

AutoVerification: VistA Auto Release

VistA Laboratory Enhancements Project

LR*5.2*458 & LA*5.2*88 Patches

Technical Manual and Security Guide



Department of Veterans Affairs

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Version 1.3

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Revision History

Date	Version	Description	Author
06/30/2016	1.3	Changed Checksum of routine LRVRAR due to the addition of comments.	Bonnie brown
06/22/2016	1.2	Incorporated changes from D. Englert, J. McCormack, L. Teitelbaum and M. Belschwinder. Section Documentation Updates: changes made to Lab UI HL V1.6 Upgrade documents from Patch LA*5.2*66.	Bonnie Brown
06/21/2016	1.1	Incorporated changes from J. McCormack.	Bonnie Brown
06/13/2016	1.0	Final peer review: minor formatting changes and footer edits.	Bonnie Brown
6/13/2016	0.9	Incorporated peer review comments from development team.	Kelly Grant
05/25/2016	0.1	Draft initiated	Bonnie Brown

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ORIENTATION

Text Conventions

Throughout this document, the following fonts and other text conventions are used:

Table 1 – Text Conventions

Font	Used for...	Examples:
Blue text, underlined	Hyperlink to another document or URL	“For further instructions on using KIDS, please refer to the Kernel Version 8.0 Systems Manual .”
Green text, dotted underlining	Hyperlink within this document	“MRSA-PT contains reports that will extract and consolidate required data for entry into the Inpatient Evaluation Center (IPEC).”
Arial	Text inside tables	(This table)
Courier New	Menu options	MRSA Tools Parameter Setup
	Screen prompts	Want KIDS to INHIBIT LOGONs during the install? YES//
	Patch names	MMMS*1.0*1
	Vista filenames	XYZ file #798.1
	Vista field names	“In the Indicator field, enter the logic that is to be used to determine if the test was positive for the selected MDRO.”
Courier New, bold	User responses to screen prompts	NO
Franklin Gothic Demi	Keyboard keys	< F1 >, < Alt >, < L >, <Tab>, <Enter>
Microsoft Sans Serif	Software Application names	MRSA Program Tools
	Report names	Procedures report
Times New Roman	Body text (Normal text)	“There are no changes in the performance of the system once the installation process is complete.”
Times New Roman Italic	Text emphasis	“It is <i>very</i> important...”
	National and International Standard names	<i>International Statistical Classification of Diseases and Related Health Problems</i>
	Document names	<i>MRSA Program Tools Technical Manual & Security Guide</i>

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INTRODUCTION

The VistA Laboratory Enhancement (VLE), AutoVerification initiative, is a natural extension of Kansas City (KC) Veterans Affairs Medical Center (VAMC) Innovation Award. This Office of Information & Technology (OI&T) effort both insures the original code conforms to National Release requirements and incorporates additional requested enhancements. The code patches, which give VistA the capability to automatically release verified laboratory results without human intervention, was tested at five Initial Operating Capability (IOC) test sites: KC, Tucson, Fresno, Tampa, and Iowa City. While architected to use with any third party, vendor agnostic Generic Interface Manager (GIM), the Data Innovation's Instrument Manager was tested with this solution since it is already in production use at the majority of the Veterans Health Administration's (VHA) medical facilities. For the AutoVerification effort, a new contract was awarded to Data Innovations (DI) to provide software and guidance for rules creation and configuration for up to four instruments or analyzers at each Initial Operating Capability (IOC) test site. In accordance with regulatory guidelines, each site tested and documented the rule sets they selected and created or customized.

KC VAMC achieved over 90% AutoVerification rate on those tests selected for AutoVerification (besting the goal of 70%). This means a reduction in STAT TAT (Turn Around Time) performance, reduction in the amount of time a Laboratory Technologist/Technician is required to release reports and print reports (both supporting Cost Containment Executive Orders), reduction in data entry errors, and a measureable increase in employee satisfaction.

About the AutoVerification Enhancement

AutoVerification is the...

- Use of algorithms, or set of rules, to make decisions about safety and reliability of results coming off an instrument and posting them to the patient's chart without human intervention.
- Algorithms are based on decision trees a technologist would normally use to assess a result and make a decision to post the result into the patient's chart. The algorithm is executed by computer software and the need for human intervention decreases.
- Algorithms can incorporate instrument Quality Control (QC), moving averages, critical values, specimen characteristics (hemolysis, lipemia, icteric), reference ranges and patient history into its decision making process.
- Since the software puts every result through the same rigorous decision making process the results are evidence based, consistent and reliable.

Currently, results are all manually verified by a technologist using the VistA Legacy Laboratory system. However, more and more facilities are using class III software to implement AutoVerification systems. This Technical Manual focuses on the modifications to the VistA

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Legacy Laboratory system in order to support a Class I software solution to support the receiving, processing, and storing of results verified prior to coming to the VistA system.

Intended Audience

IRM Staff

IRM staff is required for:

- Installation of two patches: LA*5.2*88 and LR*5.2*458
- Assigning menu and [Security Keys \(e.g. pre-existing key: LRVERIFY\)](#)

Laboratory Staff

It is *highly recommended* that the Laboratory Information Manager (LIM), and a representative from the Laboratory section (director, supervisor, or technologist) *jointly* participate in reviewing the parameter set-up for enabling when to use the AutoVerification system with the VistA Auto Release Capability. This group may also wish to review the same acceptance criteria that were established for the test sites to ensure a better understanding of the capabilities of the Auto/Verification enhancement.

Acceptance Criteria

AutoVerification uses Decision Support Algorithms or rule sets to automatically review laboratory results and directly post “normal” results to the patient’s chart. Results that are deemed “abnormal” by the rule set will be reviewed by laboratory personnel before being manually released into the patient’s electronic health record (EHR).

Specifically in VistA:

1. ***VistA Laboratory receives autoverified results from external system:*** Receiving an indication of when a test has been successfully autoverified.
 - Acceptance Criteria:
 - Results received from AutoVerification system contain an indication that the result is ‘AutoVerified’.
 - VistA stores the indicator received from the AutoVerification system with the result.
 - VistA stores the original message transmission for a period of time, as per current VistA capabilities, for troubleshooting purposes.
2. ***VistA Laboratory automatically releases Autoverified Results:*** Processing test results, with an indicator of successful AutoVerification, to Auto Release, making results available to appropriate clinicians and providers with privileges to view the results.
 - Acceptance Criteria:
 - Results received from AutoVerification system that are identified as ‘AutoVerified’ will be automatically released and visible to the clinicians authorized to view the results (as per current VistA/CPRS capabilities) for the patient.
 - Clinicians with appropriate authorization will immediately be able to view the patient’s AutoVerified results via CPRS.

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3. ***VistA Laboratory receives verified results from external system:*** Receiving an indication of when a test has been successfully verified by an authorized technologist.
 - Acceptance Criteria:
 - Results received from AutoVerification system contain unique identification of the technologist who ‘Verified’ the result.
 - VistA stores the identification of the technologist received from the AutoVerification system with the result.
 - VistA stores the original message transmission for a period of time, as per current VistA capabilities, for troubleshooting purposes.
4. ***VistA Laboratory automatically releases Tech Verified Results:*** Processing test results, with an indicator of successful verification by an authorized technologist, to Auto Release, making results available to appropriate clinicians and providers with privileges to view the results.
 - Acceptance Criteria:
 - Results received from AutoVerification system, that are identified as ‘Verified’ will be automatically released and visible to the clinicians authorized to view the results (as per current VistA/CPRS capabilities) for the patient.
 - Clinicians with appropriate authorization will immediately be able to view the patient’s verified results via CPRS.
5. ***VistA Laboratory sends enhanced Order Messages with Provider Contact Information:*** Sending ordering provider contact information to the instrument middleware for the purpose of making it accessible to authorized technologists who are responsible for verifying test results.
 - Acceptance Criteria:
 - VistA Laboratory system will include the provider’s pager and phone number available from New Person File #200, prior to the technologist initiating the results verification process.
 - VistA stores the original message transmission for a period of time, as per current VistA capabilities, for troubleshooting purposes.
6. ***VistA Laboratory Auto Release Patches Operate with AutoVerification System:*** The VistA Auto Release Patches work with the AutoVerification system, instrument middleware, for the purpose of implementing a full end to end AutoVerification solution.
 - Acceptance Criteria:
 - VistA patches are installed and meet acceptance criteria 1-5 above.
 - VistA patches are operating with the DI AutoVerification system.

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AutoVerification Test Sites

[Table 2](#) displays the sites that assisted in testing AutoVerification prior to the release date.

Table 2 – AutoVerification Test Sites

Test Site	Type of Test Site	Date Installed
VA Heartland West - Kansas City	Alpha	11/16/2015
Central California VA Healthcare System - Fresno	Beta	12/8/2015
Iowa City VA Healthcare System	Beta	12/14/2015
James A. Haley Veterans' Hospital – Tampa	Beta	11/30/2015
South Arizona VA Healthcare System – Tucson	Beta	12/22/2015

Database Integration Agreements (DBIA)

There is one [database integration agreement](#) (DBIA) approved for AutoVerification. The following table lists the approved DBIA.

Table 3 – Approved Database Integration Agreements

File	Access	DBIA	Comment
Application proxies – LRLAB, AUTO RELEASE and LRLAB, AUTO VERIFY	N/A	4677	

AutoVerification Routines

The following table lists the M routines included in KIDS build LAB_AUTORELEASE_1_0.KID (checksums were generated using the CHECK1^XTSUMBLD).

Table 4 – AutoVerification Routines

Routine	Routine Description	Checksum
LA7UCFG	Allows configuring Lab Universal Interface entries (LA7UI*) in LA7 MESSAGE PARAMETER file (#62.48) and corresponding entries in AUTO INSTRUMENT file (#62.4) which use the Lab Universal Interface.	B137316017
LA7UCFG1	Check added to Lab UI Configuration Report to warn if the performing lab specified for the associated load list has not been assigned as a division to the LRLAB, AUTO RELEASE proxy.	B29526912
LA7UIO1	This routine builds the ORM Order message for the Laboratory Universal Interface. It was modified to include ordering provider contact information. Check added to see if Lab	B75417661

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Routine	Routine Description	Checksum
	Universal Interface has been upgraded from HL7 V2.2 protocol to HL7 v2.5.1 protocol.	
LA7UTILB	Checks for Auto Release needing to be restarted and asks user if they want the AR processes for selected enabled Load/Work lists to be queued for processing. Called by option Reprocess Lab HL7 Messages [LA7 REPROCESS HL7 MESSAGES].	B23365722
LA7VHL	Include receiving application and receiving facility to ORU message ACK. (From v6 updates)	B38289473
LA7VHLU8	This routine does the constructing of the ordering provider contact information as an HL7 XTN data type. Include error info in ERR segment of ACK.	B60447079
LA7VHLU9	This routine does the constructing of the ordering provider contact information as an HL7 XTN data type.	B33364706
LA7VIN	Modified VistA Laboratory routine LA7VIN to support Auto Release. Added: If universal interface and auto-release turned on then task job(s) to process results in LAH.	B31997123
LA7VIN1	Triggers the building of the enhanced acknowledgement message. Builds ERR segment and includes additional information in acknowledgement for Lab Universal Interface related message – patient name, patient identifier, specimen identifier and generic error message if specific error message is not specified.	B65233143
LA7VIN2	Extract MSH-15 (Accept acknowledgement type) and MSH-16 (Application acknowledgement type) from incoming HL7 message's MSH segment.	B46992282
LA7VIN2A	Check if results are to be auto released then comments (NTE segment) are also to be stored.	B34119950
LA7VIN4	Check OBR-24 for auto release indicator (AR) and use to process associated results through auto release process.	B81803911
LA7VIN4A	To identify inbound messages from the Universal Interface that are to be Auto Released and set flag to create new entry in LAH global and not overlay existing entry on same accession. This routine is a continuation of LA7VIN4 and is only called from there.	B23154184
LA7VIN5	Set flag when extracting test results to submit results to auto release process when processing message complete. Any error encountered when processing ORU messages from DI will be returned in the application ack.	B85555425
LA7VIN5A	Store units, normals and abnormal flags associated with results when results are flagged for auto release.	B34608326

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Routine	Routine Description	Checksum
LA7VORC	Modified to build ORC-14 sequence - Order Callback Phone Number with the ordering provider contact information.	B22779822
LA88	KIDS patch pre-install routine. Deleted by KIDS after successful patch installation. Add prompts to insure site has upgraded COTS to send HL7 v2.5.1 in MSH segments. Code added to update Lab UI protocols to HL7 v2.5.1.	B37005513
LA88A	New routine; The pre-install questions pertaining to updating LAB UI 1.6 to HL7 2.5.1 were moved from the pre-install routine (and defined install questions portion of the KID build) to the Environment check routine. This enables an aborted install to be restarted using the Install Package option.	B100793409
LRDIQ	Added displaying on Summary list report field PERFORMED/RELEASED ON... Also changed display so multiple tests aren't run together on the same line. (From v9 updates). Provide tracking information to LIM/supervisors when reviewing auto released results.	B6385366
LRGP2	Check for auto release process when building test list during release.	B21346835
LRLISTPS	New routine/option Summary List (Patient) [LRLISTPS] to provide LIM/supervisors ability to review details of individual patients' auto released testing results.	B17691343
LRNIGHT	Include task to purge old instrument data from ^LAH global during Nightly Lab Cleanup.	B7575682
LRVER5	Logic added to always use the previously stored units/reference range of verified (unmodified) results when manually modifying data (i.e. Comments) (From v6 updates) Flag indicating the units/normal/delta checks to be stored with a test not being set properly for Lab Group Verify resulting in delta checks not being executed and units/normal not being stored with results.	B148324560
LRVR3	Entry point for task to clean up ^LAH global from Nightly Lab Cleanup.	B108418700
LRVRAR	New routine, main routine that performs the actual auto release of test results that have been flagged as auto verified or tech verified on the laboratory middleware.	B69815158
LRVRARU	New routine that provides utility functions to the auto release process routine LRVRAR. To do the auto releasing will be in the LRVRAR* namespace to keep the actual verifying in the	B32878283

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Routine	Routine Description	Checksum
	automated results LRVR namespace, AR for Auto Release functionality.	

AutoVerification Namespace

AutoVerification uses the LA and LR [namespace](#).

AutoVerification Files

The following table lists the files that are exported with the AutoVerification software.

Table 5 – AutoVerification Files

File Name (Number)	Description	Remarks
LOAD/WORK LIST (#68.2)	PROFILE (#68.23),	New entry for AUTO RELEASE
	DEFAULT REFERENCE LABORATORY (#2.3)	Should be set to the Institution that should be used as the performing and releasing lab for results released via the auto release process
	AUTORELEASE (#2.4)	The Auto Release field (#2.4) in the Load/Work List file (#68.2) is used to mark a profile as being used by the auto release process. There should only be one profile flagged per load list.
AUTO INSTRUMENT (#62.4)	New field: AUTO RELEASE (#99)	Enables Auto Release on an instrument basis, which allows for different levels of granularity
LA7 MESSAGE LOG BULLETINS (#62.485)	New entries	See AutoVerification Bulletin section for details.

AutoVerification Globals

New Global

There are no new globals.

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Temporary Global

AutoVerification uses the pre-existing ^TMP global during report generation to store data needed to compile the reports.

AutoVerification Menus, Options and Templates

AutoVerification comes with the following:

- The new Summary List (Patient) Option [LRLISTPS]
- Minor changes to the Lab Universal Setup Option [LA7 UI SETUP]
- The modified input template [LRLLDFT]

AutoVerification Proxy Users

AutoVerification adds two new application proxy users:

- LRLAB, AUTO RELEASE is used to indicate that the results in VistA Lab were released by an automated Lab process without human interventions.
- LRLAB, AUTO VERIFY is used to indicate that the results were "approved" by an automated process using a rules based system.

Local site personnel should assign DIVISIONS to the new proxy users, LRLAB, AUTO RELEASE and LRLAB, AUTO VERIFY that corresponds to the performing laboratories that will utilize the auto release process.

AutoVerification Bulletins

The following are new entries in the file LA7 MESSAGE LOG BULLETINS (#62.485):

CODE: 301 TEXT: Msg #|1|, User |2| [DUZ: |3|] does not own the LRVERIFY security key. Auto Release not allowed for accession UID |4|. SEND ALERT: YES

CODE: 302 TEXT: Msg #|1|, User |2| [DUZ: |3|] is not an active user on the system. Auto Release not allowed for accession UID |4|. SEND ALERT: YES

CODE: 303 TEXT: Msg #|1|, No verifying user or application proxy found. Auto Release not allowed for accession UID |2|. SEND ALERT: YES

CODE: 304 TEXT: Msg #|1|, User |2| [DUZ: |3|] is not a valid user to verify results. Auto Release not allowed for accession UID |4|. SEND ALERT: YES

CODE: 305 TEXT: Msg #|1|, User |2| [DUZ: |3|] is not allowed to verify. Only auto verification enabled for this instrument. Auto Release not allowed for accession UID |4|. SEND ALERT: YES

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CODE: 306 TEXT: Msg #|1|, User |2| [DUZ: |3|] is not allowed to verify. Only tech verification enabled for this instrument. Auto Release not allowed for accession UID |4|. SEND ALERT: YES

CODE: 307 TEXT: Msg #|1|, Auto Release not allowed for accession UID |2|. Results have previously been released. SEND ALERT: YES

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AutoVerification Parameters

AutoVerification uses the parameters listed in the table below.

Table 6 – AutoVerification Parameters

Parameter	Purpose/Remarks
Auto Release Results System Wide [LA UI AUTO RELEASE MASTER]	NAME: LA UI AUTO RELEASE MASTER DISPLAY TEXT: Auto Release Results System Wide MULTIPLE VALUED: No VALUE TERM: AUTO RELEASE RESULTS SYSTEM WIDE VALUE DATA TYPE: set of codes VALUE DOMAIN: 0:NO (DISABLED);1:YES (ENABLED) VALUE HELP: Do you want to Auto Release Results System Wide? DESCRIPTION: This parameter is used to determine whether lab results are sent to the auto release process. PRECEDENCE: 1 ENTITY FILE: SYSTEM PRECEDENCE: 10 ENTITY FILE: PACKAGE
Lab Ordering Provider Contact Info [LA UI PROVIDER CONTACT INFO]	NAME: LA UI PROVIDER CONTACT INFO DISPLAY TEXT: Lab Ordering Provider Contact Info MULTIPLE VALUED: Yes INSTANCE TERM: Sequence VALUE TERM: Type of Phone Contact VALUE DATA TYPE: set of codes VALUE DOMAIN: 1:PHONE (HOME);2:OFFICE PHONE;3:PHONE #3;4:PHONE #4;5:COMMERICAL;6:FAX;7:VOICE PAGER;8:DIGITAL PAGER VALUE HELP: Specify which method to use to contact the ordering provider. INSTANCE DATA TYPE: numeric INSTANCE DOMAIN: 1:8:0 INSTANCE HELP: Enter the sequence for the contact info. DESCRIPTION: Contains the list of which contact info for the ordering provider to send in a Lab HL7 Order message from the user's corresponding entry in NEW PERSON file (#200). It can be specified at the system or the individual user level. If specified at the user level it takes precedence and overrides the setting at the system level allowing

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Parameter	Purpose/Remarks																															
	<p>specific users to have their own specific set of contacts to send. The sequence specifies the order and info to check, maximum of 6 allowed. Only the first 2 with a value will be placed in the message as the HL7 Standard constrains the number of repetitions for this information at 2. The value specifies which field from the person's entry in NEW PERSON file (#200) to send in the message.</p> <p>These are the fields currently available.</p> <table><tr><th>Field #</th><th>Field Name</th><th>Description</th></tr><tr><td>.131</td><td>PHONE (HOME)</td><td>This is the telephone number for the new person.</td></tr><tr><td>.132</td><td>OFFICE PHONE</td><td>This is the business/office telephone for the new person.</td></tr><tr><td>.133</td><td>PHONE #3</td><td>This is an alternate telephone number where the new person might also be reached.</td></tr><tr><td>.134</td><td>PHONE #4</td><td>This is another alternate telephone number where the new person might also be reached.</td></tr><tr><td>.135</td><td>COMMERCIAL PHONE</td><td>This is a commercial phone number.</td></tr><tr><td>.136</td><td>FAX NUMBER</td><td>This field holds a phone number for a FAX machine for this user. It needs to be a format that can be understood by a sending MODEM.</td></tr><tr><td>.137</td><td>VOICE PAGER</td><td>This field holds a phone number for an ANALOG PAGER that this person carries with them.</td></tr><tr><td>.138</td><td>DIGITAL PAGER</td><td>This field holds a phone number for a DIGITAL PAGER that this person carries with them.</td></tr></table> <p>The parameter is distributed pre-configured at the package level as follows:</p> <table><tr><th>Sequence</th><th>Value</th></tr><tr><td>-----</td><td>-----</td></tr></table>	Field #	Field Name	Description	.131	PHONE (HOME)	This is the telephone number for the new person.	.132	OFFICE PHONE	This is the business/office telephone for the new person.	.133	PHONE #3	This is an alternate telephone number where the new person might also be reached.	.134	PHONE #4	This is another alternate telephone number where the new person might also be reached.	.135	COMMERCIAL PHONE	This is a commercial phone number.	.136	FAX NUMBER	This field holds a phone number for a FAX machine for this user. It needs to be a format that can be understood by a sending MODEM.	.137	VOICE PAGER	This field holds a phone number for an ANALOG PAGER that this person carries with them.	.138	DIGITAL PAGER	This field holds a phone number for a DIGITAL PAGER that this person carries with them.	Sequence	Value	-----	-----
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Sequence	Value																															
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Parameter	Purpose/Remarks
	1 OFFICE PHONE 2 DIGITAL PAGER 3 VOICE PAGER 4 PHONE #3 5 PHONE #4 6 PHONE (HOME) 7 COMMERICAL PHONE 8 FAX NUMBER PRECEDENCE: 1 ENTITY FILE: USER PRECEDENCE: 2 ENTITY FILE: SYSTEM PRECEDENCE: 3 ENTITY FILE: PACKAGE
Days to keep of instrument data [LR WORKLIST DATA CLEANUP]	NAME: LR WORKLIST DATA CLEANUP DISPLAY TEXT: Days to keep of instrument data MULTIPLE VALUED: Yes INSTANCE TERM: LOAD/WORK LIST VALUE TERM: Number of days to keep in LAH global PROHIBIT EDITING: No VALUE DATA TYPE: numeric VALUE DOMAIN: 0:365:0 VALUE HELP: Answer with the number of days to keep in LAH before automatic purge INSTANCE DATA TYPE: pointer INSTANCE DOMAIN: 68.2 DESCRIPTION: Allows site to specify the number of days of instrument data to keep in LAH global before it's automatically purged by nightly process. PRECEDENCE: 10 ENTITY FILE: PACKAGE
Lab Package Level Parameters [LR PKG]	NAME: LR PKG DISPLAY TEXT: Lab Package Level Parameters USE ENTITY FROM: PACKAGE SEQUENCE: 1 PARAMETER: LR COLLECT MONDAY SEQUENCE: 2 PARAMETER: LR COLLECT TUESDAY SEQUENCE: 3 PARAMETER: LR COLLECT WEDNESDAY SEQUENCE: 4 PARAMETER: LR COLLECT THURSDAY SEQUENCE: 5 PARAMETER: LR COLLECT FRIDAY SEQUENCE: 6 PARAMETER: LR COLLECT SATURDAY

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Parameter	Purpose/Remarks
	SEQUENCE: 7 PARAMETER: LR COLLECT SUNDAY SEQUENCE: 8 PARAMETER: LR IGNORE HOLIDAYS SEQUENCE: 11 PARAMETER: LR EGFR METHOD SEQUENCE: 12 PARAMETER: LR EGFR AGE CUTOFF SEQUENCE: 13 PARAMETER: LR EGFR RESULT SUPPRESS SEQUENCE: 9.2 PARAMETER: LR VER EA VERIFY BY UID SEQUENCE: 9.1 PARAMETER: LR VER EM VERIFY BY UID SEQUENCE: 20 PARAMETER: LRAPRES1 AP ALERT SEQUENCE: 21 PARAMETER: LR AP REPORT SELECTION SEQUENCE: 24 PARAMETER: LR AP SNOMED SYSTEM PRINT SEQUENCE: 50 PARAMETER: LR CH GUI REPORT RIGHT MARGIN SEQUENCE: 52 PARAMETER: LR MI GUI REPORT RIGHT MARGIN SEQUENCE: 54 PARAMETER: LR AP GUI REPORT RIGHT MARGIN SEQUENCE: 9.3 PARAMETER: LR MI VERIFY DISPLAY PROVIDER SEQUENCE: 130.1 PARAMETER: LR ACCESSION DEFAULT SPECIMEN SEQUENCE: 130.2 PARAMETER: LR ACCESSION DEFAULT COL SAMP SEQUENCE: 130.3 PARAMETER: LR ACCESSION DEFAULT LAB TEST SEQUENCE: 25 PARAMETER: LR AP SURGERY REFERENCE SEQUENCE: 9.35 PARAMETER: LR MI VERIFY CPRS ALERT SEQUENCE: 9.36 PARAMETER: LR CH VERIFY CPRS ALERT SEQUENCE: 8.1 PARAMETER: LR LAB COLLECT FUTURE SEQUENCE: 8.11

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Parameter	Purpose/Remarks
	PARAMETER: LR MAX DAYS CONTINUOUS SEQUENCE: 200 PARAMETER: LR REPORTS FACILITY PRINT SEQUENCE: 900 PARAMETER: LR MAPPING DEFAULT DIRECTORY SEQUENCE: 900.1 PARAMETER: LR MAPPING DEFAULT FILESPEC SEQUENCE: 22 PARAMETER: LR ASK PERFORMING LAB AP SEQUENCE: 23 PARAMETER: LR ASK PERFORMING LAB MICRO SEQUENCE: 150.1 PARAMETER: LR MANIFEST EXC PREV TEST SEQUENCE: 150.2 PARAMETER: LR MANIFEST DEFLT ACCESSION SEQUENCE: 120 PARAMETER: LR AP DEFAULT ACCESSION NUMBER SEQUENCE: 210 PARAMETER: LR WORKLIST DATA CLEANUP

AutoVerification Reports Menu

The following table listed the new option.

Table 7 – Reports Menu Options

Option	Purpose/Remarks
New option was added to the Supervisor reports [LRSUPER REPORTS] menu.	Summary List (Patient) [LRLISTPS] Description: All results for a given patient for a given area for a given date. This report can serve as an 'audit trail' for a patient. Includes information on person placing order, person performing test, verifying person, and dates and times of specimen collection and test completion. The report can be printed in an "extended" form, which includes the above mentioned information plus the test results and associated units/normals/LOINC coding and performing lab.

Report Tasking Options

There are no options used to task reports.

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Table 8 – Report Tasking Options

Option		Used To...
none		

Documentation Updates

The following documents have been updated as a result of the enhancements made for AutoVerification. These are available at SOFTWARE.DIR and the VistA Documentation Library (VDL) website as a secondary source.

- Lab UI HL V1.6 Upgrade Interface Specifications Document
- LR*5.2*458 and LA*5.2*88-Universal Interface-Release Notes
- LR*5.2*458 and LA*5.2*88(Lab AutoRelease 1.0) User Guide
- LR*5.2*458 and LA*5.2*88(Lab AutoRelease 1.0) Technical Manual/Security Guide

Reference material for Lab Universal Interface 1.6, also available on SOFTWARE.DIR and VDL as a secondary source:

- Lab UI HL V1.6 Upgrade Installation and User Guide LA*5.2*66

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SECURITY GUIDE

Security Introduction

A Security Guide aids in controlling the release of sensitive information related to national software. AutoVerification does not contain highly sensitive information, so this component of the manual may be included in Freedom of Information Act (FOIA) request releases. There are no unique/atypical features or other information that would be of interest to security personnel or other support groups.

Security Keys







AutoVerification utilizes one pre-existing [security key](#), listed in the table below.






Key	Purpose/Remarks
LRVERIFY	If auto release process is to release results that have been tech verified on the GIM middleware then the user needs to hold this key on VistA.

Protected Information





GLOSSARY

A B C D E F G I K L M N P S T V W

Term or Acronym	Description
	A 
	B 
	C 
Computerized Patient Record System (CPRS)	A Computerized Patient Record (CPR) is a comprehensive database system used to store and access patients' healthcare information. CPRS is the Department of Veteran's Affairs electronic health record software. The CPRS organizes and presents all relevant data on a patient in a way that directly supports clinical decision making. This data includes medical history and conditions, problems and diagnoses, diagnostic and therapeutic procedures and interventions. Both a graphic user interface version and a character-based interface version are available. CPRS provides a single interface for health care providers to review and update a patient's medical record, and to place orders, including medications, special procedures, x-rays, patient care nursing orders, diets, and laboratory tests. CPRS is flexible enough to be implemented in a wide variety of settings for a broad spectrum of health care workers, and provides a consistent, event-driven, Windows-style interface.
CPRS	See Computerized Patient Record System
	D 
Database Integration Agreement (DBIA)	A formal understanding between two or more application packages which describes how data is shared or how packages interact. This agreement maintains information between package Developers, allowing the use of internal entry points or other package-specific features.
DBIA	See Database Integration Agreement
	E 
	F 
FileMan	FileMan is a set of M utilities written in the late 1970s and early 1980s which allow the definition of data structures, menus and security, reports, and forms. Its first use was in the development of medical applications for the Veterans Administration (now the Department of Veterans Affairs). Since it was a work created by the government, the source code cannot be copyrighted, placing that code in the public domain. For this reason, it has been used for rapid development of applications across a number of organizations, including commercial products.
File Transfer Protocol (FTP)	A client-server protocol which allows a user on one computer to transfer files to and from another computer over a TCP/IP network. Also the client program the user executes to transfer files. It is defined in Internet Standard 9, Request for Comments 959 .
FTP	See File Transfer Protocol

Term or Acronym	Description
G 	
Global	<p>M uses <i>globals</i>: variables which are intrinsically stored in files and which persist beyond the program or process completion. Globals appear as normal variables with the caret character in front of the name. For example, the M statement...</p> <pre>SET ^A("first_name")="Bob"</pre> <p>...will result in a new record being created and inserted in the persistent just as a file persists in an operating system. Globals are stored, naturally, in highly structured data files by the language and accessed only as M globals. Huge databases grow randomly rather than in a forced serial order, and the strength and efficiency of M is based on its ability to handle all this flawlessly and invisibly to the programmer.</p> <p>For all of these reasons, one of the most common M programs is a database management system. FileMan is one such example. M allows the programmer much wider control of the data; there is no requirement to fit the data into square boxes of rows and columns.</p>
I 	
Indicated Value	Code to determine how to compare data (e.g., "R" equals "resistant").
Indicator	Code to determine how to match results/interpretations.
Information Resources Management (IRM)	The service which is involved in planning, budgeting, procurement and management-in-use of VA's information technology investments.
IRM	See Information Resources Management
K 	
Kernel Installation and Distribution System (KIDS)	The Kernel system permits any VistA software application to run without modification to its base structure no matter what hardware or software vendor the application was built on. The Kernel contains a number of building management supplies which provide its foundation, including device, menu, programming, operations, security/auditing, task, user, and system management. Its framework provides a structurally sound computing environment that permits controlled user access, menus for choosing various computing activities, the ability to schedule tasks, application development tools, and numerous other management and operation tools.
Keys	See Security Keys
KIDS	See Kernel Installation and Distribution System
L 	
Laboratory Information Manager	The LIM manages the laboratory files in VistA. Additional duties include creation of new tests, interface set-up and maintenance of instruments, coordination with staff outside of lab to create quick orders, order sets and other Computerized Patient Record System (CPRS) functions.
LIM	See Laboratory Information Manager
M 	

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Term or Acronym	Description
M	M is a procedural, interpreted, multi-user, general-purpose programming language designed to build and control massive databases. It provides a simple abstraction that all data values are strings of characters, and that all data can be structured as multiple dimensional arrays. MUMPS data structures are sparse, using strings of characters as subscripts. M was formerly (and is still commonly) called MUMPS, for Massachusetts General Hospital Utility Multiprogramming System.
Massachusetts General Hospital Utility Multi-Programming System (MUMPS)	See M
MailMan	MailMan is an electronic messaging system that transmits messages, computer programs, data dictionaries, and data between users and applications located at the same or at different facilities. Network MailMan disseminates information across any communications medium.
MUMPS	See M
N 	
Namespace	A logical partition on a physical device that contains all the artifacts for a complete M system, including globals , routines, and libraries. Each namespace is unique, but data can be shared between namespaces with proper addressing within the routines. In VistA , namespaces are usually dedicated to a particular function. The MMMS namespace, for example, is designed for use by MRSA-PT.
P 	
PackMan	A specific type of MailMan message used to distribute KIDS builds.
S 	
Security Keys	Codes which define the characteristic(s), authorization(s), or privilege(s) of a specific user or a defined group of users. The VistA option file refers to the security key as a “lock.” Only those individuals assigned that “lock” can use a particular VistA option or perform a specific task that is associated with that security key/lock. In MRSA-PT, keys are used to access specific options that are otherwise “locked” without the security key. Only users designated as “ Holders ” may access these options.
Selected Etiology	Organism or final microbial diagnosis/ isolate .
T 	
Tasked Report	Reports that can be scheduled via TaskMan .
TaskMan	The Kernel module that schedule and processes background tasks (aka Task Manager)
TCP/IP	See Transmission Control Protocol over Internet Protocol
Transmission Control Protocol over Internet Protocol (TCP/IP)	The <i>de facto</i> standard Ethernet protocols, TCP/IP was developed for internetworking and encompasses both network layer and transport layer protocols. While TCP and IP specify two protocols at specific protocol layers, TCP/IP is often used to refer to the entire Department of Defense protocol suite based upon these, including telnet, File Transfer Protocol (FTP), User Datagram Protocol (UDP), and Reliable Data Protocol (RDP).

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Term or Acronym	Description
V	
Value	Code used to determine how to compare results.
Veterans Health Information Systems and Technology Architecture (VistA)	VistA is a comprehensive, integrated health care information system composed of numerous software modules. See http://www.va.gov/VistA_monograph/docs/2008VistAHealtheVet_Monograph.pdf and http://www.virec.research.va.gov/DataSourcesName/VISTA/VISTA.htm .
VistA	See Veterans Health Information Systems and Technology Architecture
W	

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