Lab-VA HDR and COTS Interface
User Guide
for Patch LA*5.2*68

July 2010

Department of Veterans Affairs
VistA Health Systems Design & Development

Revision History

Date	Description	Author
May 2009	Draft for Patch LA*5.2*68 Incorporated the Installation, User, Technical, and Implementation/Security Guides into one document	CBeynon
December 2009	Changed dates to December 2009	CBeynon
January 2010	Changed dates to Month 2010	CBeynon
March 2010	Changed dates to May 2010	CBeynon
April 2010	Added updates provided by HDR	CBeynon
June 2010	• Added updates recommended by Mike Belschwinder, Clinical 2 Team • Added updates provided by John McCormack • Changed dates from May 2010 to July 2010 for July release date • Added updates from HDR	CBeynon
July 2010	Corrected the Blood Bank Statement	C Beynon

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Introduction

Patch LA*5.2*68 supports the Veterans Affairs (VA) Health Data Repository (HDR) effort, by allowing changes to the VistA Laboratory LAB DATA file (#63) to be transmitted to the HDR and Commercial Off the Shelf (COTS) subscribers using a VistA Laboratory HL7 result (ORU) message. The HL7 ORU messages containing verified patient laboratory results are transmitted to the subscribers of the HL7 event protocol **LA7 Lab Results Available (EVN)**, as verified results are made available within the Laboratory package. This event supports subscripts: CH, MI, SP, CY, and EM.

VistA Laboratory Subscript	**Traditional Functional Sections**
CH	Chemistry, Hematology, Coagulation, Serology, Urinalysis, etc.
MI	Microbiology, Virology, Mycology, Parasitology
SP	Surgical Pathology
CY	Cytopathology
EM	Electron Microscopy

Health Data Repository

Patch LA*5.2*68 allows the HL7 ORU message containing patient laboratory results to be transmitted to the subscriber, LA7 LAB RESULTS TO HDR (SUB). This subscriber protocol is used to transmit laboratory results to the VA HDR.

- After you activate sending messages to the HDR, extracting existing laboratory data (HDR historical) will follow, so that there will be an overlap with no gaps of laboratory data within the HDR.
- Once you activate sending messages to the HDR, do not inactivate, as this can cause gaps of laboratory data within the HDR.
- If you must inactivate sending messages to the HDR, contact the HDR program office, so that the laboratory data can be tracked and recovered.

Blood Bank Clearance

```
VISTA Laboratory Package patch LA*5.2*68 contains changes to software
controlled by VHA DIRECTIVE 99-053, titled VISTA BLOOD BANK SOFTWARE.
Changes include:
    New style indexes have been created for the following sub-files
    of the LAB DATA file (#63):
        ELECTRON MICROSCOPY (#63.02)
        SURGICAL PATHOLOGY (#63.08)
        CYTOPATHOLOGY (#63.09)

All of the above changes have been reviewed by the VISTA Blood Bank
Developer and found to have no impact on the VISTA BLOOD BANK SOFTWARE
control functions.


RISK ANALYSIS: Changes made by patch LA*5.2*68 have no effect on Blood Bank
     software functionality, therefore RISK is none.


EFFECT ON BLOOD BANK FUNCTIONAL REQUIREMENTS: Patch LA*5.2*68 does not alter
     or modify any software design safeguards or safety critical elements
     functions.


POTENTIAL IMPACT ON SITES: This patch contains changes to 0 routines and 1
     file identified in Veterans Health Administration (VHA) Directive 99-
     053, group B listing. The changes have no effect on Blood Bank
     functionality or medical device control functions. There is no adverse
     potential to sites.
```

About This Guide

This user guide provides instructions for installing the Veterans Health Information Systems and Technology Architecture (VistA) Patch LA*5.2*68 for the Laboratory package, as well as pertinent technical, implementation, and security information.

Installation Procedure

The patch is of category: Routine, Enhancement, and Data Dictionary.

- Patch installation can be queued
- Install time for this patch is less than five minutes
- Install this patch during non-peak requirement hours
- Coordinate patch installation with the Laboratory Information Manager (LIM/ADPAC)
- You can install this patch when Laboratory users are on the system
- Patch pre-install routine:
  a. Notifies mail group LMI that installation has started
  b. If previous versions of the patch are installed, it saves the current status of the HDR interface
- Patch post-install routine:
  a. Notifies mail group LMI that installation has finished
  b. If previous versions of the patch are installed, it restores the status of the HDR interface to pre-installation condition
  c. Clears facility name from the LA7LAB entry in the HL7 APPLICATION PARAMETER FILE (#771), if present

  Note: Kernel patches must be current on the target system to avoid problems loading and/or installing this patch.

  Note: Before installing Patch LA*5.2*68, you must install the following associated patches.

	(v)LA*5.2*27		(v)LA*5.2*64
	(v)LA*5.2*46		(v)LA*5.2*69
	(v)LA*5.2*51		(v)LA*5.2*70
	(v)LA*5.2*61		(v)LA*5.2*71

1. Load **TRANSPORT GLOBAL**.
2. Select the PackMan message containing Patch LA*5.2*68 and invoke the PackMan option: **INSTALL/CHECK MESSAGE**.
3. Access the Kernel Installation & Distribution System (KIDS) menu [XPD MAIN]:

```
Edits and Distribution ...
Utilities ...
Installation ...
```

4. Select Kernel Installation & Distribution System Option:

```
Installation
----
1      Load a Distribution
2      Verify Checksums in Transport Global
3      Print Transport Global
4      Compare Transport Global to Current System
5      Backup a Transport Global
6      Install Package(s)
       Restart Install of Package(s)
       Unload a Distribution
```

```
Select Installation Option:
```

5. The following options in the Installation menu are optional, but the recommendation is to run these options. When prompted for the INSTALL NAME, enter LA*5.2*68.
   a. Backup a Transport Global - This option creates a backup message of any routines exported with this patch. It does not backup any other changes, such as DDs or templates.
   b. Compare Transport Global to Current System - This option allows you to view all changes made when this patch is installed. It compares all components of this patch (routines, DDs, templates, and so on).
   c. Verify Checksums in Transport Global - This option ensures the integrity of the routines that are in the Transport Global.
6. Select Installation Option: **Install Package(s)**. (The installation of the KIDS patch begins at this step.) When prompted for the INSTALL NAME, enter LA*5.2*68.

   Note: Routine LA68 is automatically deleted by KIDS after a successful patch installation.

Installation Example

```
Select Installation Option: 6  Install Package(s)
Select INSTALL NAME: LA*5.2*68 Loaded from Distribution  2/4/05@10:21
     => LA*5.2*68

This Distribution was loaded on Feb 04, 2005@10:21 with header of LA*5.2*68
It consisted of the following Install(s): LA*5.2*68
Checking Install for Package LA*5.2*68
Will first run the Environment Check Routine, LA68

                         --- Environment Check is Ok ---

Install Questions for LA*5.2*68

Incoming Files:
   62.48     LA7 MESSAGE PARAMETER  (including data)
      Note:  You already have the 'LA7 MESSAGE PARAMETER' File.
      I will OVERWRITE your data with mine.


   63        LAB DATA  (Partial Definition)
      Note:  You already have the 'LAB DATA' File.


      Want KIDS to Rebuild Menu Trees Upon Completion of Install? NO//


      Want KIDS to INHIBIT LOGONs during the install? NO// NO
      Want to DISABLE Scheduled Options, Menu Options, and Protocols? NO// NO

      Enter the Device you want to print the Install messages.
      You can queue the install by enter a 'Q' at the device prompt.
      Enter a '^' to abort the install.

DEVICE: HOME//  TELNET VIRTUAL

 Install Started for LA*5.2*68 :
```

```
               Feb 04, 2005@10:21:55

Build Distribution Date: Feb 04, 2005

 Installing Routines:.............
               Feb 04, 2005@10:21:55

 Running Pre-Install Routine: PRE^LA68.

               Sending install started alert to mail group G.LMI

                          *** Pre install started ***

                           --- No action required---

                         *** Pre install completed ***

 Installing Data Dictionaries: ...
               Feb 04, 2005@10:21:55

 Installing Data:
               Feb 04, 2005@10:21:55

 Installing PACKAGE COMPONENTS:

 Installing HL7 APPLICATION PARAMETER...

 Installing PROTOCOL..
  Located in the LA7 (LAB MESSAGING) namespace..
  Located in the LA7 (LAB MESSAGING) namespace..
  Located in the LA7 (LAB MESSAGING) namespace..

             Feb 04, 2005@10:21:55

 Running Post-Install Routine: POST^LA68.

                           *** Post install started ***

          *** Clearing facility name for LA7LAB entry in file #771 ***

                     *** Clearing facility name completed ***

                          *** Post install completed ***

               Sending install completion alert to mail group G.LMI

 Updating Routine file......

 Updating KIDS files.......

 LA*5.2*68 Installed.
               Feb 04, 2005@10:21:55

 Install Message sent #xxxx
```

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Post-installation Considerations

HL7 Event Protocol

The HL7 event protocol **LA7 LAB RESULTS AVAILABLE (EVN)** supports subscripts: CH, MI, SP, CY, and EM.

Activate Message Generation and Transmission

Use the following steps only when activating the transmission of laboratory data to the VA HDR and/or interfacing to a Commercial Off the Shelf System (COTS) or other VistA subscriber.
No further action is required, if there is no requirement to activate this interface.

- To activate messaging to the VA HDR perform steps 1, 2, and 3.
- To activate messaging to COTS and other VistA subscribers perform steps 1 and 4.

1. Generate and transmit HL7 Lab ORU result messages
   a. Enable the configuration **LA7HDR** in LA7 MESSAGE PARAMETER file (#62.48), and use VA File Manager to set the field Status (#2) to **Active**.
   b. When this field is set to **Inactive**, the generation of the Lab HL7 ORU message is turned off.

```
Select VA FileMan Option:  Enter or Edit File Entries

INPUT TO WHAT FILE: LA7 MESSAGE PARAMETER// 62.48  LA7 MESSAGE PARAMETER
 EDIT WHICH FIELD: ALL// STATUS
 THEN EDIT FIELD:

Select LA7 MESSAGE PARAMETER CONFIGURATION: LA7HDR
STATUS: INACTIVE// ACTIVE  ACTIVE
```

2. Set up the **VDEFVIE4** link for Laboratory data transmission
   a. Use the HL7 Main Menu: Select **Filer and Link Management Options** option to edit logical link **VDEFVIE4**.
   b. Enable **Auto Startup** and add the IP address and port number.
      IP address: **10.224.67.234**
      Port number: **5021**
   c. Use the HL7 Main Menu, **Start/Stop Links** option to start the **VDEFVIE4** link.
   d. Use the HL7 Main Menu, **Site Parameters Edit** option to select **VDEF** view and add **VDEFVIE4** to the view.
3. Activate the interface to the VA HDR
   a. On the HL package, Interface Developer Options [HL MENU INTERFACE TK], use the **Protocol Edit [HL EDIT INTERFACE]** menu option to edit the protocol **LA7 LAB RESULTS TO HDR (SUB)**.
   b. On the second ScreenMan screen, remove the leading (**;**) character from the **Routing Logic** field.
   c. Enter the **Save** command to retain the changes to the protocol.

Example: Editing the Routing Logic field

```
                          HL7 SUBSCRIBER                        PAGE 2 OF 2
                        LA7 LAB RESULTS TO HDR (SUB)
------------------------------------------------------------------------------

      RECEIVING APPLICATION: LA7HDR

      RESPONSE MESSAGE TYPE: ACK                          EVENT TYPE: R01

SENDING FACILITY REQUIRED?: YES          RECEIVING FACILITY REQUIRED?: YES

     SECURITY REQUIRED?:

     LOGICAL LINK: VDEFVIE4

PROCESSING RTN:

ROUTING LOGIC: ;D RTR^LA7HDR("CH;")              <-- remove leading ";" character
_______________________________________________________________________________

COMMAND:                                      Press <PF1>H for help    Insert
```

After the change, the field looks like:

```
ROUTING LOGIC: D RTR^LA7HDR("CH;")
```

4. Transmit Lab HL7 ORU result messages to another system, such as a Commercial Off the Shelf System (COTS)
   a. Create an HL7 subscriber protocol, as documented in the *HL7 Site Manager & Developer Manual* version 1.6*56.
   b. Attach the HL7 subscriber protocol as a subscriber to HL7 event protocol, **LA7 LAB RESULTS AVAILABLE (EVN)**.
5. On the HL package, Interface Developer Options [HL MENU INTERFACE TK] menu option, use the **Protocol Edit [HL EDIT INTERFACE]** option to add the HL7 subscriber.

Inactivate Message Generation and Transmission

Notify the HDR Project Office in the event that this interface is deactivated and the interface to the HDR was previously activated

To control Lab HL7 ORU message generation and transmission after the interface is activated or to inactivate message generation and/or transmission, perform the following steps.

- Use step 1 to inactivate **all** message generation to **all** subscribers.
- Use step 2 to inactivate message generation/transmission to a **specific** subscriber.

1. Inactivate Lab HL7 ORU message generation and transmission to **all** subscribers of event protocol, **LA7 LAB RESULTS AVAILABLE (EVN)**

a. Disable the configuration **LA7HDR** in the LA7 MESSAGE PARAMETER file (#62.48), and set the field Status (#2) to **Inactive** using **VA File Manager Enter** or **Edit File Entries [DIEDIT]**.
b. When this field is set to **Inactive**, the generation of the Lab HL7 ORU message is turned off.

2. Inactivate message transmission to a **specific** subscriber
   a. On the HL package, Interface Developer Options [HL MENU INTERFACE TK] menu option, use the **Protocol Edit [HL EDIT INTERFACE]** option to remove the related subscriber protocol from the event protocol **LA7 LAB RESULTS AVAILABLE (EVN)**.
   b. For the VA HDR, remove subscriber protocol **LA7 LAB RESULTS TO HDR (SUB)**.

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Technical Information

Routines

The checksums below are new checksums, and can be checked with CHECK1^XTSUMBLD.

```
Routine Name: LA68
    Before:       n/a   After: B17816218  **68**
Routine Name: LA7HDR
    Before:       n/a   After: B39353571  **68**
Routine Name: LA7HDR1
    Before:       n/a   After: B37911850  **68**
Routine Name: LA7QRY
    Before:  B5873978   After:  B8496816  **46,69,68**
Routine Name: LA7QRY1
    Before: B12341981   After: B34477085  **46,61,68**
Routine Name: LA7QRY2
    Before: B24752999   After: B38475048  **46,69,68**
Routine Name: LA7VHLU
    Before: B42350744   After: B44857108  **46,62,64,68**
Routine Name: LA7VHLU2
    Before: B19775199   After: B28776777  **46,61,64,68**
Routine Name: LA7VHLU3
    Before: B15291257   After: B55573792  **46,64,68**
Routine Name: LA7VHLU4
    Before: B25336667   After: B25782007  **46,64,68**
Routine Name: LA7VHLU5
    Before: B40473983   After: B49053645  **46,64,68**
Routine Name: LA7VHLU9
    Before:       n/a   After: B16600197  **68**
Routine Name: LA7VIN5
    Before: B52231590   After: B62438539  **46,64,68**
Routine Name: LA7VMSG1
    Before: B51506932   After: B52098570  **56,46,61,64,68**
Routine Name: LA7VOBR
    Before: B23749256   After: B25844567  **46,64,68**
Routine Name: LA7VOBRA
    Before: B37451712   After: B39455733  **46,64,68**
Routine Name: LA7VOBRB
    Before:       n/a   After: B12807459  **68**
Routine Name: LA7VOBX
    Before: B25091305   After: B30185961  **46,64,68**
Routine Name: LA7VOBX1
    Before: B15262892   After: B28786998  **46,61,63,64,71,68**
Routine Name: LA7VOBX2
    Before: B15453740   After: B21393582  **46,64,68**
Routine Name: LA7VOBX3
    Before: B33632644   After: B83540167  **46,64,68**
Routine Name: LA7VOBXA
    Before: B31676928   After: B53603815  **46,70,64,68**
Routine Name: LA7VORC
    Before:  B8007778   After: B18625097  **46,64,68**
Routine Name: LA7VORM1
    Before: B52156055   After: B57485485  **27,51,46,61,64,68**
Routine Name: LA7VORU
```

```
    Before: B58855542   After: B24122155  **27,46,61,64,71,68**
Routine Name: LA7VORU1
    Before: B35283793   After: B61414246  **46,64,68**
Routine Name: LA7VORU2
    Before:  B6677596   After:  B5334202  **46,64,68**
Routine Name: LA7VORUA
    Before:  B8112587   After: B11624236  **61,64,68**
Routine Name: LA7VORUB
    Before:       n/a   After: B37430566  **68**

Routine list of preceding patches: 69, 71
```

Exported Options

The LA7 HDR Recover is a new option added to the OPTION file (#19).

```
 NAME: LA7 HDR RECOVER                    MENU TEXT: Recover/Transmit Lab
 HDR Result Messages
   TYPE: run routine                      CREATOR: LDSICREATOR,ONE
PACKAGE: AUTOMATED LAB INSTRUMENTS
  DESCRIPTION:   Option to recover from failed Lab HDR ORU Result message generation
and/or transmission failure. This option allows the user to select those VistA
Laboratory accessions that need to be transmitted to the VA HDR and other subscribers
of the VistA Laboratory Result Available HL7 message capability via the protocol Lab
Results Available Event [LA7 LAB RESULTS AVAILABLE (EVN)].

If the original message generation/transmission failed due to system or communication
problems then using this option will allow the generation of new HL7 messages with the
results associated with the selected accessions. Accessions can be selected using the
human-readable accession designation (area abbreviation modified date accession number
- "CH 1225 100") or the accession's associated 10 character unique identifier (UID)

ROUTINE: RECOVER^LA7HDR
  UPPERCASE MENU TEXT: RECOVER/TRANSMIT LAB HDR RESUL

This option is assigned to the Lab liaison menu option [LRLIAISON] and can be assigned
as needed to support/monitor message transmission to the VA HDR and other subscribers.
```

Purging Capabilities

Purging of LA7 MESSAGE QUEUE file (#62.49) is handled along with other Lab HL7 interfaces via the scheduled task.

```
NAME: LA7TASK NIGHTY                     MENU TEXT: Lab Messaging Nightly Cleanup
  TYPE: run routine                      CREATOR: LDSICREATOR,ONE
PACKAGE: AUTOMATED LAB INSTRUMENTS
DESCRIPTION:   This is a tasked option to check integrity of LA7 MESSAGE QUEUE file
(#62.49) and purge messages that are eligible for purging. It also purges the
following files related to LEDI - SHIPPING MANIFEST (#62.8), LAB SHIPPING EVENT
(#62.85) and LAB PENDING ORDERS ENTRY (#69.6)

This option should be tasked daily, preferably during period when activity in the Lab
Messaging (i.e. Universal Interface, LEDI) package is at a minimum.

Prior to the purge of LA7 MESSAGE QUEUE file (#62.49), an integrity check is
performed. The integrity check can be run with a couple of switches.
```

```
    LA7FIX = 0 - do not fix errors
             1 - do fix errors

    LA7LOG = 0 - do not log errors in XTMP global.
             1 - do log errors in XTMP global

    LA7ION = name of device to print error report if set to
             log errors (LA7LOG=1).
```

These parameters can be setup by TaskMan if the site defines them when scheduling the task.

An example is given below:

```
                        Edit Option Schedule
     Option Name: LA7TASK NIGHTY
     ____________________________________________________________________________

     VARIABLE NAME: LA7FIX                  VALUE: 0
     VARIABLE NAME: LA7ION                  VALUE: "IRM DEVELOP LASER1"
     VARIABLE NAME: LA7LOG                  VALUE: 1
```

If errors are found, an alert is sent to members of the mail group "LAB MESSAGING" notifying them that errors were detected. If
logging of errors occurred then alert recipients will be able to print/view error log from the alert system. Alternatively the
error report can be printed using option Print Lab Messaging Integrity Check [LA7 PRINT INTEGRITY CHECK].

The integrity report can be run alone using option Lab Messaging File Integrity Checker [LA7 CHECK FILES].
INDEPENDENTLY INVOCABLE: YES ROUTINE: EN^LA7PURG
SCHEDULING RECOMMENDED: YES
UPPERCASE MENU TEXT: LAB MESSAGING NIGHTLY CLEANUP

Callable Entry Points

ICR #3556

```
INTEGRATION REFERENCE INQUIRY #3556            MAR 31, 2009  12:04    PAGE 1
-------------------------------------------------------------------------------

      3556     NAME: GET LAB RESULTS
  CUSTODIAL PACKAGE: AUTOMATED LAB INSTRUMENTS          Dallas
SUBSCRIBING PACKAGE: CLINICAL CASE REGISTRIES           Hines
                     Clinical Registries system requires access to the API
                     GCPR^LA7QRY to analyze lab tests and results.  This
                     API is required during the registry update process
                     and the data extract process.
                     HEALTH DATA SYSTEMS
                     CLINICAL PROCEDURES
              USAGE: Controlled Subscri  ENTERED: APR 11,2002
             STATUS: Active              EXPIRES:
           DURATION: Till Otherwise Agr  VERSION:
        DESCRIPTION:                     TYPE: Routine
             Clinical Registries system requires access to the API GCPR^LA7QRY to
             analyze lab tests and results.  This API is required during the registry
```

update process and the data extract process.

ROUTINE: LA7QRY
COMPONENT: GCPR
This component is passed a patient identifier, start and end dates (for when specimens were taken) and NLT and/or LOINC codes and specimen types. The component passes back an array with details of any lab tests with results that occurred within the start and end dates that were for the LOINC or NLT codes and specimen types that were passed in.
The structure of the returned values is as described in the VistA Laboratory VA HDR HL7 Interface Specification. This document Is available from the VA VistA Documentation Library
http://www.va.gov/vdl/

VARIABLES: Input LA7PTID

Patient identifier, either SSN or MPI/ICN or medical record number.
if MPI/ICN then should be full ICN (10 digit number followed by "V" and six digit checksum)
Pass in the 2nd piece of this variable the type of identifier:
SS = Social Security number
PI = VA MPI Integration Control Number
MR = medical record number of patient in file PATIENT/IHS (#9000001)
Example: 1000720100V271387^PI
123456789^SS
123456789^MR

VARIABLES: Input LA7SDT
Start date of query (FileMan D/T, time optional).

VARIABLES:Input LA7EDT
End date of query (FileMan D/T, time optional)
(FileMan D/T^type of date ("CD" or "RAD") Both start and end date values can pass a parameter in the second piece to indicate that the date values are for specimen collection date/time (CD) or results available date (RAD).

Example: LA7SDT="2991001.1239^CD"
LA7EDT="2991002.0331^CD"
LA7SDT="3010201^RAD"
LA7EDT="3010201^RAD"

VARIABLES: Input LA7SC
Array of search codes, either NLT or LOINC
(code^coding system ("NLT" or "LN");

Example: LA7SC(1)="89628.0000^NLT"
LA7SC(2)="84330.0000^NLT"
LA7SC(3)="84295.0000^NLT"
LA7SC(4)="14749-6^LN"
or

The "*" (wildcard) for any code;

```
                    Example: LA7SC="*"
                    or

                    A list of subscripts (separated by commas) from
                    where the results will be extracted ("CH", "MI" or "SP").
                    Example: LA7SC="CH,MI" (CH and MI results only).

                    Pass in the 2nd piece of LA7SC the indicator (1) to return
                    VUID when available.
                    Example:  LA7SC="*^1" or LA7SC="CH,MI^1"

VARIABLES: Input     LA7SPEC
                    Array of specimen types using HL7 source table
                    0070 or "*" (wildcard) for any code. Currently
                    specimen type only supported for CH and MI
                    subscripted tests.

                    Example: LA7SPEC="*"
                    or
                             LA7SPEC(1)="UR"
                             LA7SPEC(2)="SER"
                             LA7SPEC(3)="PLAS"

VARIABLES: Both      LA7QERR
                    Array (by reference) containing any errors.
                    LA7QERR(error number) = text of error message

                    The following error codes and text are returned:
                    1  Invalid patient identifier passed
                    2  No patient found with requested identifier
                    3  No laboratory record for requested patient
                    4  Database error - missing laboratory record for requested
                       patient
                    5  If ICN passed and MPI returns error then the error
                       message for a given ICN
                    6  Unknown search code "_<code>_" passed, where <code> is a
                       LOINC  or NLT code passed in input parameter LA7SC.
                    7  Invalid list of subscripts: '_<subscript>, where
                       <subscript> is the value passed in input parameter
                       LA7SC.
                    99 No results found for requested parameters

VARIABLES: Both      LA7DEST
                    Closed root global reference to return search
                    results (optional).  If this parameter is omitted
                    or equals an empty string, then node
                    ^TMP("HLS",$J) is used.

                    Example: LA7DEST=$NA(^TMP("ZZTMP",$J)).

                    The information returned in this global reference
                    uses the structure of an HL7 message to format the
                    results of the query.

VARIABLES: Input     LA7HL7
                    HL7 field separator and encoding characters (4) to
                    use to encode results (optional). If undefined or
                    incomplete (length<5) then field separator "|"|
```

```
                    and encoding characters "^\~&" are used. See HL7
                    standard for further information of use and
                    purpose of field separator and encoding
                    characters.

                   Example call:
                    S LA7PTID="0000000000v000000^PI"
                    S LA7SDT="3000101"
                    S LA7EDT=$$NOW^XLFDT
                    S LA7SC="*"
                    S LA7SPEC="*"
                   S LA7DEST=$NA(^TMP("ZZTMP",$J))
                   S X=$$GCPR^LA7QRY(LA7PTID,LA7SDT,LA7EDT,.LA7SC,.
                     LA7SPEC,.LA7ERR,LA7DEST,"|^~\&")

KEYWORDS: Clinical Registries
          Hepatitis C

                      ********************
```

External Relationships

Versions of VA FileMan, Kernel, and other software (VistA or other) required to run this software.

- VA FileMan v22
- VA MailMan v8.0
- Health Level Seven v1.6
- Kernel v 8.0

Integration Agreement

Integration Agreement (IA): ICR #3556 NAME: GET LAB RESULTS

Security Information

The Laboratory System interacts with many VistA packages. Because of this interaction, as well as the patient data maintained in the Laboratory files, security is a real and necessary.

Laboratory security is maintained using Laboratory security keys, Laboratory file security, and appropriate Laboratory menu assignments.

Laboratory Keys

Each user must be assigned appropriate **keys** in order to access the Laboratory system. SECURITY KEY file (#19.1) contains the key names, a short description, and a list of the holders. Under each of the appropriate key names, you need to enter the names of the users.

Archiving Capabilities

Currently there are no archiving capabilities required for this patch release.

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Acronyms

Acronym	Description
ADPAC	ADP Application Coordinator
API	Application Programming Interface
CH	Chemistry
COTS	Commercial Off The Shelf System
CY	Cytopathology
DD	Data Dictionary
EM	Electron Microscopy
EVN	Event
HDR	Health Data Repository
HIPPA	Health Insurance Portability and Accountability Act of 1996 (PL 104-191)
HL7	Health Level Seven Standard
IA	Integration Agreement
ICD	Interface Control Document
ICR	Integration Control Reference
IMS	Interim Messaging Solution
LA	Laboratory
LIM	Laboratory Information Manager
MI	Microbiology
MLLP	Minimum Lower Level Protocol
OI	Office of Information
ORM	HL7 Order Message
ORU	HL7 Observation Unsolicited Message
SP	Surgical Pathology
TCP/IP	Transmission Control Protocol/Internet Protocol
VA	Veterans Affairs
VDEF	VistA Data Extraction Framework
VIE	Vitria Interface Engine
VistA	Veterans Health Information System and Technology Architecture