# **Commonwealth of Massachusetts Executive Office of Health and Human Services**



# Guide to Using Mass HIWay Local Access Network Distribution (LAND)

May 19, 2016



## Introductions



**Today's speakers** 



Murali Athuluri
Senior Consultant
Massachusetts eHealth Collaborative
Mass HIway Program Management

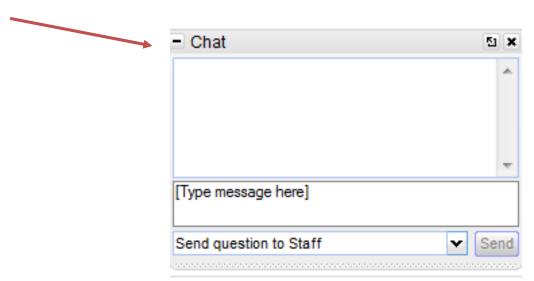


**Ryan Thomas** *Lead Service Manager*Mass Hlway Business Operations





Please use the webinar's chat function to submit a question or comment to discuss during the presentation



Or feel free to contact us directly after the presentation, we will provide complete contact information on the final slide and distribute this presentation via e-mail



- A Brief Overview of Mass HIWay and the Progress to date
- What is LAND appliance?
- How does a LAND work?
- When is LAND right for you?
- What are the LAND transport options?
- How do we access provider DIRECT addresses?
- How are the devices monitored?
- Review frequently asked questions (FAQs)
- Q&A



## What is the Mass HIway?



The Massachusetts Health Information Highway (Mass HIway) is the statewide Health Information Exchange (HIE) providing secure electronic transport of electronic health information among health care organizations regardless of affiliation or technology.

## The Mass HIway offers two services:

- 1. Direct Messaging Secure point-to-point transport of electronic patient health information among healthcare organizations and authorized government agencies for purposes of patient treatment, payment, or operations.
- 2. Query and Retrieve Relationship Listing Service (RLS) for locating healthcare organizations that hold records for a particular patient. Medical Record Request (MRR) service for initiating a query for a patient's records. → early adopter phase

The Mass HIway is <u>not</u> a clinical data repository HIE and holds no clinical information. The Mass HIway is also <u>not</u> the state health insurance exchange known as the Health Connector.

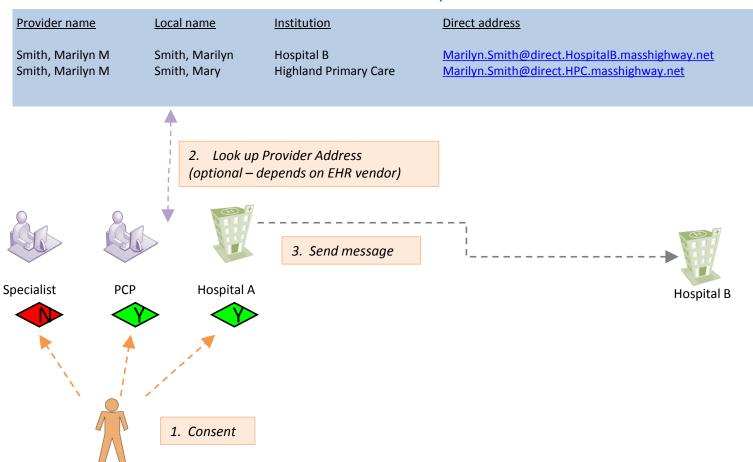


## **Direct Messaging Service**



## Data holder sends patient information to recipient

#### **Provider Directory**





## What can you send?



#### The HIway is 'content agnostic,' and does not restrict message types

#### **Patient clinical information:**

- Summary of Care / Transition of Care Record (TOC)
- Request for Patient Care Summaries
- Discharge Summaries
- Referral Summary Information
- Specialist Consult Notes
- Progress Notes

#### **Patient clinical alerts:**

- Emergency Department Notification
- Mortality Notification
- Transfer Notification
- Disposition Notification (admit/discharge)

#### **Quality reporting:**

 Information for calculation and reporting of clinical quality measures

#### **Public Health Reporting:**

- Securely comply with reporting regulations for the Mass.
   Department of Public Health
- Massachusetts Immunization Information System (MIIS)
- Electronic Lab Reporting (ELR)
- Syndromic Surveillance (SS)
- Massachusetts Cancer Registry (MCR)
- Opioid Treatment Program (OTP)
- Childhood Lead Poisoning Prevention Program (CLPPP)
- Occupational Lead Poisoning Registry (Adult Lead)
- E-Referral



## Mass HIway Community



## **Care Continuum**

650+ Participants

Hospitals/Health Systems	Ambulatory	Long-Term & Post-Acute		
~58 organizations	>450 organizations/providers	~90 organizations		
Majority of MA hospitals ranging from large health systems and medical centers to single-site community hospitals	Primary care providers and specialists across a broad range of medical services  Health centers and clinics providing medical, emotional, behavioral, and additional social services  Urgent care and minute	Range of services and organization types including but not limited to: Area Agency on Aging (AAA) Aging Service Access Point (ASAP), Skilled Nursing Facilities (SNF), nursing homes, Inpatient Rehabilitation Facilities (IRF), home health, palliative care, and hospice		

Note: 10+ additional orgs include Labs, Payers, Imaging Centers, and Quality Reporting service



## There are currently 650+ participant organizations signed up for the HIway.

The full participant list is available at <a href="http://masshiway.net/HPP/Resources/ParticipantList/index.htm">http://masshiway.net/HPP/Resources/ParticipantList/index.htm</a>

# The Provider Directory contains over 7,000 addresses (department and individual level addresses included)

- The latest Provider Directory extracts are available at the Mass HIway website <a href="http://masshiway.net/HPP/Services/ProviderDirectory/index.htm">http://masshiway.net/HPP/Services/ProviderDirectory/index.htm</a>. You will need to sign up to receive monthly notifications of PD extract updates

Your account manager will assist you in operationalizing the Provider Directory, identifying who of your trading partners are in the Mass HIway Community today and how to engage additional trading partners to exchange on the HIway

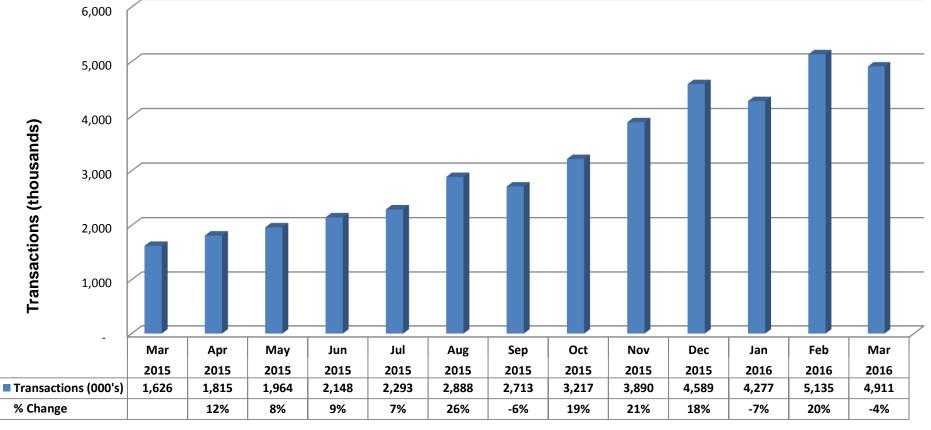


## **HIway Transaction Activity**



## 13 Month HIway Transaction Activity

**4,910,774** Transactions\* exchanged in March (2/21 to 3/20/2016\*\*) **50,159,860** Total Transactions\* exchanged inception to date



<sup>\*</sup> Note: Includes all transactions over Mass HIway, both production and test

<sup>\*\*</sup> Note: Reporting cycle is through the 20<sup>th</sup> of each month.

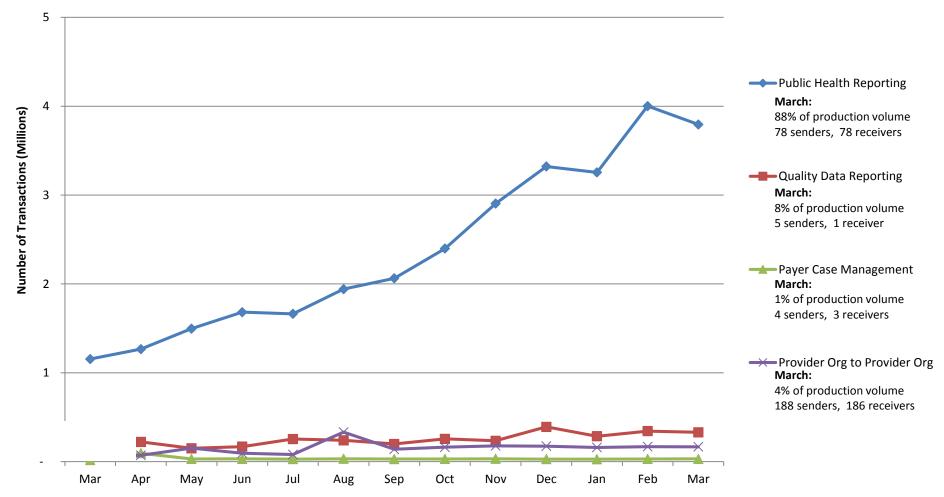


## HIway Transaction Analysis



## 13 Month HIway Production Transaction Trends by Use Case Type

**88%** of HIway activity in March\* was for production transactions



<sup>\*</sup> Note: Reporting cycle is through the 20<sup>th</sup> of each month.



## **Connectivity Options**



## **User types Connectivity options EHR** connects directly Physician practice Hospital **EHR** connects through LAND **Appliance** Long-term care Other providers Public health Health plans webmail **Vendor HISP**



## Mass HIway provides following connection options

**DIRECT** connection can interface directly with the Participant's EHR or SMTP message sending service. DIRECT uses XDR and/or SMTP/SMIME and is the most robust connection option allowing for seamless integration into a Participant's system with proper configuration

**LAND** is a network based hardware appliance that is physically installed in the Participant's infrastructure to seamlessly exchange transactions over the HIway with multiple integration options. LAND is Orion's Rhapsody integration engine software in an appliance form

**Webmail** provides for communication on the Mass HIway through a web browser, such as Internet Explorer or Firefox. Users log into a website to receive and send messages manually. The user interface looks very much like modern online mail sites (e.g. Outlook email) and has many of the same capabilities such as user alerts. Attachment files can also be sent through webmail and the communications are secure

**Vendor HISP** – Mass HIway as HISP also allows its Participants to connect using vendor Health Information Service Provider (HISP). Mass HIway will review its HISP agreement with the vendor, perform necessary testing and enable the connectivity for secure transaction exchange with the respective HISP providers



## HISP to HISP Connectivity



## **21 HISPs Connected to Mass Hiway**

- 1. Allscripts (MedAllies HISP)
- 2. Aprima
- 3. Athenahealth
- 4. CareAccord
- 5. CareConnect (NetSmart HISP)
- 6. Cerner
- 7. DataMotion
- 8. eClinicalWorks
- 9. eLINC
- 10. EMR Direct
- 11. Inpriva

- 12. MaxMD
- 13. MatrixCare
- 14. McKesson (RelayHealth)
- 15. Medicity
- 16. MyHealthProvider (Mercy Hospital)
- 17. NextGen Share
- **18. NHHIO**
- 19. SES
- 20. Surescripts
- 21. UpDox
- 22. Wellport (Lumira HISP)

## **4 HISPs In Process of Connecting to Mass HIway**

				HIway Prod	
HISP Vendor	Kickoff	Onboarding	Testing	Readiness	Live/Target Date
ASP.md					2016-Jun
eClinicalWorks Plus					2016-Jun
Care 360					2016-Jun
ICA-Direct					Initiated



## When is LAND right for you?



#### LAND is recommended for but not limited to:

- Participants who do not have Direct compliant EHRs (e.g. 2014 CEHRT)
- Participants who require a central point of transmission for multiple systems
- Participants needing another pathway (e.g., Department of Public Health reporting)

#### **Pros**

- Participant is not responsible for appliance maintenance or installation
- Can be used for Provider to Provider communications
- · Can be used for Public Health Reporting
- Handles encryption and decryption behind participant firewall

#### Cons

- Requires infrastructure/IT network configuration changes to enable LAND performance and availability monitoring
- Additional integration work may be needed to optimize workflow



## What is a LAND Device?



## **Local Area Network Device (LAND)**

- Server installed on Participant Internal Network
- Allows for easy connection of Participants

Provides a secure connection to the Mass HIway

Provides multiple connection methods to the device to send and receive files

Available in two sizes for Participants depending on their usage volume

- Large HP DL360E 1U Rack Server (1TB hard-drive)
- Small Intel DCCP847DYE (100GB hard-drive) Typically for participants sending less than 15000 messages per month

Small LAND Large LAND





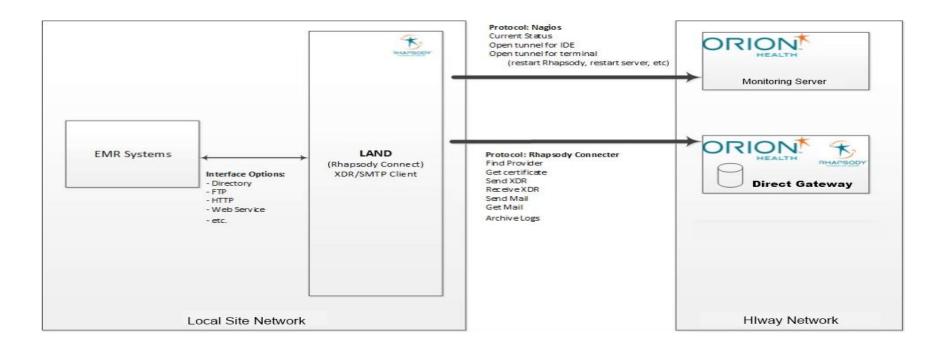


## What Does a LAND Do?



## **Facilitates Secure Message Transmission**

- Installed inside your network within your firewall
- Handles the signing and encryption of outbound messages
- Decrypts and verifies inbound messages





#### **Process**

- The LAND is delivered to the Participant pre-configured with site specifications
- Certificates and network configurations are set up on the device to the participants preferred connection method
- Requires only an outbound connection operates in proxy or poll only mode
- LAND Polls the Mass HIway once every 30 Seconds for messages bound for participant
- Connection Methods in and out of LAND
  - Directory Drop / Directory Split
  - Web service
  - FTP
  - HTTP
- Multiple sending connections permitted, only one receiving connection permitted



## LAND Deployment to date



#### **Total LAND interfaces: 209**

Receiving Connection Method	Example Participant	Use Cases
Directory Drop	Berkshire Health DPH BIDCO Holyoke Health DPH	P2P, DPH Receive only
FTP	Lahey Health UMASS Memorial	P2P, DPH Receive only
HTTP	New England Baptist	P2P, DPH
Web Services	Partners Healthcare BIDMC Tufts Medical Center	P2P, DPH Receive only
Total		

<sup>\*</sup> Note: Some Participants are using multiple Sending Connection methods to interface with LAND appliance

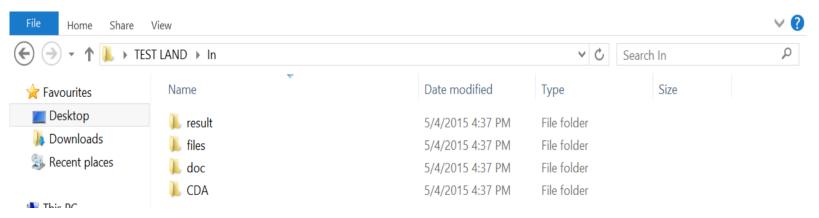


## **Directory Drop Setup**



## Setup:

- Participant sets up file share on network and provides credentials to Mass HIway
- Mass HIway configures the LAND to poll the network share
- In and Out folders are created with use case specific subfolders
- Sending
  - -Messages are dropped with appropriate naming convention to the in folder
  - -Messages are picked picked up by land and transmitted to participant or clinical node address

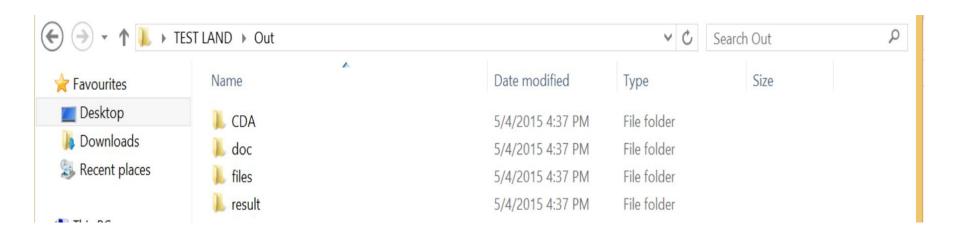






## Receiving

- Mass HIway polls the gateway every 30 seconds
- When messages bound for the address are discovered, the LAND pulls that message down to appropriate out folder (e.g. MIIS acknowledgements come into 'doc' folder)







The LAND has a Web Service in and out option that allows site to connect directly with the device and have the device forward the messages directly to the receiver

- LAND is called by using the endpoint of the device which is LANDIP:9100
- Two types of Web Services most commonly used when calling the LAND device
  - SendDocuments
  - XDR

#### SendDocuments:

WSDL: <a href="http://LANDIP:9100/services/API">http://LANDIP:9100/services/API</a> RhapsodyConnect?wsdl

Endpoint: <a href="http://LANDIP:9100/servicesAPI\_RhapsodyConnect.API\_RhapsodyConnectHttpSoap12Endpoint">http://LANDIP:9100/servicesAPI\_RhapsodyConnect.API\_RhapsodyConnectHttpSoap12Endpoint</a>

XDR: (e.g. Meditech & Siemens EHR Vendor sites)

WSDL: http://LANDIP:9100/services/XDR Private?wsdl

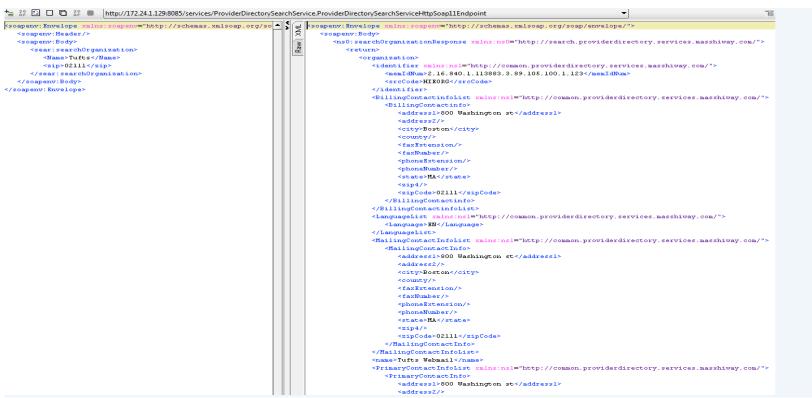
Endpoint: http://LANDIP:9100/services/XDR\_Private.XDR\_PrivateHttpSoap12Endpoint



## **Provider Directory Search**



- The LAND device allows for providers to query the Mass HIway provider directory using a web service
- Uniform Resource Locator (URL): <a href="http://LANDIP:9100/services/ProviderDirectorySearchService?wsdl">http://LANDIP:9100/services/ProviderDirectorySearchService?wsdl</a>
- Requires EHR vendor or site to build a user interface (UI)





# Mass HIway LAND monitoring service once every minute to provide status checks on a number of LAND components

- Remote monitoring by Mass HIway Technical Operations staff
- Daily health checks
- Integrates with the Orion Health Icinga Monitoring system
- Active monitoring of all LAND devices
- SSH (Secure Shell Protocol) connectivity to a management server.
  - This connection allows for remote troubleshooting and applying upgrades.
- Hardware metrics
- Rhapsody status
- Mass HIway support team will notify Participant (e.g., down status)



## Example LAND Monitoring Report

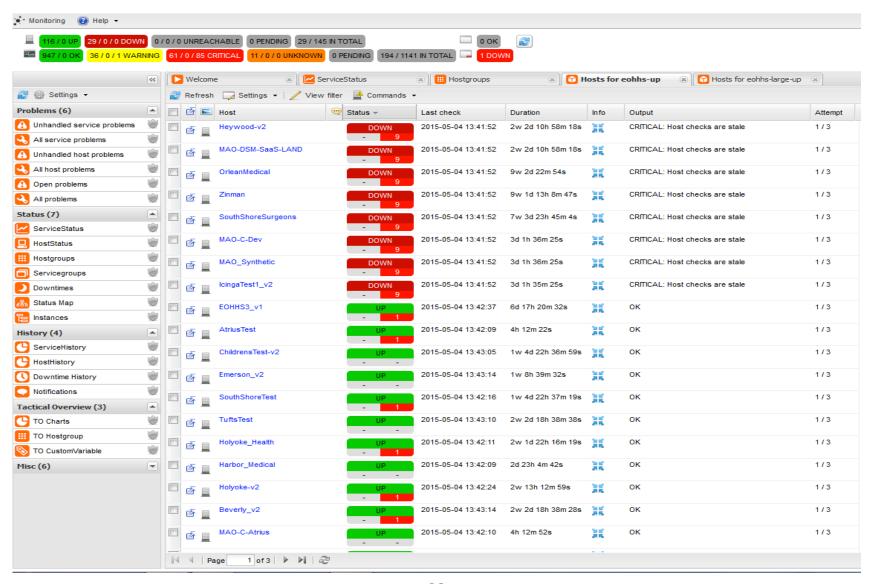


Problems (6)		Ø.	Host	Status 🔺	Last check	Duration	Info	Output	Attempt
1 Unhandled service problems	<u></u>	查』	EOHHS3_v1	UP	2015-05-04 13:41:15	6d 17h 19m 43s	200 200	ок	1/3
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All problems	۱	查』	Emerson_v2	UP	2015-05-04 13:41:36	1w 8h 38m 43s	30 EC 30 EC	OK	1/3
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Z ServiceStatus		_	_	- 1					
HostStatus	ŵ	查』	TuftsTest	UP 	2015-05-04 13:42:02	2w 2d 18h 37m 49s	<b>36</b>	OK	1/3
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Servicegroups	9		-	- 1					
Downtimes	9	查』	Harbor_Medical	UP	2015-05-04 13:42:09	2d 23h 3m 53s	30 EC 30 EC	OK	1/3
Status Map		查	Holyoke-v2	UP	2015-05-04 13:42:24	2w 13h 12m 10s	200	ОК	1/3
Instances				- 1					
History (4)	•	查』	Beverly_v2	UP	2015-05-04 13:42:29	2w 2d 18h 37m 39s	20 EC 20 EC	ОК	1/3
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TO Hostgroup	9	£ -	BID Plymouth	UP	2015-05-04 13:41:13	1w 4d 22h 36m 40s	25	ОК	1/3
TO CustomVariable	9			- 1			# K		
Misc (6)	₹	查	BID_Milton	UP	2015-05-04 13:41:36	1w 7h 50m 23s	20 EC 30 EQ	ОК	1/3



## **LAND Monitoring Issues**







# A LAND is required to be able to talk to our monitoring service, and the Direct Gateway environment of the Mass HIway

- If your appliance is in 'production' environment, you must allow the monitoring and management servers plus the direct.masshiway.net host
- If your device is in 'PRTST' environment, you must allow the monitoring and management servers plus the direct.prtst.masshiwaystage.com host
- LAND only requires an outbound connection. There is no need to worry about inbound traffic
- Your Service manager or Account Manager can provide you with the Host, IP address and Ports required for LAND configuration



## LAND – Process/Timeline



#### **Timeline**

- Participant fills out LAND appliance form as well as organizational spreadsheet and provider spreadsheet (if necessary)
- Send information in to Service Manager to get certs created
- Once LAND device is ready for installation, service manager contacts the participants technical team to up a LAND install at the data center
- Field engineer comes directly to facility to install the LAND device
- Field engineer remotely loads Mass HIway certificate onto the LAND device (if not done previously)
- After installation, service manager will work with participant to make sure they are properly connected to the Mass HIway via a round of testing
- After testing is complete, participant is live in production on the Mass HIway

Discovery	On Boarding	Testing	Go Live
Week 1 – 2	Week 3-4	Week 4	Week 5
Forms/Domain	Installation	Testing	Go-live





## Massachusetts Health Information Highway (Mass HIway) Rate Card

Effective Date - October 1, 2014

		Description	One-time set-up fet (per node)	Direct Mussaging Service			Direct Messaging Service + Query & Retrieve Service	
Tier	Category			Annual HIE Services Fee (per node)	innual HIE Services Fee + LAND (per node)	Annual HIE Services Fee Webmail (per mailbox)	Annual HIE Services Fee (per node)	Annual HIE Services Fee + LAND (per node)
	1a	Large hospitals/Health Systems				\$60		
Tier 1	1b	Health plans	\$2,500	\$15,000	\$27,500		\$30,000	\$42,500
1101 2	1c	Multi-entity HIE	\$2,500		\$27,500		\$30,000	\$42,500
	1d	Commercial imaging centers & labs						
	2a	Small hospitals						
	2b	Large ambulatory practices (50+ licensed providers)		11 /		\$60	\$17,500	
Tier 2	2c	Large LTCs (500+ licensed beds)	\$1,000	\$10,000	\$15,000			\$22,500
ner z	2d	Ambulatory Surgery Centers	\$1,000		\$13,000			\$22,300
	2e	Ambulance and Emergency Response						
	2f	Business associate affiliates	7					
	2g	Local government/Public Health	7					
	3a	Small LTC (< 500 licensed beds)					\$4,750	
Tier 3	3b	Large behavioral health (10+ licensed providers)	\$500	42.500	64.500	\$60		46.750
Her 3	3d	Large FQHCs (10+ licensed providers)	\$500	\$2,500	\$4,500			\$6,750
	3e	Medium ambulatory practices (10-49 licensed provid	er					
	4a	Small behavioral health (< 10 licensed providers)						
	4b (includes		П				\$275	
Tier 4	former 3c)	Home health, LTSS	\$25	\$175	\$250	\$60		\$350
	4c	Small FQHCs (< 10 licensed providers)	7		\			
	4d	Small ambulatory practices (3-9)	┪ /		\ <i> </i>			
			\ /		<b>\</b>			
Tier 5	5a	Very Small ambulatory practices (1-2)	\$25	\$60	\$60	\$60	\$90	\$90



#### What do I have to do to install the LAND device

Simply fill out the LAND appliance form and assure outbound firewall is set, a Field Engineer will come on site and install the device with your network team at a pre determined time

## What size LAND should I get?

Depends on use cases and transaction volume, we recommend a small LAND for less than 15,000 transactions per month and a large LAND greater than 15,000 per month

## Can we have more than one transport method

You can use Web services and directory drop simultaneously for sending, but can only have ONE outbound method set for receiving

## Where can I find the LAND implementation or Use guide?

You can download the LAND Selection, implementation, and Use guide from the following link: <a href="http://masshiway.net/HPP/Resources/Documentation/index.htm">http://masshiway.net/HPP/Resources/Documentation/index.htm</a>



#### LAND device has lost power or had the power reset

The LAND devices are configured to encrypt upon losing power as a security feature, so a Mass HIway Field Engineer must log into the device to decrypt it and restart the Rhapsody engine. You will be unable to use it until this has happened. Please contact Production Support immediately if your device loses power.

## Time-out error when attempting to send to my LAND

A time out error is indicates that the LAND is unable to connect to either the Internet or to the Mass HIway. Contact Production Support so that we can look into the issue to determine what might be preventing the land from talking to the Mass HIway.

## "Recipient lookup" error:

If you attempt to send to your LAND and get a recipient lookup error – please verify that there are no typos in your "To Address". Please also verify that the address you are sending to is a valid either in the Provider Directory or by contacting business operations at the receiving site.





If your organization is interested in connecting to the Mass HIway or improving Care Coordination contact the lead for the Mass HIway Account Management Team: Murali Athuluri, <a href="mathuluri@maehc.org">mathuluri@maehc.org</a> 781-296-3857

## **HIway Account Management Team:**



**Len Levine** 



Jessica Hatch, RN



Kelly Luchini, PMP



Jennifer Monahan

The Mass HIway Account Manager will be your personal liaison to take you through Enrollment, Onboarding, Addressing, Connection steps, and exchanging with your trading partners

The Massachusetts Health Information Highway

1.855.MAHIWAY (1.855.624.4929) Option 1

General Support: <a href="masshiway@state.ma.us">masshiway@state.ma.us</a>

www.masshiway.net





## **Thank You**