



Technical Overview

July 12th 10:00-11:30 AM PDT

Webcast

Today's Discussion

- OneHealthPort HIE Overview
 - Register
 - Sign Contract
 - Connect
- Connectivity Options
 - Web Trader
 - Native connection
 - Activator
 - Installation
 - Setup
- Next Steps

Links

- Take Action: Next steps
 - <http://www.onehealthport.com/HIE/action.php>
 - Registration – online form
 - Contract
 - Partner Provisioning Guide
 - Transaction Guides

OneHealthPort HIE Provides

- HUB exchange engine
 - Standard transactions – test and certify
 - Data translation and mapping
 - Trading partners are independent of each other
 - Can traffic custom forms/data sets
 - Routing based on headers, transaction type, content
 - Splitting of transactions
 - Data validation against standard
 - Central certificate management
- Directory
 - Entity level in 2011
 - Practitioner level in 2012

Where we are today – Implementation Phase

- HUB technology – Axway/OHP - ready
- Policy and contract framework - ready
- Mapping standard transactions - ready
 - Canonical Guides
 - Test transactions
- Registration for Entity Directory - ready
- Matching patient records – no MPI
 - Standard PID segments
- Applications – none hosted by HIE – can connect to application vendors

Sample PID Segment

- Expand the required fields to assist with match fields
- Six required fields align with other projects like SureScripts and Beacon
- HIE can adjust over time as we get more experience

Item Number	Required by HIE	Element Name	Description
00104	R	Set ID - PID	The number that identifies this transaction.
00106	R	Patient Identifier List	List of internal identifiers to uniquely identify a patient
00108	R	Patient Name	
00110	R	Date/Time of birth	Patient date/time of birth
00111	R	Administrative Sex	Patient's sex
00114	R	Patient Address	Mailing address for the patient

Provider Directory

- Evaluating current data sources and options for sharing data
- Participating in ONC Community of Practice (CoP) on Provider Directories – best practice
 - Entity level first (ELPD)
 - Practitioners second (PLPD)
 - Browser lookup
 - LDAP or other system lookups - 2012
- Evolutionary – phased growth
 - 1st step – use ACM to register HIE participating orgs and expand on the data

Progress on Initial Transaction Sets

- First seven transaction sets are mapped
 - Eligibility and Benefits – 270/271 EDI x12
 - Lab results reporting – HL7
 - Continuity of Care Document (CCD)
 - E-Prescribing (new and refill Rx) – NCPDP Script
 - Radiology results – HL7
 - ADT – HL7
 - Immunization – HL7

Connectivity Options

- Web Trader – web secure mailbox with viewer
- Activator – software gateway to secure connectivity and minimal transaction management locally
- Native connection – exchange certificates and connection address information
- See on-boarding document for more details

Connection Protocols

- FTP/SFTP
- HTTPS
- AS1/AS2/AS3

- Trading partner protocols are independent of each other – HUB provides protocol translation

Message Security

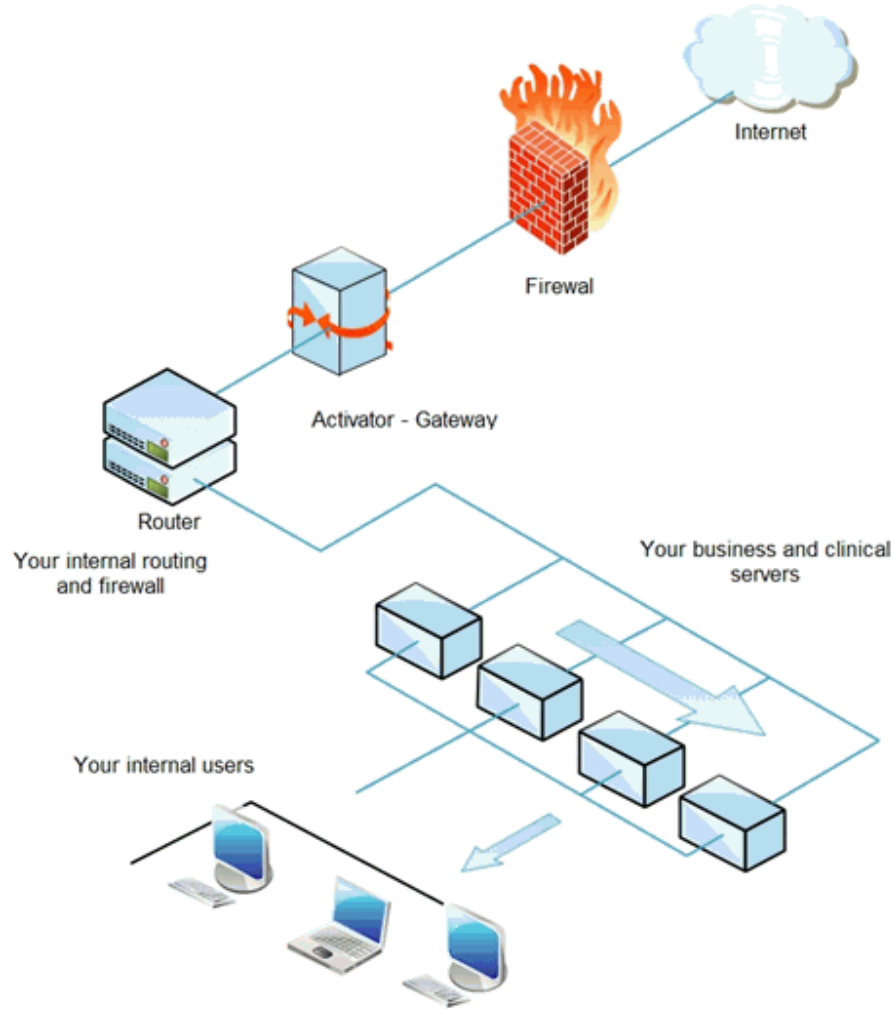
- All messages are encrypted using a full PKI model
- All certificates for the Activator and Web Trader are issued and deployed during the HIE setup process.
- All messages stored on the secure mailbox are encrypted and can only be accessed by the Trading Partner assigned to that mailbox.
- The web trader or Activator are responsible for decrypting the messages once the Trading Partner is ready to access them.

Once You're Contracted

- Register your organization in the Entity Provider Directory
- OHP uses information from the registration to setup your account
- OHP contacts the Technical Contact to confirm connectivity option
- OHP sends a secure email to the Technical Contact

BACKGROUND ON THE ACTIVATOR

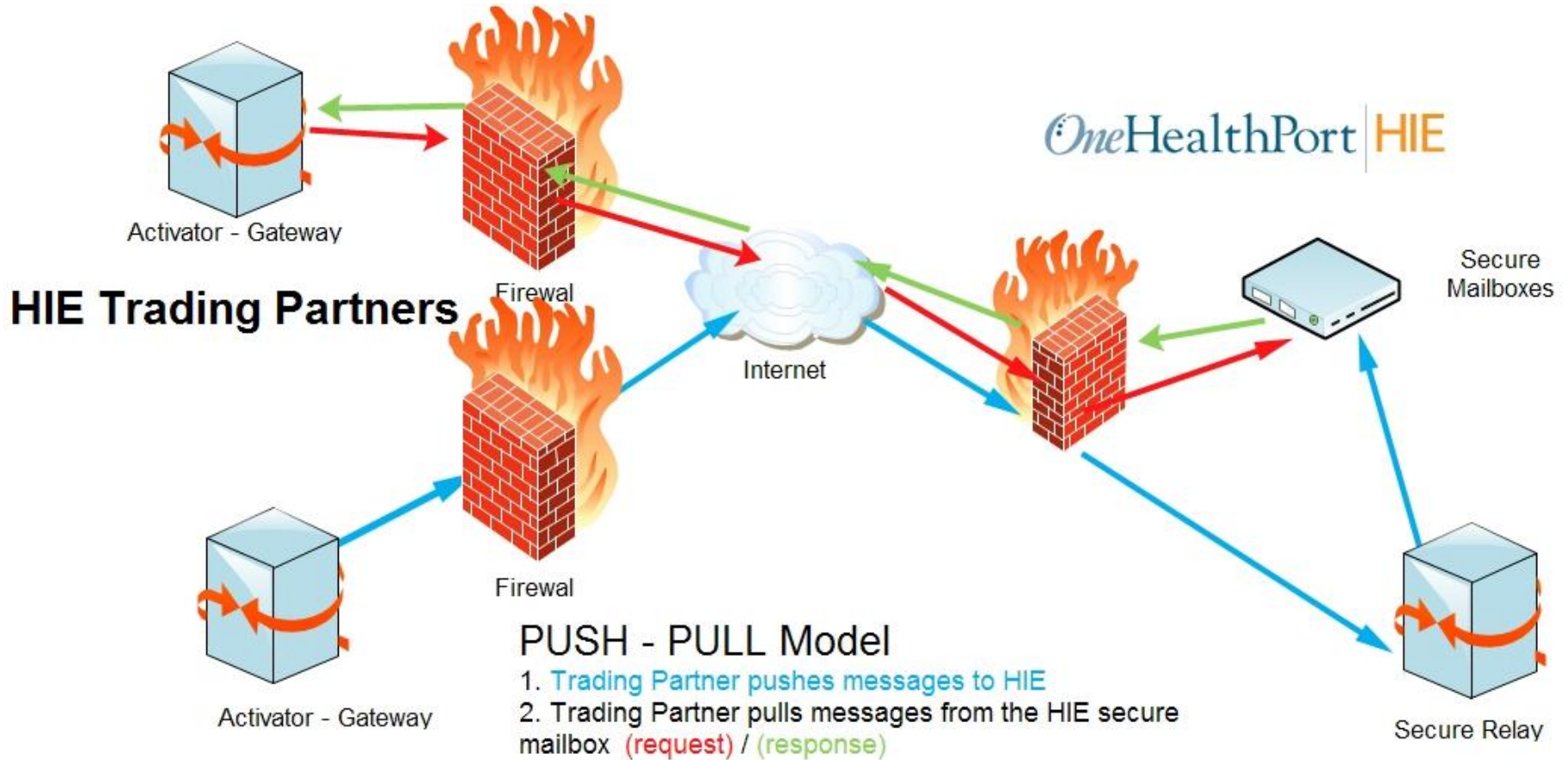
Implementation View of the Activator



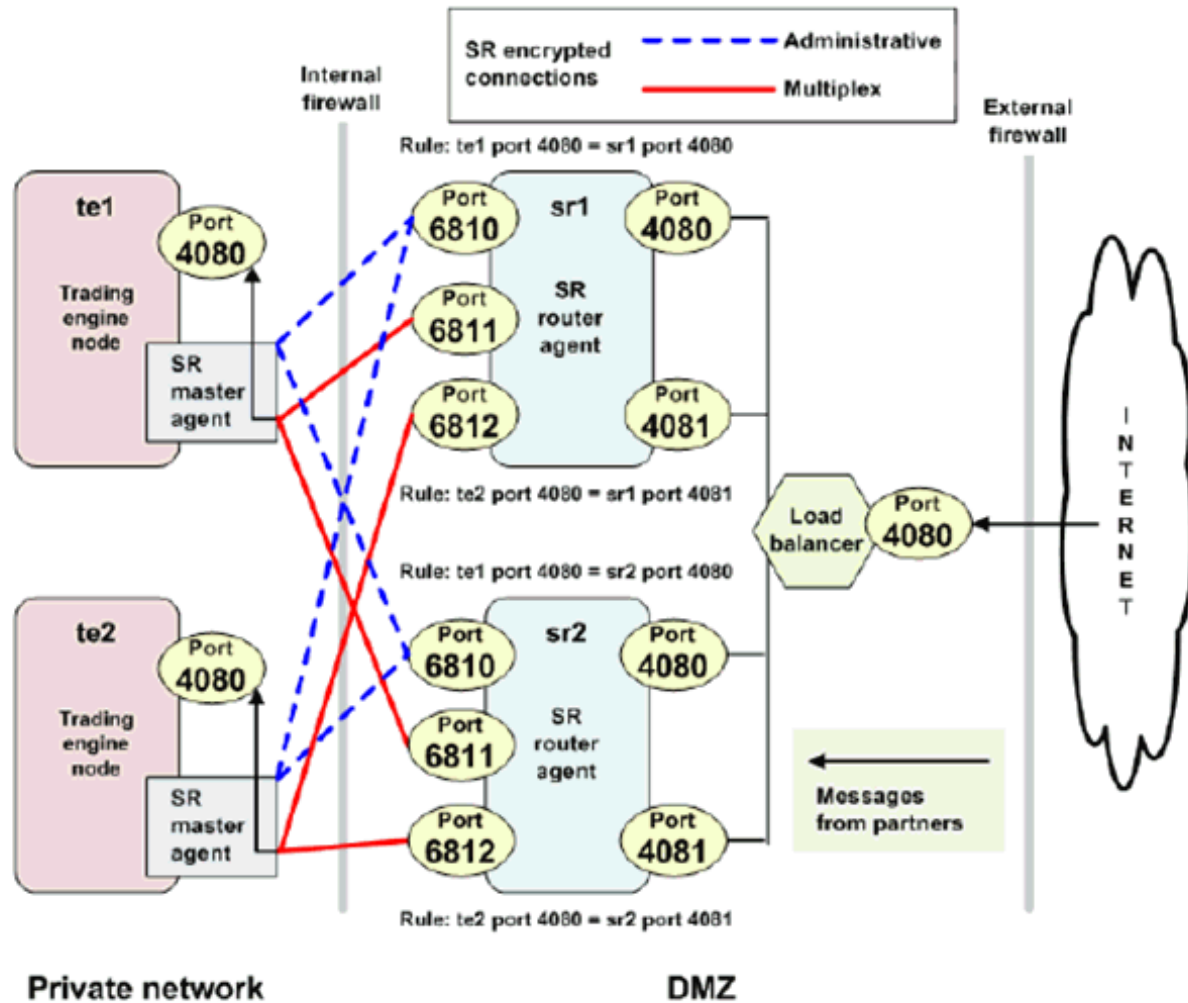
Roles of the Activator

- Inbound and outbound communications with the HIE
- Validation of messages – using Public Key Infrastructure (PKI) certificates
- Decryption of inbound messages/encryption of outbound messages
- Storage of certificates (public signing cert from the HIE, private signing cert for the trading partner) – the Trading Partner ONLY deals with certificates from the HIE and not all trading partners. The HIE manages all Trading Partner certificates as a service to all Trading Partners.
- Retrieving (pulling) of messages from trading partner's dedicated HIE secure mailbox
- Routing of inbound messages to internal systems by message type/routing id

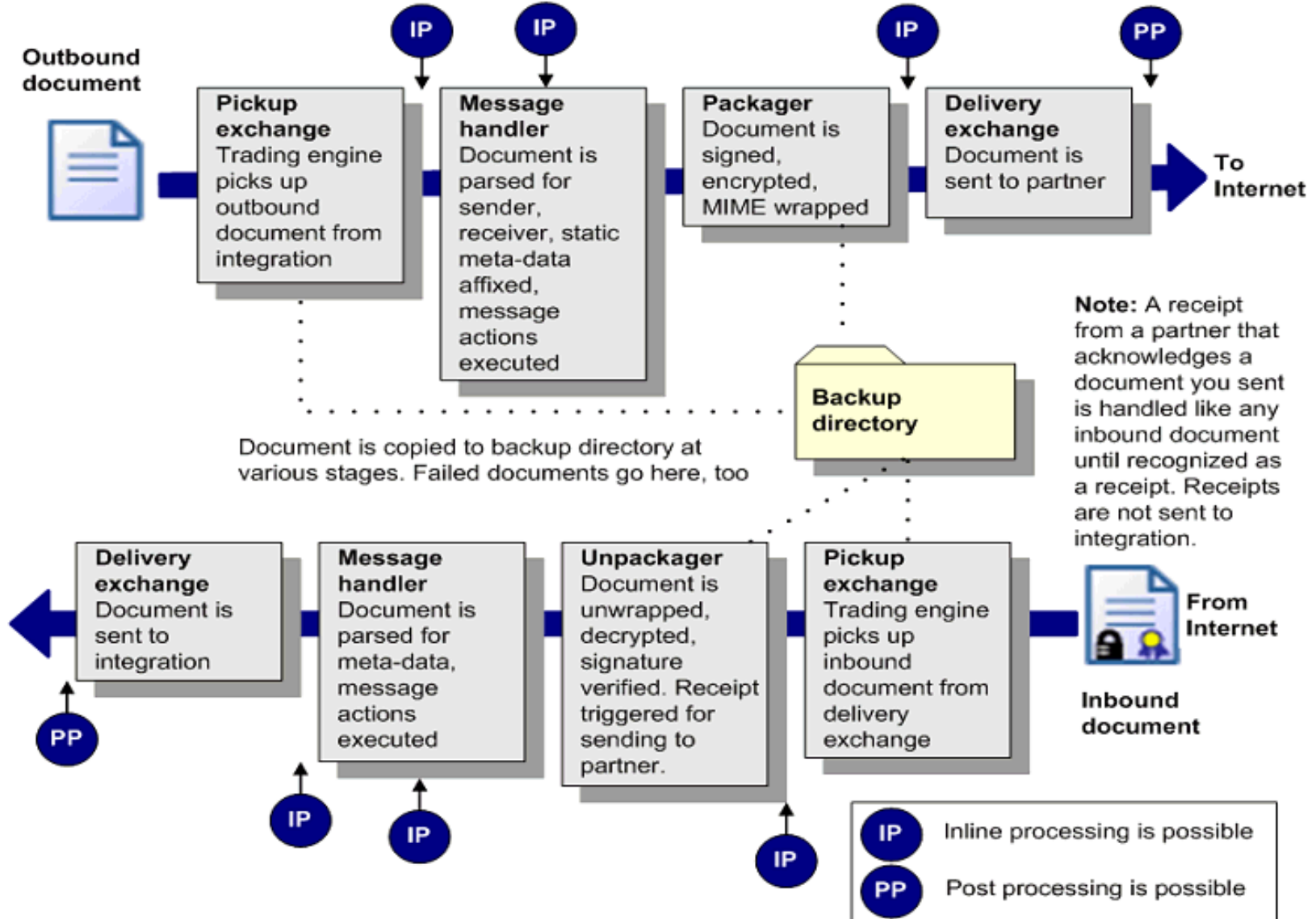
Push – Pull Model



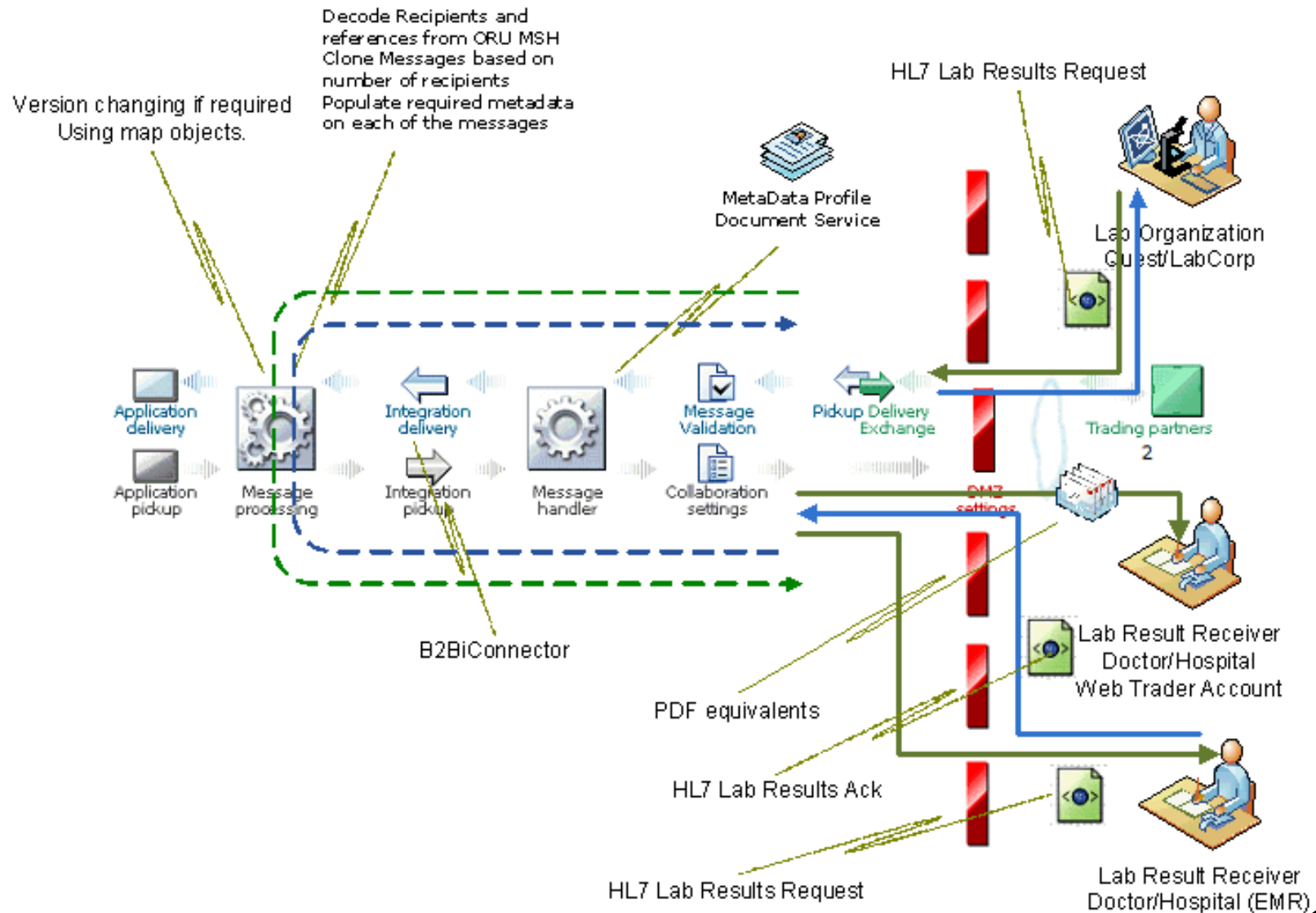
Secure Relay message handling



Message Processing options



Sample HL7 Message Handling

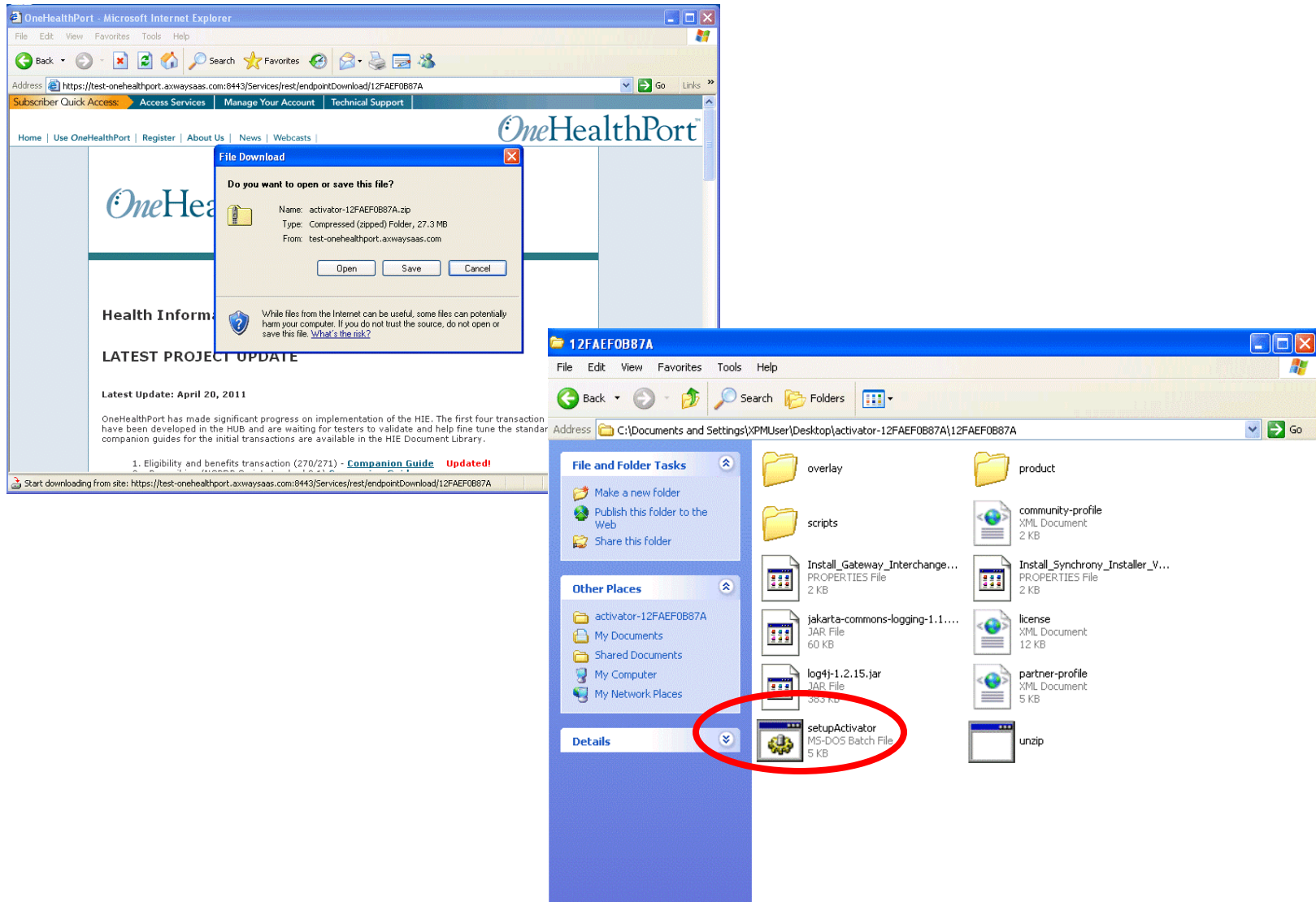


PROVISIONING AN ACTIVATOR

Provisioning the Activator

- Secure email from OHP
 - Contains Provisioning guide
 - Contains a secure link to download the Activator file to the server you plan to install on.
 - Specs for the server are in the Guide
 - Location of the host server outlined
 - Getting started handout – outlines next steps

Download the Activator



Install the Activator

```
C:\WINDOWS\system32\cmd.exe

Welcome to Activator Installer.

Please enter the directory where you would like to install activator or press enter to accept the default [default: \axway\12FAEF0B87A1]:_
```

```
C:\WINDOWS\system32\cmd.exe

Extracting the Java run time...
Extraction Complete
Copying the JRE files...
581 File(s) copied
23:50:10 - [main] INFO (PortTester.testOutboundConnection:55) - testing outbound connection to test-onehealthport.axwaysaas.com, port 4080
23:50:10 - [main] INFO (PortTester.testOutboundConnection:59) - outbound connection to test-onehealthport.axwaysaas.com, port 4080 was successful

Downloading software...this can take several minutes
DO NOT CLOSE THIS WINDOW!!!
.....
Download
Installing
The status
```

```
"C:\DOCUME~1\XPMUser\Desktop\ACTIVA-1\12F7BA-1\product\setupWin32.exe" Install In...

Initialization in progress
Please wait while execution process is being prepared!

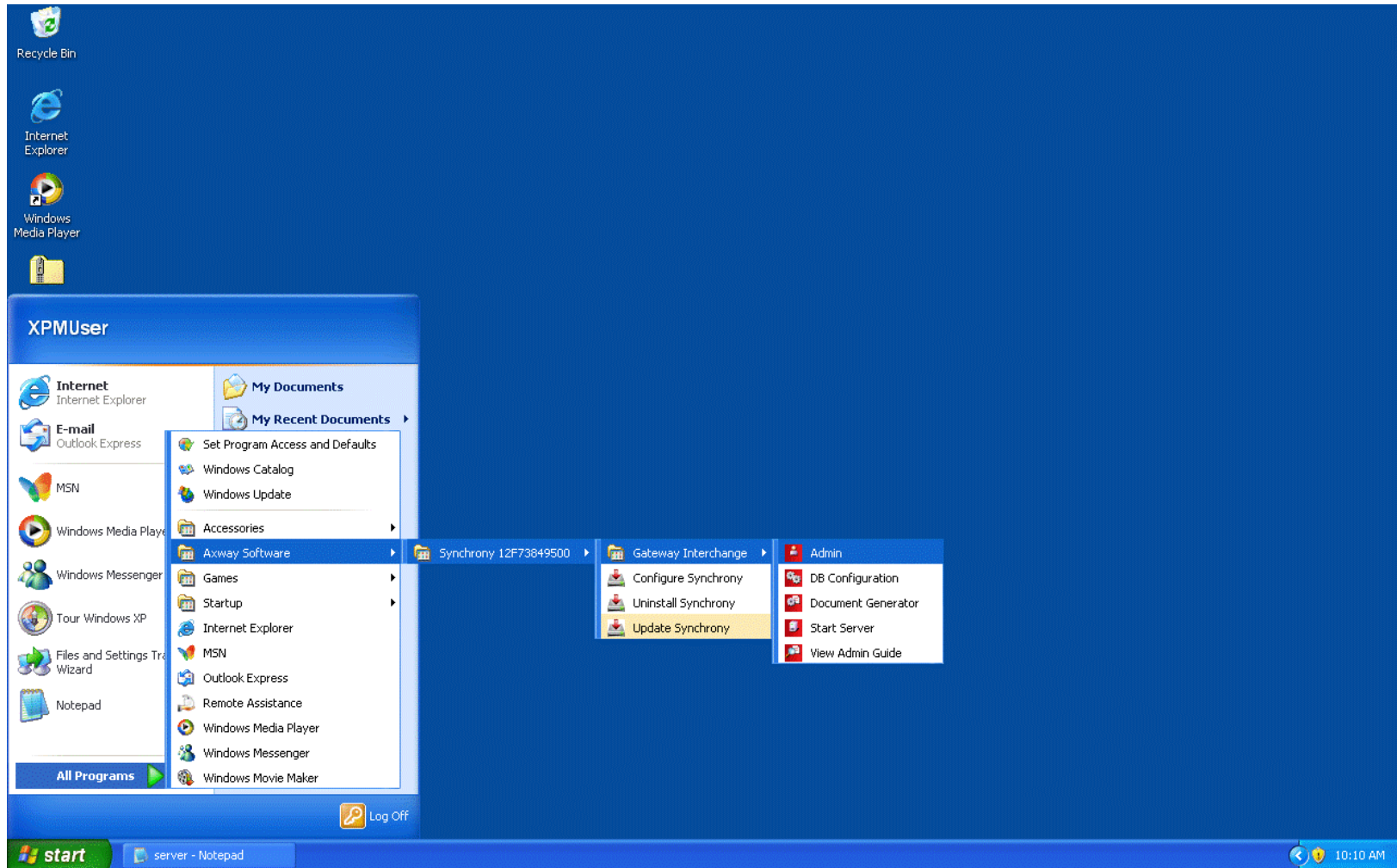
Summary
-----
Below is the status of the installation.

Synchrony_Installer_U4.3.1
Installed in C:\ActivatorOHP\

Component: Gateway_Interchange_U5.9.0
Installed in C:\ActivatorOHP\Gateway_Interchange\

Press Enter to exit installation
```

Start the Server – User Interface



Getting Started on Setup

Axway Synchrony Gateway Interchange - root administrator on virtualxp-78024 - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Refresh Home Search Favorites Home Mail Print Mailbox People

Address <http://virtualxp-78024:6080/ui/core/InitialSetup> Go Links

Home Help Logout

Getting started

Introduction

Below is a list of tasks designed to assist you in setting up your system. In front of each task is a status icon indicating the status of each task.

Status icons: Not started
 Incomplete
 Completed

You also have the option to not display this page again. [Do not show this page again](#)

Set up your system

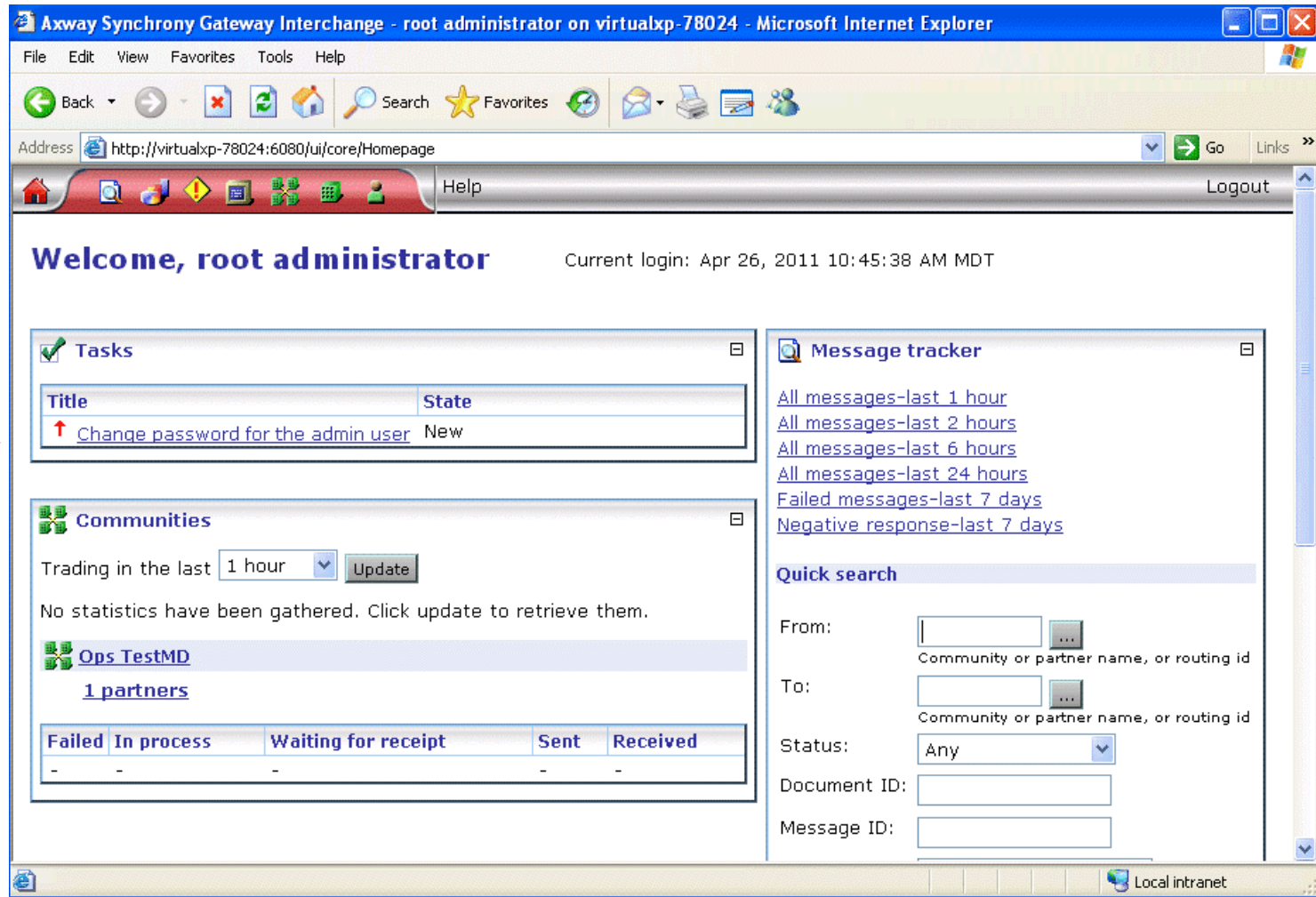
- Configure outgoing e-mail server**
This is the server the system uses to send outgoing e-mail by default.
- Change the password for the root administrator user**
The root administrator user's password is set to the default value. It is recommended that you change the password for security reasons.

Set up trading

- Set up a community**
If a first-time user, you are prompted to create a community and then configure it. If you created a community earlier.

<http://virtualxp-78024:6080/ui/partycfg/local/Pick> Local intranet

Set Password – Start Setup



Axway Synchrony Gateway Interchange - root administrator on virtualxp-78024 - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address <http://virtualxp-78024:6080/ui/core/Homepage> Go Links

Home Help Logout

Welcome, root administrator Current login: Apr 26, 2011 10:45:38 AM MDT

Tasks

Title	State
Change password for the admin user	New

Communities

Trading in the last

No statistics have been gathered. Click update to retrieve them.

Ops TestMD

[1 partners](#)

Failed	In process	Waiting for receipt	Sent	Received
-	-	-	-	-

Message tracker

[All messages-last 1 hour](#)
[All messages-last 2 hours](#)
[All messages-last 6 hours](#)
[All messages-last 24 hours](#)
[Failed messages-last 7 days](#)
[Negative response-last 7 days](#)

Quick search

From:
Community or partner name, or routing id

To:
Community or partner name, or routing id

Status:

Document ID:

Message ID:

Local intranet

Certificate Handling

Axway Synchrony Gateway Interchange - root administrator on localhost - Microsoft Internet Explorer

Address: http://localhost:6080/ui/partycfg/local/Certificates?partyId=498

Trading configuration Help Logout

Summary Contact
Properties
Certificates
Routing IDs

Integration delivery
Integration pickup
Message handler
Message validation
Collaboration settings
Pickup
Delivery exchange
Trading partners
HTTP Proxy

Pick a certificate

Community: *Ops TestMD*

Personal certificates | **Trusted root certificates** | Trusted SSL root certificates | SSH keys


Default signing certificate is: Ops TestMD_0
Default encryption certificate is: Ops TestMD_0
Default certificate for SSL client authentication is: Ops TestMD_0

Save changes

Name	Subject name	State	Usage	Expiration date	
Ops TestMD_0	Ops TestMD	Operational	Encryption and signing	Apr 26, 2013 10:27:33 AM MDT	Delete

Or nick a task

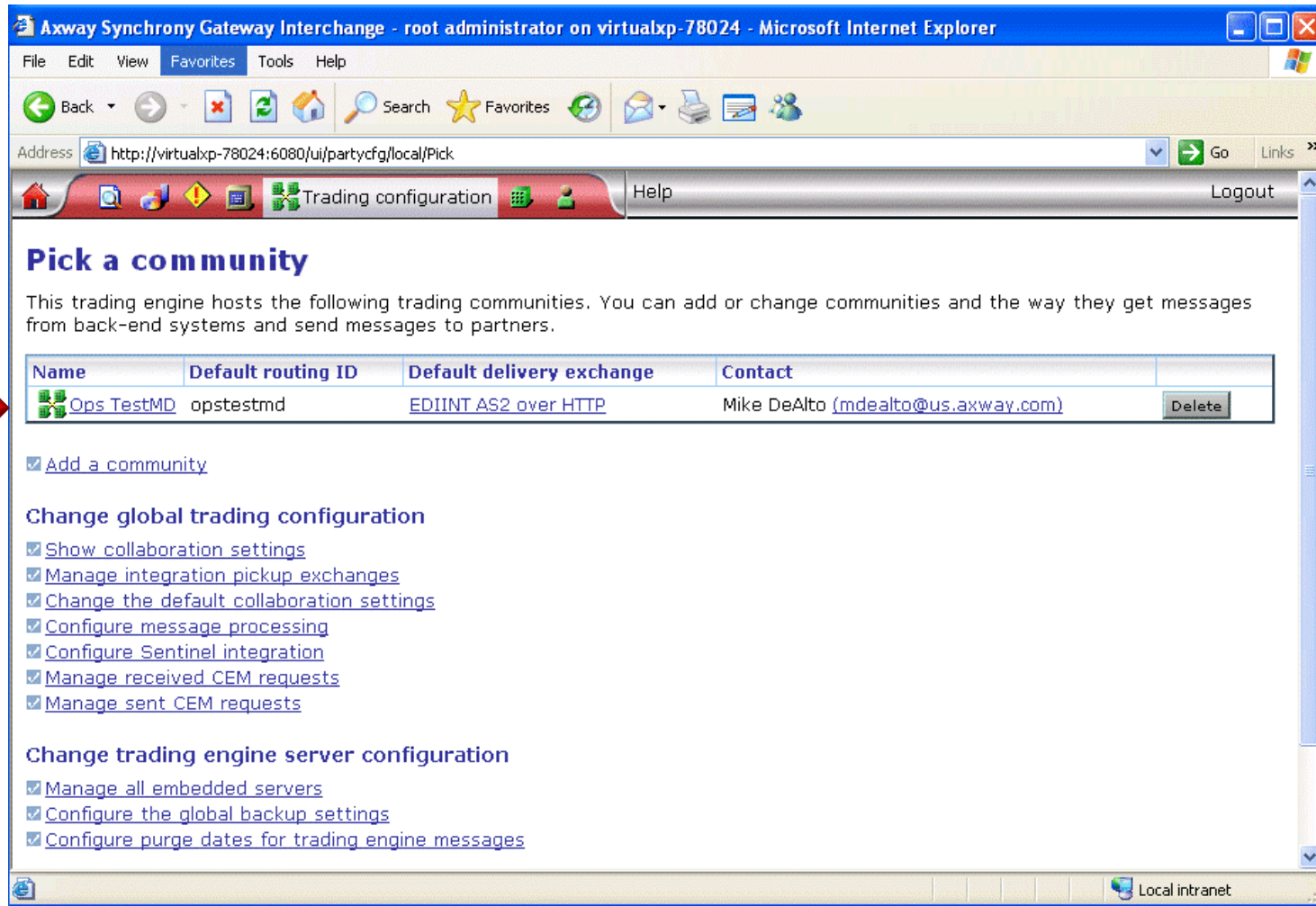
http://localhost:6080/ui/partycfg/local/Pick Local intranet



Setup Inbound Messages

- We'll explore a sample scenario where the Trading Partner is ready to receive HL7 messages (ADT, Lab and Radiology results)

Pick a Community – OHP HIE



Axway Synchrony Gateway Interchange - root administrator on virtualxp-78024 - Microsoft Internet Explorer


File Edit View Favorites Tools Help

Address <http://virtualxp-78024:6080/ui/partycfg/local/Pick> Go Links >>

Trading configuration Help Logout

Pick a community

This trading engine hosts the following trading communities. You can add or change communities and the way they get messages from back-end systems and send messages to partners.

Name	Default routing ID	Default delivery exchange	Contact	
 Ops TestMD	opstestmd	EDIINT AS2 over HTTP	Mike DeAlto (mdealto@us.axway.com)	Delete

[Add a community](#)

Change global trading configuration

- [Show collaboration settings](#)
- [Manage integration pickup exchanges](#)
- [Change the default collaboration settings](#)
- [Configure message processing](#)
- [Configure Sentinel integration](#)
- [Manage received CEM requests](#)
- [Manage sent CEM requests](#)

Change trading engine server configuration

- [Manage all embedded servers](#)
- [Configure the global backup settings](#)
- [Configure purge dates for trading engine messages](#)

Local intranet

Set the Trading Configuration

Axway Synchrony Gateway Interchange - root administrator on virtualxp-78024 - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Search Favorites

Address <http://virtualxp-78024:6080/ui/partycfg/local/Summary?partyId=498> Go Links

Trading configuration Help Logout

Summary Contact Properties Certificates Routing IDs

Integration delivery Integration pickup Message handler Message validation Collaboration settings HTTP Proxy Pickup Delivery exchange Trading partners 1

Summary

Community: *Ops TestMD*

Contact name: Mike DeAlto

E-mail address: mdealto@us.axway.com

Trading summary Trading configuration

Trading statistics for the last 1 hour Update

No statistics have been gathered. Click update to retrieve them.

Or pick a task

- [Add a partner to this community](#)
- [Show collaboration settings](#)
- [Change an embedded transport server](#)
- [Enable all pickup exchanges for receiving partner messages](#)

Local intranet

Pick an Integration Exchange

Summary Contact
Properties
Certificates
Routing IDs

Integration delivery
Integration pickup
Message handler
Message validation
Collaboration settings
Pickup
Delivery exchange
Trading partners
1
HTTP Proxy

Pick an integration delivery exchange

Community: *Ops TestMD*

After this community endpoint has received and picked up messages, the following protocols are used to route messages to back-end systems.

Type	Location	Name	Delivery criteria
<input type="checkbox"/> No packaging over File system	C:\ActivatorOHP\common\data\in		Deliver by default

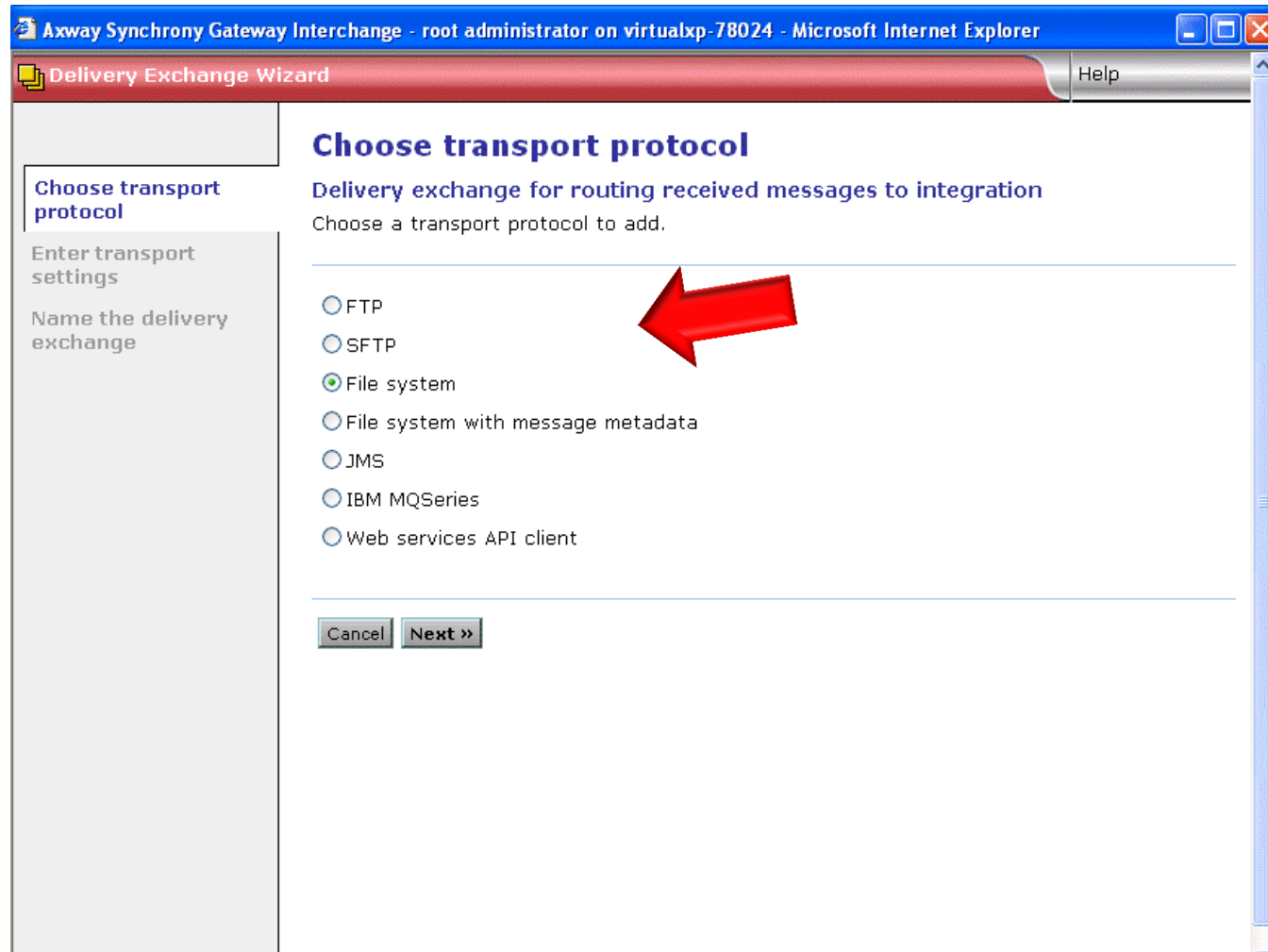
Change status

Or pick a task

- [Add an integration delivery exchange](#)
- [Add default integration exchanges](#)
- [Manage integration FTP users](#)
- [Manage integration SFTP users](#)
- [Run integration message simulator](#)

Local intranet

Choose the Transport Protocol



Axway Synchrony Gateway Interchange - root administrator on virtualxp-78024 - Microsoft Internet Explorer

Delivery Exchange Wizard Help

Choose transport protocol

Delivery exchange for routing received messages to integration
Choose a transport protocol to add.

- FTP
- SFTP
- File system
- File system with message metadata
- JMS
- IBM MQSeries
- Web services API client

Add a Directory Path

Delivery Exchange Wizard Help

Choose transport protocol

Enter file system settings

Name the delivery exchange

Configure the file system settings

Delivery exchange for routing received messages to integration
Complete the following fields for this transport.

Enter the directory path. This must be a directory on the trading engine server's file system. If the directory does not exist, the system creates it. If you use the trading engine in a multiple computer cluster, make sure the directory is shared.

Directory name:


(Example: C:\temp or /usr/temp)

Preserve original filenames

Overwrite duplicate filenames

Sequentially number duplicate filenames

Generate unique filenames



Name the Exchange

Delivery Exchange Wizard Help

Choose transport protocol
Enter file system settings
Name the delivery exchange

Delivery exchange name

Delivery exchange for routing received messages to integration
Optionally enter a name to help in identifying this delivery exchange.

Name:

Cancel < Back **Finish**

Move Delivery Criteria UP

The screenshot shows a web-based trading configuration interface. At the top, there is a navigation bar with icons for home, search, and other functions, along with the text 'Trading configuration', 'Help', and 'Logout'. Below the navigation bar is a diagram illustrating the message flow process: 'Integration pickup' leads to 'Integration delivery', which then goes to a 'Message handler'. From the 'Message handler', the flow goes to 'Message validation', then to 'Pickup', and finally to a 'Delivery exchange'. A 'Trading partners' box is also shown, connected to the 'Delivery exchange'. Below the diagram, the section is titled 'Pick an integration delivery exchange' and is for the community 'Ops TestRL'. A paragraph explains that after receiving and picking up messages, protocols are used to route them to back-end systems. A table lists three delivery criteria, with a red arrow pointing to the third row. The table has columns for 'Type', 'Location', 'Name', and 'Delivery criteria'. Each row also has 'Test...' and 'Delete' buttons.

Pick an integration delivery exchange

Community: *Ops TestRL*

After this community endpoint has received and picked up messages, the following protocols are used to route messages to back-end systems.

<input type="checkbox"/>	Type	Location	Name	Delivery criteria		
<input type="checkbox"/>	No packaging over File system	C:/Activator/common/data/EPrescribe	NCPDP	(Content MIME type equals application/xml) AND (Document type equals EPrescribe) OR deliver by default	▲ ▼	Test... Delete
<input type="checkbox"/>	No packaging over File system	C:/Activator/common/data/HL7	HL7	Exchange not used	▲ ▼	Test... Delete
<input type="checkbox"/>	No packaging over File system	C:\ACTIVA~1\common\data\in		Exchange not used	▲ ▼	Test... Delete

Change status

Select the Delivery Criteria

The screenshot shows a web-based configuration interface for a trading engine. At the top, there is a navigation bar with 'Trading configuration', 'Help', and 'Logout'. Below this is a sidebar with links for 'Summary', 'Contact', 'Properties', 'Certificates', and 'Routing IDs'. The main content area features a process flow diagram with steps: Integration pickup, Integration delivery, Message handler, Message validation, Pickup, Delivery exchange, and Trading partners. Below the diagram is a section titled 'Change this integration delivery exchange' with a subtitle 'Community: Ops TestRL, Message protocol: No packaging, Transport: File system'. A 'Test exchange point...' button is present. There are two checkboxes: 'Enable this delivery exchange' (checked) and 'Make this the default delivery exchange' (unchecked). The 'Name' field contains 'HL7'. A tabbed interface below has tabs for 'File system settings', 'Delivery criteria', 'Message attributes', 'Inline processing', 'Schedule', and 'Advanced'. The 'Delivery criteria' tab is selected and circled in red. It contains instructions: 'Enter the directory path. This must be a directory on the trading engine server's file system. If the directory does not exist, the system creates it. If you use the trading engine in a multiple computer cluster, make sure the directory is shared.' The 'Directory name' field is set to 'C:/Activator/common/data/HL7' with a 'Browse...' button. Below this are four radio button options: 'Preserve original filenames' (selected), 'Overwrite duplicate filenames', 'Sequentially number duplicate filenames', and 'Generate unique filenames'. A 'Save changes' button is at the bottom left.

Trading configuration Help Logout

Summary Contact
Properties
Certificates
Routing IDs

Integration delivery Integration pickup Message handler Message validation Pickup Delivery exchange Trading partners 1

Change this integration delivery exchange

Community: *Ops TestRL*, Message protocol: *No packaging*, Transport: *File system*

Test exchange point...

Enable this delivery exchange

Name:

Make this the default delivery exchange

File system settings **Delivery criteria** Message attributes Inline processing Schedule Advanced

Enter the directory path. This must be a directory on the trading engine server's file system. If the directory does not exist, the system creates it. If you use the trading engine in a multiple computer cluster, make sure the directory is shared.

Directory name: Browse...

(Example: C:\temp or /usr/temp)

Preserve original filenames

Overwrite duplicate filenames

Sequentially number duplicate filenames

Generate unique filenames

Save changes

In the “Delivery criteria” tab, select “Compare” under “Insert” column
 Select “Content MIME type”, “equals” and “text/x-cyclone-hl7-plain”
 Next, select “OR” and then “Compare” to add “Content MIME type”, “equals”
 and “application\octet-stream”

Change this integration delivery exchange
 Community: *Ops TestURL*, Message protocol: *No packaging*, Transport: *File system*

Enable this delivery exchange
 Name:
 Make this the default delivery exchange

File system settings | **Delivery criteria** | Message attributes | Inline processing | Schedule | Advanced

Define conditions that will cause payloads to be delivered to this exchange. If a payload does not satisfy the delivery criteria for any exchange, then the first available exchange will be used. An exchange with no criteria will be used only if it is the first available exchange.

Criteria: (Content MIME type equals application/octet-stream) OR (Content MIME type equals text/x-cyclone-hl7-plain)

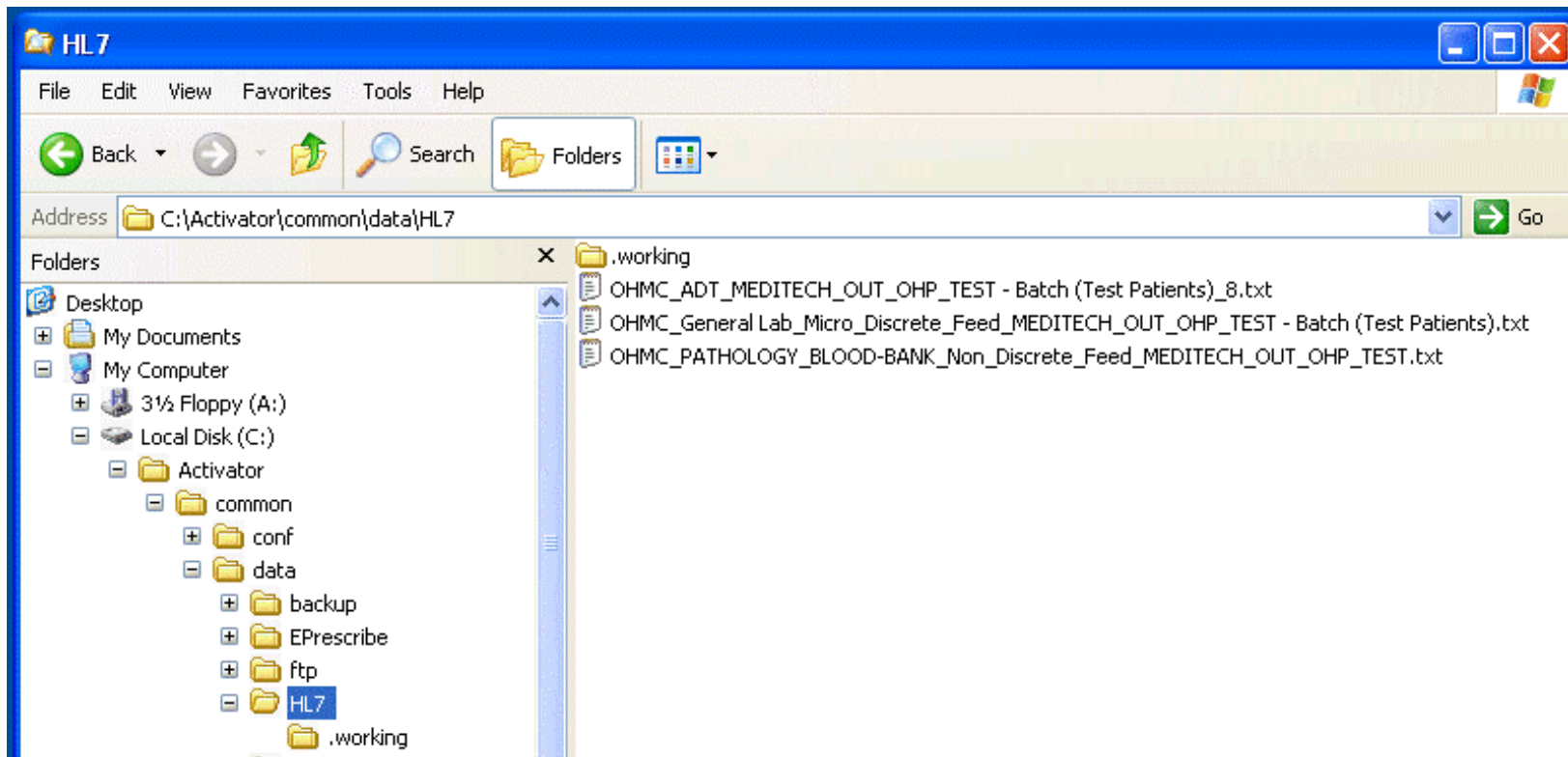
	Insert		
OR	AND	Compare	Delete
	Content MIME type	equals	application/octet-stre
	Content MIME type	equals	text/x-cyclone-hl7-pl

HL7 can be binary or HL7 plain text

Click “Save changes” to complete the “HL7” Document type setup and the new HL7 setting will be shown under “Delivery criteria”

<input type="checkbox"/>	No packaging over File system	C:/Activator/common/data/HL7	HL7	(Content MIME type equals application/octet-stream) OR (Content MIME type equals text/x-cyclone-hl7-plain)	<input type="button" value="Test..."/>	<input type="button" value="Delete"/>
--------------------------	-----------------------------------------------	------------------------------	-----	----------------------------------------------------------------------------------------------------------------	----------------------------------------	---------------------------------------

HL7's test files received can be verified in the file system directory



Finding Trading Partners

- a. The HIE will utilize the OHPOrgID as the standard Recipient ID for Trading Partner routing.
- b. The OHPOrgID is discoverable in the HIE Provider Directory and is a free entity identity validated by the OneHealthPort Security Service.
- c. Sample OHPOrgIDs (dash removed for header use)

Organization Name	OHPOrgID
Evergreen Medical Center	cmyedh-00
Skyline Hospital	q81wyw-00
Group Health Cooperative	wcap2r-00
Premera Blue Cross	bhofg3-00
Inland Imaging	23f14z-02
Mid Columbia Family Health Center	fof35x-00
Hi-School Pharmacy	yvxfvu-00

HL7 Header Detail

i. Sample header:

```
MSH|^~\&||RAD|23f14z02 |GHC EPIC| wcap2r00|200202150930||ORU^R01|CNTRL-3456|P|2.4
```

MSH Number	Values	Name
1		Field Separator
2	^~\&	the component separator, repetition separator, escape character, and subcomponent separator
3	II RAD	Sending Application
4	23f14z02	Sending Facility
5	GHC EPIC	Receiving Application
6	wcap2r00	Receiving Facility
7	200202150930	Date/Time of Message
8	Blank	Security
9	ORU^R01	Message Type
10	CNTRL-3456	Message Control ID
11	P	Processing ID
12	2.4	Version ID

Sender is Inland Imaging

Recipient is Group Health

Provisioning Guide

- Installation
- Setup
- Message types
- Protocols
- Certificates
- File headers
- Ports and routes
- Recipient ID – use in routing messages

Contact OHP

- Kelly Llewellyn – OneHealthPort HIE Project Manager
 - kellyl@onehealthport.com
 - 1-206-624-3128 ext 157
- Teresa Davis – OHP HIE Contracts
 - tdavis@onehealthport.com
 - 1-206-624-3128 ext 152
- Sue Merk – VP Operations and Technology
 - Global HIE Project Technical Leadership