RELEASE NOTES
Linux HipLink 5.3

Supported Platform

- CentOS 7 (and above) – 64 BIT
- RHEL 7 (and above) – 64 BIT

- 32 BIT Operating Systems are NOT supported.

System Requirements

Low-End/Training System:
  - Physical: Intel® Core™ i5 or Core™ i7 processor
  - Virtual: 2-4 core processor (or vCPUs)
  - 2GB to 4GB RAM
  - High-speed HDD
  - Gigabit Ethernet and high-speed Internet

Minimum Production System:
  - Physical: Intel® Xeon® Processor E3 Family
  - Virtual: 4 core processor (or vCPUs)
  - 4GB-8GB RAM
  - Enterprise-grade HDD
  - Gigabit Ethernet and high-speed Internet
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Recommended Production System:
  - Physical: Intel® Xeon® Processor E5 Family
  - Virtual: 8-12 core processor (or vCPUs)
  - 8GB to 16GB RAM
  - Enterprise-grade HDD or SSD
  - 10 Gigabit Ethernet and high-speed Internet

High-Performance Production System:
  - Physical: Intel® Xeon® Processor E7 Family
  - Virtual: 24 core processor (or vCPUs)
  - 24GB to 32GB RAM
  - Two Enterprise-grade HDDs or SSDs - implement RAID-1 mirroring
  - 10 Gigabit Ethernet and high-speed Internet

Deployment

Installation Steps

NOTE: For pre 5.0 installations, this build is upgradable from 4.7 Linux build 4.7.1113 and above only. In case target environment has earlier HipLink versions installed, user must first upgrade to build 4.7.1113 before running this installer.

Pre-Requisite:
- Set the server machine a valid hostname (e.g. linux.hiplink.com)
- Add the entry of machine IP along with machine hostname in the file **/etc/hosts**
(e.g. **10.164.3.184   linux.hiplink.com**)

1. Copy the file of the installer of build **Linux_HipLink_5.3.0.330.tar.gz** to a suitable location (e.g. /usr/linux-build)
2. Navigate to the directory where installer is copied
3. Extract the installer by the command **tar –zxvf Linux_HipLink_5.3.0.330.tar.gz**
4. Run the installer by the command **./installer.sh**
5. Follow on-screen instructions

NOTE: Refer to the "**HipLink 5.0 Linux Installation & Upgrade Guide**" (provided separately) for a detailed and step by step guideline of both fresh installation as well as upgrade procedure.

Important Note:

Linux installations are by default performed on directory path **/usr/local/hiplink**. In case user selects a custom directory path for installation, then user would need to ensure that all the parent directories of the install directory have their owner ship set to the user account provided during installation e.g. if the user selects install path as **/custom/installation/hl_install**, and the user account provided during installation was **daemon**, then all the 3 directories **custom**, **installation** and **hl_install** must have their owner ship assigned to **daemon** user before the installation begins.

Removal Steps

If needed, the installed build can be uninstalled as follows:
- Stop all running services.
- Terminate all user sessions.
- Logout of HipLink.
- Make a copy of the Hiplink directory and save it in a safe location as a backup. This is typically found at **/usr/local/hiplink**
- Run the command to stop HipLink web services -> **service hiplink stop**
- Remove the following directories / files:
  1. **/etc/init.d/hiplink**
  2. **/usr/local/hiplink**
  3. **/etc/hiplink***
  4. **/usr/lib/hiplink**
  5. **/usr/lib64/hiplink/**
  6. **/etc/ld.so.conf.d/hiplink***

  NOTE: In case the installation is done on user defined directory path, above directory / file paths would need to be modified accordingly.

Compatible Desktop Browsers

- Microsoft Internet Explorer version 11
- Google Chrome (latest version)
- Mozilla Firefox (latest version)
- Microsoft Edge

New Features & Enhancements

SEND PANEL CHANGES

- **Ability to show First and Last name on Primary Send panel instead of Receiver name**
    - A check box has been provided that will toggle the display of the receiver list based on their First Name / Last Name if defined as opposed to Receiver name. This allows for flexibility in defining receiver names.
- **Moved Advanced Messaging and Two-way Send functions in the Send Panel**
    - The explicit checkbox to enable Advanced Messaging has been moved from the top of the Send Panel to the right menu in order to simplify selection of message sending parameters.
    - The explicit checkbox to enable and modify Two-Way Send options has been moved from the top of the Send Panel to the right menu in order to simplify selection of message sending parameters. For all types of messages, Two-Way Send will be appropriately enabled by the system based on the Receiver type and the Carrier protocol.
    - All menus on the right, advanced menu are shown collapsed to simplify the screen.

MESSENGER & CARRIER CHANGES AND ENHANCEMENTS

- **New symbol options for defining different receiver types in the carrier settings. The new icons will be shown in the Send Panel with associated receivers.**
- **HNP Messenger Enhancements**
    - Implemented processing multiple status nodes in a single two-way response query, thus increasing the Reports status updates for a HNP message.
    - Implemented maintaining the actual time stamp in the historical status nodes in Reports that would reflect the exact time when the message is delivered, received, read, or responded on the HipLink Mobile client app
    - Added the "None" option for Messenger Polling Interval for all messengers for a near zero interval between fetching two batch of queued messages by a messenger for faster processing of messages created in the Paging queues. The "None" option is set as the default for HNP protocol, while 1 second is kept as default for all other protocols, from the current 10 seconds.
- **Support to disable batch messaging in SNPP and SMTP carriers**
    - Added a check box "Disable batch messaging" in SNPP and SMTP carriers that allows disabling the provision to submit multiple PINs in a single batch for the same message to fix problems with certain SNPP/SMTP Gateways that don't support multiple message batches.

- **Added MIME encoding option in SMTP carrier settings**
  - Implemented support to choose an option for MIME encoding in SMTP messages - Default, Always and Never. The "Default" option will dynamically use MIME encoded envelope for emails with attachments, while use plain text for emails without attachments.

ACTIVE DIRECTORY INTEGRATION CHANGES

- **Implemented Active Directory support for ADFS**
  - This provides hosted systems or systems off-site the option to use Microsoft Active Directory Federation Services. This enables users to use their Active Directory credentials to login in to HipLink even when the system is remote.
  - ADFS will provide SSO as part of its functionality suite
  - For existing customers this feature will result in the switching OFF of LDAP support from license key. Alternatively, LDAP support in license key will result in "SSO Support using ADFS" being switched OFF.
- **Added Support for syncing receiver email cc & email failover through the LDAP service.**

API ENHANCEMENTS

- **Implementation of Serial port enhancements and consistency across all modules.**
  - Serial Port Parameters: Many modules in HipLink had incorrect values of Baud rate. Different modules had different sequence for the values in Parity and Flow Control, and in some cases, the values were incorrect. Some modules had invalid values allowed for Data Bits and/or for Stop Bits. All of these have been corrected and the values have been made consistent across all modules.
  - Default values for Serial Port Parameters have been made consistent to 9600, 8, n 1 across all modules.
  - Many other existing and newly discovered bugs were fixed along with the implementation of this feature.

HIPLINK MOBILE ENHANCEMENTS

- **Ability for the User to add their own picture from within the app**
  - Both the server side functionality as well as a new mobile application enabling HipLink Users to set an image as their contact image in HipLink. The image will be displayed in the Receiver record.
- **Initiate a secure video call**
  - The feature allows HipLink users logged in to the server to initiate a video call to other HipLink mobile users from their contacts.

- **The ability to make "Subscription Groups" available as Alert Topics on HipLink Mobile**
  - o All Subscription groups which are public informational groups defined in the server, are now shown in a new menu item and screen in HipLink Mobile as Alert Topics. These Alert Topics s are presented to the User in a list and from the list, the User can either opt-in, or opt-out of the topic. The opt-in function will make the HipLink Mobile Receiver a member of the Subscription Group, whereas opt-out will detach the receiver from the Subscription Group.

- **Ability to recall HipLink Mobile Messages**
  - o Capability for the HNP messages to get recalled after they have been send to the target HNP device. The recall request when received on the device, the message will be blocked from further viewing and the user cannot respond to the message.
- **HNP API default port changed from 443 to 5223**
- **Implemented automatically storing receiver "Call Back Number" formatted for better visibility on the mobile clients.**
- **Support to populate the Callback and the Text Failover number fields for HipLink Mobile receivers via APIs**
  - o Receiver Callback &Text Failover numbers can be added and synced through HipAdm utility, IE Utility, SOAP API and LDAP enhanced service.
- **APNS Push Notification Validations**
  - o Added a verification function for the expiration of the Push Certificate in the System Attendant. This will alert the admin if the remaining days before expiration are below a configurable threshold.
  - o Added validation on the HNP Manager Configuration to check if the Push Certificates are Valid. A Warning is shown if expiration date is approaching.
  - o Displayed 'Issuer Name' of push certificate on the HNP Configuration panel
- **Support for adding a HipLink Mobile receiver through HipAdm Utility**
- **Simplified HipLink Mobile Configuration**
  - o Assigned Owner fields in Global Settings enabled by default and hidden
  - o The fields "Number of Processor Thread" and "Jobs to process per cycle" are hidden by default from HNP configuration panel.
  - o "OTA Updates" settings are hidden from HNP Manager Advanced Settings GUI with default value set to Enabled
  - o "Push Notifications" template hidden from HNP Manager Push Notifications GUI
  - o 'Certificate Type' radio buttons hidden from HNP Configuration Push Settings screen with default value set to Development
- **HNP messages are immediately marked failed instead of waiting in HipLink messaging queue till message time out when the device activation is not present or if the activation is blocked. This will reduce unnecessary load of messages on HipLink services for messages which are never to be delivered.**

- **HipLink Mobile Data Roaming Profile**
  HipLink mobile client data (Sent and Received Alerts, Sent and Received Messages, Drafts, Statuses and Responses) can sync across multiple devices after each successful login. The User is automatically logged out of the previous device when logging into a new one. The data for each respective client is stored on HipLink server for a defined period of time.

- **File upload / download for HipLink mobile clients using HTTP API**
  File upload / download process for HipLink Mobile clients has been transferred to a HTTP API from TLS socket-based service for better speed and scalability.

- **Ability on HipLink server to send messages to HipLink Mobile or HipLink Alert**
  Added a checkbox on the Primary Send panel on the HipLink server that allows the User to select the target of a message as HipLink Mobile, HipLink Alert, or both.

- **HipLink mobile message statuses independent of Response CC**
  The HipLink Mobile message status such as DELIVERED, RECEIVED, READ is now delivered to HipLink Mobile devices irrespective of Response CC configuration in Global Settings on the HipLink server.

- **Implemented sending a SMS text message to a HipLink Mobile receiver who is registered but has not activated the service. This requires a Text failover number to be defined.**

  - **Support to define a number for text message failover in a HipLink Mobile Receiver record**
    a.   In the event HipLink is unable to confirm delivery of a message sent to HipLink Mobile after multiple attempts, it will send a text message to the phone number indicated to alert them to launch the application.

  - **Ability to define a "Call Back Number" in the Receiver Record for a HipLink Mobile User**
    a. If a phone number is entered in the "Call Back Number" field in the HipLink Mobile Receiver record this number will be displayed in the detailed contact information screen on the app. The number can be what the User wants to use as a call back number as many times they want something other than their cell phone number such as an office or station number.

  - **Implemented push-based 2-way query mechanism for HNP messaging so that message status updates and responses are only queried when they are available.**
    - This would result in preventing needless excessive queries for HNP messaging as no queries are made by the HNP messenger unless required.
    - The messages are moved from the Paging Queue to the Waiting Queue while they are awaiting any status updates or responses, which causes the load on the Paging Queue(s) to be reduced drastically. This helps ensure that any new messages are delivered immediately and the excessive load on the Paging

Queue(s) due to waiting 2-way query files do no causes any messaging delays at all.
- o As a consequence, the "Two-Way response query time interval" and "Two-Way response monitoring timeout" fields are removed from HNP Carrier Add / Edit page as there is no interval-based querying mechanism present for HNP messaging, and instead a new field named "Maximum Lifespan of Message" has been introduced.

NEW HIPLINK ALERT APP

- **New Emergency Broadcast Mobile Application**
  - o A standalone mobile client called HipLink Alert is now available for emergency broadcast messaging that doesn't require receiver licenses.
  - o Separate controls on the send panel to dispatch message to all the anonymous HipLink Alert clients set up for emergency alerts.
  - o Supports attachments to the messages

PERFORMANCE & SECURITY ENHANCEMENTS

- **Show the message dispatch time vs. creation time in Scheduled messages**
  - o Changes in scheduler module to show the actual message dispatch time in a scheduled message versus the message file creation time
- **Cover By activity logging in HipLink logs**
  - o Receiver cover-by assignments done from the HipLink User interface are now logged in HipLink logs
- **Updated SQLlite3 library to latest version for increased stability and better performance.**
- **Updated OpenSSL and CURL libraries**
  Updated OpenSSL to version 1.0.2n and libCURL to version 7.58.0. This provides support for latest security fixes in workflows involving Crypto and SSL processing, and in all HTTP/HTTPS communication including support for HTTP2.

- **Enhanced HipLink reports timestamp granularity to milliseconds**
  This provides a finer grained audit trail of the progressing states of a message during its lifespan and a better organization of historical view of the job history pop-up.

OTHER ENHANCEMENTS AND FEATURES

- **Ability for user to set the "Show Full Name" option on Primary Send panel persistent for his account.**
- **Changes in Message Template Content Editor**

- Set the GUI content editor to view mode only with editing in template content possible through XML code editor only
- Added validations for restricting user from adding invalid XML characters. The characters "<" and ">" must be encoded by user before adding in template text. The tool tip of template content editor has been modified to include hints.
- Existing message templates which violate the above rule (i.e. contain un-encoded characters "<" and ">" in template body) will need to be edited and updated by the user after the upgrade.
- Added validations for preventing the user from adding template XML code in an invalid format.
- The mouse cursor would automatically be located in between the start and end tags whenever user adds a new tag during message template addition or editing.

- **IPAWS messaging on a selected mapped area without ArcGIS support in license key**
  Account is able to configure an ESRI GIS connection to send messages from the IPAWS send panel to a selected area of map. The process is now independent of licensing the HipLink ArcGIS integration for other mass notification.

- **Confirmation before initiating an IPAWS campaign**
  The User is asked to confirm the action to be taken prior to final initiation of an IPAWS campaign. The confirmation pop-up indicates the target channels of the message as well as the message headline.

- **Ability to post Pictures & Videos on Facebook & Twitter platforms**
  HipLink users can now upload pictures and videos onto Facebook & Twitter platforms in addition to posting text messages.

  Limitations:
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    - Uploading multiple videos on Facebook in a single message will result in each video being posted as a separate Facebook post with same accompanying message. This is because currently Facebook does not support posting multiple videos in a single post programmatically.
    - For image and videos attachments that could be uploaded programmatically, Twitter has certain limitations and specific recommendations that must be adhered to, that have been followed accordingly in HipLink's Twitter implementation. For further details, refer to the following URLs:

https://developer.twitter.com/en/docs/media/upload-media/uploading-media/media-best-practices

https://help.twitter.com/en/using-twitter/twitter-videos

Major Defects Fixed in this Release

- Fixed issue of services not being auto stopped during build upgrade.

- Fixed issue of services not auto started after build upgrade.

- Fixed issue of services not auto started after machine reboot.

- Fixed issue in performing Backup Restore operation.

- Fixed the default URL in Email Gateway and File System Interface to match the current deployment.

- Fixed the service registration in Linux services file of HNP messenger auto created when enabling HNP configuration.

- Fixed issue of HipLink services not able to start in some cases on performing restart operation from HipLink services panel.

Outstanding Defects in this Release

- SOAP / REST API is not available in HL 5.3 Linux

- An issue related to NginX webserver has been reported by Accunetix scan. (Issue regarded as of low severity by Red Hat Product Security Team. Reference: https://bugzilla.redhat.com/show_bug.cgi?id=CVE-2017-7529)

Contacting Customer Support

You can contact HipLink customer support at the following times and with the following methods:

Time	Monday through Friday 8:00 a.m. to 5:00 p.m. Pacific Standard Time (PST) Excluding U.S. holidays.
Email	support@hiplink.com
Phone	408-399-6120
Fax	408-395-5404
Customer Support Portal System	http://portal.hiplink.com

We recommend that you review the following documentation to become familiar with the product.
- Installation and Administration Guide
- User Guide
- Programmer's Guide

To open all guides, log on to the HipLink application through GUI. Click on "Help" button on the top right corner. It opens up a pop up window rendering the HipLink Help Index. Click on required link to open help guide.

Send Us Your Feedback

We always appreciate suggestions from our customers. If you have comments or suggestions about our product or documentation, send an email message to support@hiplink.com

Also visit our website www.hiplink.com for general information.