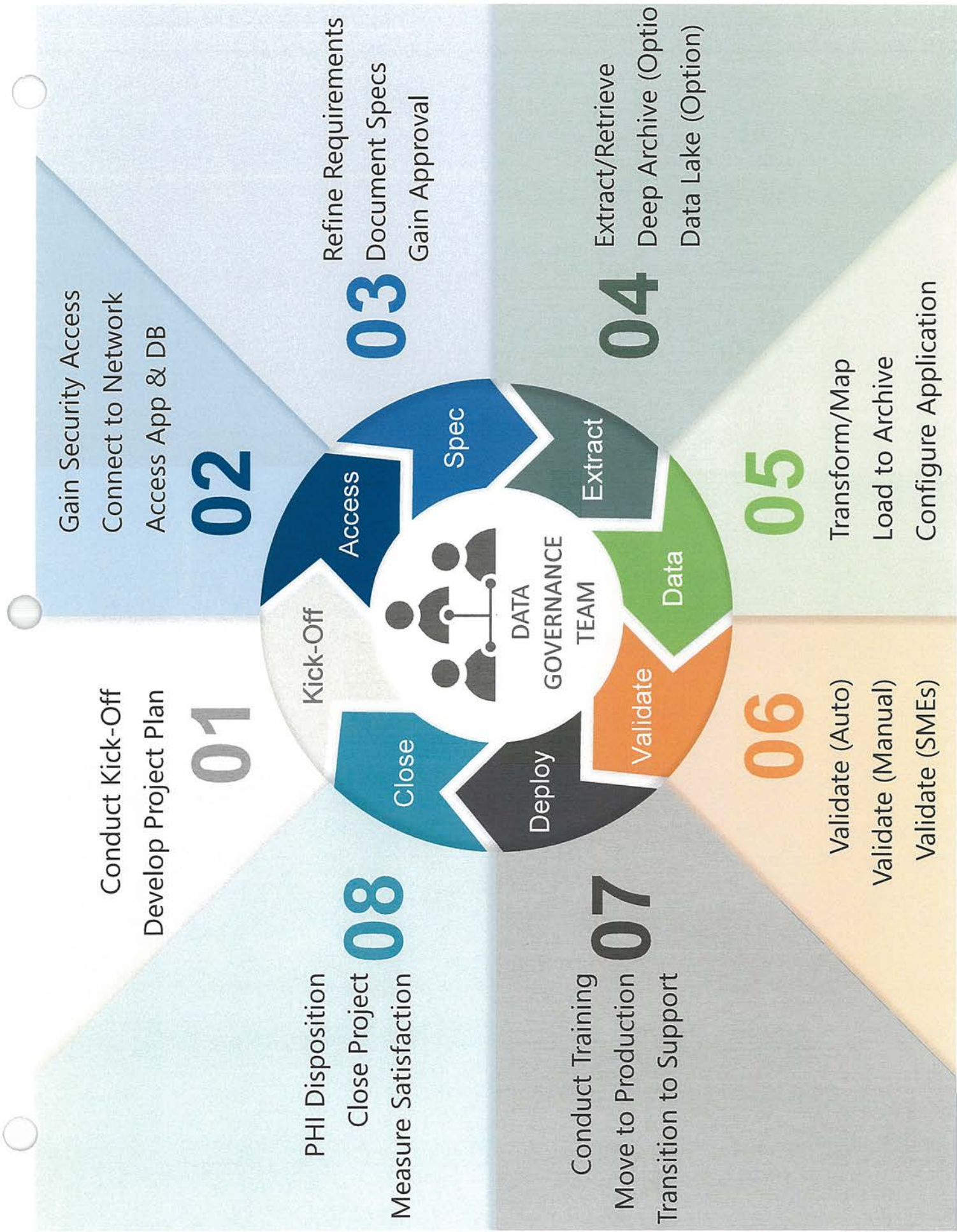
Sincerely,
Johnny Five

How did I do?



Click on a face to provide a rating

Phase 8: Close - Milestone/Completion



01
 Conduct Kick-Off
 Develop Project Plan

02
 Gain Security Access
 Connect to Network
 Access App & DB

03
 Refine Requirements
 Document Specs
 Gain Approval

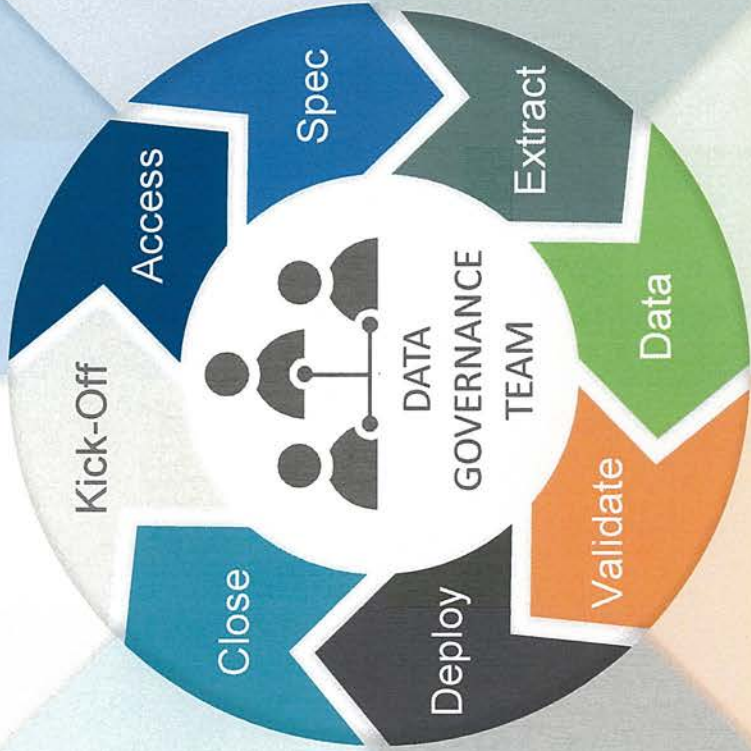
04
 Extract/Retrieve
 Deep Archive (Option)
 Data Lake (Option)

05
 Transform/Map
 Load to Archive
 Configure Application

06
 Validate (Auto)
 Validate (Manual)
 Validate (SMEs)

07
 Conduct Training
 Move to Production
 Transition to Support

08
 PHI Disposition
 Close Project
 Measure Satisfaction



We Get Data.

Preserving vital information to improve lives.

HEALTHDATA
ARCHIVER

Access Historical Records. Simply.



HEALTHDATA
TRANSFORMER

Migrate Records. Efficiently.

Do discovery up front
to get it right

Discover

- Inventory systems
- Interview subject matter experts
- Gather requirements

Optimize the plan
to gain efficiencies

Analyze

- Research
- Define assumptions
- Identify risks
- Align best practices

Be transparent
to avoid surprises

Propose

- Develop the implementation plan
- Create timeline
- Deliver SOW/contract

Our Approach = Get it right up front



Product Training Overview

HEALTHDATA ARCHIVER

Access Historical Records. Simply.

HealthData Archiver® Product Training

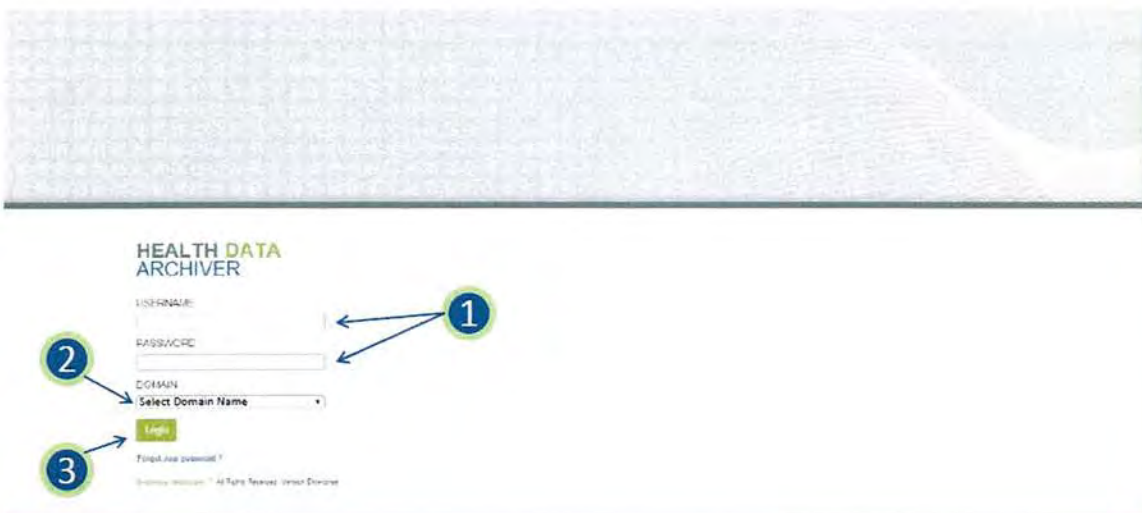
Training is typically coordinated and scheduled by the Project Manager. Session durations are dependent upon number of users and data sources archived (durations provided below are estimates). Training takes place online unless otherwise requested (additional costs may apply for travel to onsite sessions). Optionally, online training may be recorded and provided in .mp4 format for distribution to other users via a client-owned learning management system (LMS).

Administration and Configuration Training			
SESSION TITLE/DESCRIPTION	PARTICIPANTS	TRAINERS	DURATION
Application Configuration <ul style="list-style-type: none"> • Print Options • ROI Print Templates • User Role Configuration • Security Group Permissions • Purge Rule Overview/Setup • Transaction Posting Module* 	Super Users Admin Users Key Decision Makers	Implementation Specialist	2 hours
Administrative Configuration <ul style="list-style-type: none"> • User Authentication • Active Directory Setup • Data Source Deployment • Single Sign-On* 	IT Admin	Systems Analyst	1 hour

*Optional

End User Training			
SESSION TITLE/DESCRIPTION	PARTICIPANTS	TRAINERS	DURATION
Train-the-Trainer Overview <ul style="list-style-type: none"> • End User Workflows • Core Feature Review 	Super Users	Implementation Specialist	1 hour
Training Per Source System Archived	Super Users End Users	Implementation Specialist	1 hour

Upgrade Training (Occurs only after a future upgrade is deployed and may be a recording vs live)			
SESSION TITLE/DESCRIPTION	PARTICIPANTS	TRAINERS	DURATION
Release Note/Feature Review	Super Users End Users Admin Users	Implementation Specialist	.5 to 1 hour



- 1 Login Form**
Contains the Username Field and Password Field. Text in the Password Field is masked.
- 2 Domain Selection**
Select the domain name for access through active directory.
- 3 Login Button**
Submits the values in the Login Form to grant or deny access.



- 5 Login Form**
Contains the Username Field and Password Field. Text in the Password Field is masked.
- 6 Empty Field Error**
Presented when the user leaves the Username or Password field blank.
- 7 Forgot Password Modal**
Presented when the user clicks the Forgot Password Link
- 8 No Permissions Error**
Presented in place of the Bad Credentials Error when the user's credentials are valid, but the user does not have permissions to any apps.

MRN	Account #	Last Name	First Name	Middle Initial	SSN	DOB	Source
034480	2 of 2	CONNELLY	NANCY	L	###-##-####	11/09/1962	1 Memorial Health System
851423	6 of 6	DEVCE	MARIE	R	###-##-####	03/04/1997	2 Memorial Health System
911211	3 of 3	DAVEY	JAMES	R	###-##-####	07/16/1962	1 Memorial Health System
121151	121151	DAVIS	BEN	T	###-##-####	09/05/1978	1 Grant Clinic
47008	47008	DEBRICKSHAW	ANGELINA	V	###-##-####	10/03/2006	1 Grant Clinic
120004	120004	CONNELLY	NANCY	L	###-##-####	11/09/1962	1 Grant Clinic

1 New Search Button

This button clears all of the search fields and the results from the previous search are cleared.

2 Search Criteria

By entering data into any of the search fields, results will be narrowed for selection.

3 Result Row

Result rows will highlight on hover. Clicking a result row opens the Details Modal for that record.

4 Notes Button

This button appears on all rows with "[plus icon] add" if there are no notes present, or "[eye icon] view" if there are 1+ notes. Clicking the button opens the Notes Modal.

MRN	Account #	Last Name	First Name	Middle Initial	SSN	DOB	Source
034480	2 of 2 Account # Admit Date Discharge Date Type 156866 06/02/2011 06/04/2011 inpatient 36832 10/20/2011 10/21/2011 inpatient	CONNELLY	NANCY	L	###-##-####	11/09/1962	1 Memorial Health System
851423	6 of 6	DEVCE	MARIE	R	###-##-####	03/04/1997	2 Memorial Health System
911211	3 of 3	DAVEY	JAMES	R	###-##-####	07/16/1962	1 Memorial Health System
121151	121151	DAVIS	BEN	T	###-##-####	09/05/1978	1 Grant Clinic
47008	47008	DEBRICKSHAW	ANGELINA	V	###-##-####	10/03/2006	1 Grant Clinic
120004	120004	CONNELLY	NANCY	L	###-##-####	11/09/1962	1 Grant Clinic

5 Account/Visit/Enctr. Column

By clicking the up/down arrow indicator, this will show/hide acute visit information. Clicking on a row within this column will narrow the patient display results to only that stay/encounter only once selected.

6 Result Row

By clicking on any area of the result row all records for a given data source will display once the patient is selected.

HEALTHDATA ARCHIVER DEMO USER

NANCY L. DONNELLY | F | 11/28/1962 | 52 - MRN: 034480 Account: (All)

Memorial Health System

Address: 50670 FARMINGDALE DR Phone: (574) 555-1211 SSN: ~~###-##-####~~ Race: W
GRANGER, IN 46930 City: GRANGER Marital Status: M

Accounts

Account #	Type	Admit Date	Discharge Date	Facility
436338	Inpatient	10/20/2011	10/21/2011	Outpatient
266000	Inpatient	09/02/2011	09/04/2011	Inpatient

HEALTHDATA ARCHIVER DEMO USER

NANCY L. DONNELLY | F | 11/28/1962 | 52 - MRN: 034480 Account: 386889

Memorial Health System

Address: 50670 FARMINGDALE DR Phone: (574) 555-1211 SSN: ~~###-##-####~~ Race: W
GRANGER, IN 46930 City: GRANGER Marital Status: M

Demographics

Account #	Full Name	Admit Date	Discharge Date	Physician	Guarantor	Stay Type	Diagnosis
386889	DONNELLY NANCY L	09/02/2011	09/04/2011	BROWNBURG PETER K	DONNELLY NANCY L	Inpatient	UTERINE LEIOMYOMA NOS

1 MRN, All Accounts Selected
By clicking on any portion of the result row outside of the Account column, all patient information will show for a given MRN.

2 MRN, Single Account Selected
By clicking on a single Account row within the Account column, only records for the given encounter display.

3 Bookmarks
Navigation to a single Account may be performed from within the patient details screen if desired. Use bookmarks to navigate to desired contents.

HEALTHDATA ARCHIVER DEMO USER

NANCY L. DONNELLY | F | 11/28/1962 | 52 - MRN: 034480 Account: 386889

Memorial Health System

This is the listing of all GE medications; facility, visit ID# and visit type are all present and can be filtered on.

Manufacturer	Instructions	Start Date	End Date	Location
Zolftab 100 MG (Zoltraine HCL)	1 tab po q day	1999-02-02		SHP
Elixace Tab 2 MG (Elixador)	1 tab po q day			SHP
Elixace Tab 2 MG (Elixador)	1 tab po q day			SHP
Elixace Tab 2 MG (Elixador)	1 tab po q day			SHP
Elixace Tab 2 MG (Elixador)	1 tab po q day			SHP
Elixace Tab 2 MG (Elixador)	1 tab po q day			SHP
Elixace Tab 2 MG (Elixador)	1 tab po q day			SHP
Elixace Tab 2 MG (Elixador)	1 tab po q day			SHP

Filters - Instructions

1 tab

Show All

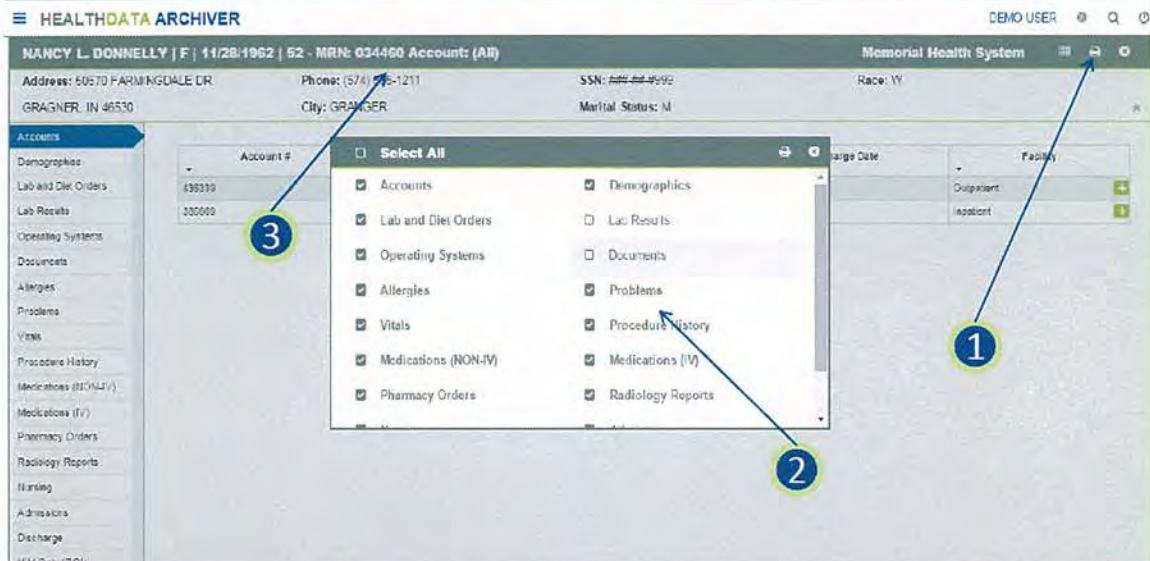
1 Filter / Remove Filter
Selecting the filter arrow will launch a filter dialogue. Clicking the 'x' will remove the filter.

2 Filter Search Form
If the information is known that is being filtered it can be entered to limit the results.

3 Show All
If the exact information is not known to filter on, the Show All button will provide a list of all unique values that can be filtered on.



- 1 Existing Note**
Existing notes will appear date time and user stamped from previous entries.
- 2 Add Notes Button**
User must have permission to add notes to see this button. Clicking this button adds the Add Note Form.
- 3 Add Notes Form**
Form for entry of the Category, Subject and Note Details.
- 4 Actions Buttons**
Save, edit and delete buttons display based on user permissions to access to see and use these buttons.



- 1 Print Icon**
Use of the print icon will display a print option modal.
- 2 Bookmark Selection**
Select / de-select bookmarks to print, click on the Print icon to complete.
- 3 Accounts Bookmark**
Navigation to a single Account may be performed from within the patient details screen if desired.

NANCY DONNELLY | F | 11/28/1962
 MRN: 034460 | Account: (All)
 Memorial Health System 10/26/15 5:53 PM

Demographics:
 Address: 5070 FARMINGDALE DR Phone: (574) 555-1211 SSN: [REDACTED]
 Name: N City: GRANGER State: IN

Bookmark: Accounts:

Account #	Type	Admit Date	Discharge Date	Facility
430333	Inpatient	10/06/2011	10/23/2011	Outpatient
300859	Inpatient	09/02/2011	09/04/2011	Inpatient

Bookmark: Demographics:

Account Number	Full Name	Admit Date	Discharge Date	Physician	Quarantor	Stay Type	Diagnosis
430333	DONNELLY NANCY L	10/06/2011	10/23/2011	MURPHY TC	DONNELLY NANCY L	Outpatient	CHEST PAIN

Demographic Information

Name:	DONNELLY NANCY L	Secondary name:		Maiden Name:	
Birth Place:		Address:	5070 FARMINGDALE DR	Address 2:	
State:	IN	City:	GRANGER	Zip Code:	46530
County:		State:	IN	Gender:	F
Language:	English	Race:	M	Religion:	ME

Smoker Status

Smoker:	Smoker	Current every day smoker:	Stroke Start Date:
---------	--------	---------------------------	--------------------

Quarantor Information

Quarantor Name:	DONNELLY NANCY L	Address 1:	5070 FARMINGDALE DR	Address 2:	
Quarantor City:	GRANGER	Quarantor State:	IN	Quarantor Zip:	46530

1 2

1 Printout
 The print out will appear as a PDF in a new browser tab to review before printing.

2 Options
 By hovering at the lower corner of the screen, PDF options will appear, select the print icon to send to a printer.

HEALTHDATA ARCHIVER DEMO USER

NANCY L. DONNELLY | F | 11/28/1962 | 52 - MRN: 034460 Account: (All) Memorial Health System

Address: 5070 FARMINGDALE DR Phone: (574) 555-1211 SSN: [REDACTED] Race: W
 GRANGER, IN 46530 City: GRANGER Marital Status: M

Accounts

Account #	Date	Order Number	Test Description	Facility
459377	06/05/2011	1237	URINALYSIS W/MICROSCOPIC	ER
459377	06/05/2011	1237	CBC WITH DIFF	ER
459377	06/05/2011	1237	UPASE	ER
443525	11/05/2011	62653	URINALYSIS W/MICROSCOPIC	ER
443525	11/05/2011	62652	UPASE	ER
441525	11/05/2011	62650	CBC WITH DIFF	ER
436333	10/06/2011	42135	CBC WITH DIFF	Outpatient
436333	10/06/2011	42147	TSH	Outpatient
430615			CBC WITH DIFF	ER
430615			URINALYSIS W/MICROSCOPIC	ER
430615			UPASE	ER

1 2

1 Export
 Selecting the export button on any bookmark will export the data to .csv and open in Microsoft Excel®. The file will download and depending on the browser used, clicking the file will launch the document (shown using Chrome). * Note: This feature is available in IE9 or higher, or any modern browser (IE8 is not supported).

2 Column Sort
 Clicking on the column header will change the sort order of a column.