



RESOURCE AND PATIENT MANAGEMENT SYSTEM

Master Patient Index Interface

(AGMP)

HealthShare Ensemble 2017 Management Portal Manual

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Preface

The purpose of this manual is to provide information about using the *Management Portal*. This manual has been written to allow users to monitor the Ensemble Integration Engine. However, the Beta testing process has identified that users should not use these features but instead should use the *full* Ensemble System Management Portal and the Management Portal for the Integration Engine.

1.0 Introduction

For over two decades, hospitals and health centers of the Indian Health Service (IHS) and numerous tribal health programs have used an information system called the Resource and Patient Management System (RPMS). RPMS is a highly integrated system consisting of some 50 health care and administrative applications. Virtually all these applications directly interact with one or more, and sometimes many, of the other RPMS applications.

RPMS applications are required to interact with the Master Patient Index (MPI) to meet the needs of the IHS MPI initiative. The RPMS/HL7-Optimized (HLO) interface is a way to send patient information Admission, Discharge, Transfer (ADT) to the MPI and to receive treating facility information from the MPI and store it into the RPMS database.

This manual describes the tools that are provided to manage and monitor the Ensemble Integration Engine (EIE). The first section describes how to use the portal in the management of the interface. The second section describes the portal in more technical detail for Office of Information Technology (OIT) personnel to assist the user in configuring the EIE and in troubleshooting problems.

Note: Detailed instructions for installing and configuring the AGMP production in Ensemble are found in the *Patient Registration MPI Interface/Ensemble (AG) Installation Guide and Release Notes.*

1.1 Productions

A *production*, the unit of delivery for Ensemble-based development projects, is a package of host classes and configuration items that solves a specific integration problem for an enterprise.

The AGMP interface sends messages between RPMS and the MPI system to maintain the integrity and accuracy of patient records. The AGMPI.PatientRegistration production uses the Management Portal to provide a suite of tools for managing, monitoring, and troubleshooting the message transport between the two systems.

Productions can be started, stopped, configured, and monitored from the Management Portal using Ensemble. In addition, errors such as messaging errors and connection errors trigger e-mail alerts from EIE.

1.2 Namespaces

A *namespace* is a collection of one or more productions. The AGMPxxx namespace is created during the AGMP installation process (where "xxx" is the site's production namespace).

Warning: All system-provided namespaces except ENSEMBLE and USER are overwritten upon reinstallation or upgrade. For this reason, InterSystems recommends creating new namespaces, rather than placing custom code in any of the systemprovided namespaces, where it could be overwritten and lost.

1.3 Management Portal

The Management Portal provides access to the tools and components required to manage the AGMP namespace and the AGMPI.PatientRegistration production instance.

Warning: It is critical to get permission from OIT before running a production instance. The patient bulk load file must be activated by OIT before running any Ensemble production instance.

It is highly recommended that sites use the full Management Portal to properly monitor productions.

2.0 Start Ensemble

There are multiple ways to enter Ensemble. To see individual production configurations, follow the steps below.

1. Click on the **Ensemble** button in the menu list on the left of the Management Portal page (Figure 2-1, yellow highlight).

	Menu Welcome	Home About Help Logout	Server Namespace F02D Switch This is a Development 8 User Licensed to OfT-AZDEV Instance HEALTHSHAR	ystem IE	InterSystems
	View:		Search	Mana	gement Portal
	•	Home	Welcome to the Management Portal		System Information General details on this system
	å	HealthShare	Please select one of the categories on the left or one of the options below Favorites	Did you know?	System Up Time Od 6h 26m
	0	DeepSee	Go to a tavoms page	You can return to this list by clicking on the Home link at the top of the page.	Member of Mirror HEALTHSHARE Type: Fallover Status: Primary View Mirror Monitor
	0	Ensemble		d	Ensemble Productions Productions running on this system
ľ	4	System Operation	Recent Go to a recently viewed page	Links Pages you may be interested in Samples Documentation	AGMPLPatientRegistration in AGMPICHITD Suspended View details
		System Explorer		Support InterSystems	AGMPLPatientRegistration in AGMPIF0Q1D Suspended View dotails
	-	System Administration			AGMPLPatientRegistration in AGMPIF0Q2D Running View details
	-				AGMPLPatientRegistration in AGMPIF1Q1D
(\$ 130% ·

Figure 2-1: Ensemble button

2. To start management of a production, click on **Configure** then click on **Production**. The **Production** page opens (Figure 2-3).

	Configure »	Production 2
Home	Build »	Business Partners
	View »	Credentials
HealthShare	List »	Schedule Specs
(•)	Monitor »	Data Lookup Tables
	Manage »	System Default Settings
DeepSee	Interoperate »	Enterprise Systems
	Test »	Public-Service Registry
0-		External-Service Registry
		Message Bank Link
System Operation		
System Explorer		
System Administratio	on	

Figure 2-2: Start management of a production



Figure 2-3: Production Page

3.0 Navigation

The Management Portal has multiple ways to navigate to productions. The banner at the top is key to navigation (Figure 3-1).



Figure 3-1: Navigation Banner

3.1 Choosing a Namespace

The Management Portal has a Namespace item at the top of the display area, as shown in Figure 3-2 (yellow highlight). To choose a Namespace, do the following:

1. Click on Switch (Figure 3-2, yellow highlight).

-	Menu Welcome	Home About Help Logout	Server. Namespace F022D Switch This is a Development Sy later MEALTHEAR	ystem		InterSystems^	
	View:		Search	: []	Mana	gement Portal	
	\$	Home	Welcome to the Management Portal			System Information General details on this system	
	ò	HealthShare	Please select one of the categories on the left or one of the options below Favorites Go to a favorite page	Did you know?	these fish as the	System Up Time Od 6h 26m	
	0	DeepSee		Tou can return to this list by clicking on the top of the page.	e nome ink at the	Member of Mirror HEALTHSHARE Type: Failovor Status: Primary View Mirror Mostor	
	•	Ensemble		d		Ensemble Productions Productions running on this system	
		System Operation	Recent Go to a recently viewed page	Links Pages you may be interested in Samples Documentation		AGMPI,PatientRegistration in AGMPICHITD Suspended View details	
		System Explorer		Support InterSystems		AGMPI.PatientRegistration in AGMPIF0Q1D Suspended View details	
		System Administration				AGMPI.PatientRegistration in AGMPIF0Q2D Running View details	
	-					AGMPI.PatientRegistration in AGMPIF1Q1D	
<						× 132% •	

Figure 3-2: Namespace list

2. Select an AGMPI Namespace in the **Namespace Chooser** (Figure 3-3). Click **OK**.

Namespace Chooser Select a namespace Available Namespaces		
Available Namespaces %SYS	_	
%SYS		
AGMPICHITD		
AGMPIF0Q1D		
AGMPIF0Q2D		N
AGMPIF1Q1D		19
AGMPIF1Q2D		
AGMPIF9Q1D		
AGMPIF9Q2D		
BCOMCHITD	4	
BCOMF0Q1D	~	

Figure 3-3: Namespace Chooser

3. The **Namespace** at the top of the Management Portal should now contain the AGMPI production (Figure 3-4).

Server	Namespace	AGMPIE002D	Switch This is a F	Development System	
CONTON.		riona a care		bereiopinent oystem	

Figure 3-4: AGMPI Production selected

3.2 Management Portal Home Page

To reach another part of Ensemble while you are within Ensemble, return to the **HEALTHSHARE - Home** page (Figure 3-2).

1. At the very top of the page, the current page is highlighted in light blue. If you do not see the **Navigation Banner** (Figure 3-6), close the current page by clicking the **x** next to its name (Figure 3-5, green arrow). If necessary, close all pages until the **Navigation Banner** is visible.

C ∞	ρ = Č ≰. Message Viewer	& Visual Trace	×	ት • 🔊 • 🖃	∰i ≠ Page ≠ Sa	- ロ X 合合のC
Visual Trace						
Session ID: 73454 Legend D	Go to Items per page 40 V	Show events Show internal items	Apply Filter None	► Next Page	Previous Session	Next Session

Figure 3-5: Close current page

2. Click **Ensemble** from the list at the top of the **Navigation Banner** (Figure 3-6). This will open the **HEALTHSHARE - Home** page (Figure 3-2).



Figure 3-6: Navigation Banner

3.3 Switch Productions

While managing a production it may be necessary to switch to another production from the **Productions Configuration** page.

1. From the **Production Configuration** page (see Section 2.0), go to the **Production Settings** pane and click on **Actions** (Figure 3-7).

	Production Configuration
Production Settings	
Settings Queue Log Messa	ges Jobs Actions
Apply 🔻 🍪 Search:	
Informational Settings	
Basic Settings	
Actor Pool Size	
Additional Settings	
Alerting Control	
Development and Debug	jing
These are the Production set	tings.
To view item settings, click or	a configuration item.

Figure 3-7: Productions Settings pane

2. On the Actions tab, click **Open** (Figure 3-8).



Figure 3-8: Actions Tab

3. In the **Finder Dialog** box, click on **AGMPI** then **PatientRegistration** (Figure 3-9). The new production opens in the **Production Configuration** window.



Figure 3-9: Finder Dialog

4.0 Individual Productions

This section addresses how to see details for individual productions. The other sections of this manual discuss how to view all production information at once and sort and filter that information.

There are three menu options available after going through the steps in Sections 2.0 and 3.0. The options are **Services**, **Processes**, and **Operations** (Figure 4-1).

Note: Detailed instructions for using a production's configuration pages are found in the *Patient Registration MPI Interface/Ensemble (AG) Installation Guide and Release Notes.*

4.1 Production Status

Any changes made to a production while it is running are applied immediately, without requiring the stop and restart of the production. When a production is running, monitoring and diagnostic tasks can be performed from the Management Portal.

Always monitor Outlook e-mail for alerts from Ensemble. See Section 11.0 for information about Ensemble e-mail alerts.

The possible statuses for a production are listed in Table 4-1.

Table 4-1: Production Status

State	Meaning
Not running, enabled	When the production is stopped, no messages are processed by the production. It may be necessary to stop the production at times. However, the production should normally be in a Running state.
Running	When a production has been started and is operating normally, it has a status of Running. This is an acceptable state.

State	Meaning
Disabled	A production acquires the Suspended status if, at the end of the shutdown sequence, some queues still contain synchronous messages, waiting for a response. Depending on how the production has been designed, this may or may not indicate a problem.
	A Suspended production can be started. Starting the production again may permit the waiting messages to be processed. However, if the Suspended production is started, and more messages arrive while those in front of them in the queue cannot be resolved, queues may simply continue to fill. In that case investigate to discover why the incoming messages never complete.
	A Suspended production may be stopped. InterSystems advises stopping a production only during initial development and not on a deployed, live installation. For instructions, see the Stopping a Suspended Production section in the "Creating a New Production" chapter.
• Error	Ensemble is stopped but the production did not shut down properly. This could happen if you restarted Ensemble or rebooted the machine without first stopping the production. In this case you need to issue a command to recover the production.
Retrying	When the production is unable to communicate with the central server, the business host may show a Retrying status. This is an acceptable state.
Inactive	At the end of the shutdown sequence, all of its queues are free of synchronous messages. This is an acceptable state.

4.1.1 Relevant Menus

The main items, **Services**, **Processes**, and **Operations** are shown in Figure 4-1. The relevant submenus are discussed below.

Note: Each of the tabs in the dialog box shows data *only* for the chosen production.

Menu Home HealthShare About Help Logout AGMPI.PatientRegistration	Ensemble > Production Configuration Server Namespace AGMPIFOC User Licensed to OIT-A2DE	22D Switch This is a Development System V Instance HEALTHSHARE	InterSystems
View: Stop	O Refresh: C	on Soff Sort: Name Status Number	Production Configuration
Production Running Services	Category Al	Legend Production Settings Operations *	MPIOutBound
Hillshound RPMSInBound	AGMIN RPMSMessageRouting AGMIN RPMSMessageRouting Ens Alart	Backlessage EmalAdet MPIQuitBound RPMSOutBound	Exact Settings Enabled Search Enabled Search Part Source Source Source Search Search
			Additional Settings
		9	Alerting Control Onvelopment and Debunsting

Figure 4-1: Menus – Services, Processes, Operations

- 1. Services
 - a. Click on MPIInbound. The dialogue box at the right opens (Figure 4-2).

MPIInbound is a business service that receives MPI messages from the central MPI and routes them to the RPMSOutbound business operation

	Search:		
 Inform 	tional Settings		
- Basic :	lettings		
Enable	d		
•			
Port			
5201			
Call In 5	erval		
Target	Config Names		
AGME	I.MPIMessageRouting		
Messa	ge Schema Category		
AGME	I.MPI	W	
Conne	tion Settings		

Figure 4-2: MPIInbound production configuration

b. Click on **RPMSInBound**. The dialogue box at the right opens (Figure 4-3).

RPMSInBound is a business service that retrieves MPI messages from the outbound HLO queue and routes them to the MPIOutbound business operation

RPMSInBound		
Settings Queue Log Messages Jobs /	Actions	
Apply 🔻 🖨 Search:		
Informational Settings		î
- Basic Settings		
Enabled		
Call Interval		
Target Config Names		
AGMPI.RPMSMessageRouting	T	
Message Schema Category		
AGMPI.RPMS	V	
Connection Settings		
Additional Settings		
Alerting Control		
Development and Debugging		~

Figure 4-3: RPMSInBound production configuration

2. **Operations**

a. Click on **RPMSOutBound**. The dialogue box at the right opens (Figure 4-4).

RPMSOutBound is a business operation that receives MPI messages from MPIInbound and files them into the inbound HLO queue for processing



Figure 4-4: RPMSOutBound production configuration

b. Click on MPIOutBound. The dialogue box at the right opens (Figure 4-5).

MPIOutBound is a business operation that receives MPI messages from RPMSInbound and uploads them to the central MPI

MPIOutBo	ound	
Settings Qu	ueue Log Messages Jobs Actions	
Apply 🔻	Search:	
• Informat	ional Settings	^
- Basic Se	ettings	
Enabled	1	
Externa	I Registry ID	
	v	
IP Addre	BSS	
Port		
5200		
• Connect	tion Settings	
+ Addition	al Settings	
+ Alerting	Control	
		~
• Develop	ment and Debugging	

Figure 4-5: MPIOutBound

5.0 Messaging

All communication that passes between configuration items in Ensemble is accomplished using messages.

5.1 Status

The status of a message within its normal life cycle can have several values: Created, Queued, Delivered, Deferred, Completed, Discarded, or Suspended.

Message Status	Meaning
Completed	The intended recipient has received the message and has finished processing the message.
Created	The message is in transit between sender and target.
Deferred	The message response has been deferred by the business operation for later delivery.
Delivered	The intended recipient has received the message.
Discarded	The message is a response that reached its destination after the timeout period for the corresponding request expired.
Queued	The message is on a queue.
Suspended	The message was suspended by the business operation after failing to reach its external destination, or by an administrator from the Instances display on the Host Monitor page. In either case, the message can be resent from clicking Maintenance and then Suspended Messages or by clicking Resend Messages on the Messages page.

5.2 View Messages

Follow the steps below to manage all productions at once.

1. After clicking on **Ensemble**, click on **View**, then **Messages** (Figure 5-1).



Figure 5-1: Ensemble – view all production messages

2.	The Message	Viewer	page opens	(Figure 5-2).
----	-------------	--------	------------	---------------

Menu Home HealthShare About Help Logout Message Viewor	E So Us	Ensen rvor er	ibio > Me	Nar	nespace /	GMPIF0Q2D) Switc	h This is a Developm Instance: HEALT	ent System ISHARE			InterSystems'
Search Cancel Reset Resend	Pr	evio	US I	Next								Message Viewer
Sort Order Page Size			ID	Time Created	Session	Status	Error	Source	Target	»	Header Body Contents T	ince
		1	73464	13.17.32.407	73464	Completed	OK	Ens ScheduleService	Ens.ScheduleHandler		Details for selected iter	m
Time Only V 1		2	73462	06:53:36:332	79402	Completed	OK	Ens.ScheduleService	Ens ScheduleHandler			
		3	73460	08:55:35.221	73460	Completed	OK	Ens ScheduleService	Ens ScheduleHandler			
Basic Criteria		4	73458	06.54.36.368	75458	Completed	OK	Ens ScheduleService	Ens.ScheduleHandler			
Status Type		5	73456	07:12:22.283	73456	Completed	OK	RPMSInBound	AGMPI RPMSMessageRouting			
All V Session Start V		6	73454	07:12:21.801	73454	Completed	OK	RPMSInBound	AGMPI.RPMSMessageRouting			
Start Time Start ID		7	73452	07:12:21.318	73452	Completed	OK	RPMSinBound	AGMP1 RPMSMessageRouting			
3		8	73450	07 12:20 838	73450	Completed	OK	RPMSInBound	AGMPI RPMSMessageRouting			
End Time End ID		9	73448	07:12:20.359	73445	Completed	OK	RPMSInBound	AGMP1.RPMSMessageRouting			
Remark		10	73446	07.12.19.876	73446	Completed	OK	RPMSinBound	AGMPI RPMSMessageRouting			
Source		11	73444	07 12 19 393	73444	Completed	OK	RPMSInBound	AGMPI RPMSMessageRouting			
Target		12	73442	07:12:18.914	73442	Completed	OK	RPMSInBound	AGMPI RPMSMessageRouting			
- V		13	73439	07.12.18.429	73429	Completed	OK	RPMSinBound	AGMPLRPMSMessageRouting			
Extended Criteria		14	73438	07 12 18 429	75458	Completed	OK	RPMSInBound	AGMPI RPMSMessageRouting			
		15	73436	07.12.17.948	73436	Completed	OK	RPMSinBound	AGMPI.RPMSMessageRouting			
Saved Searches		16	73434	07.12.17.467	73454	Completed	OK.	RPMSinBound	AGMPLRPMSMessageRouting			
		17	73432	07:12:16:987	73432	Completed	OK	RPMSInBound	AGMPI RPMSMessageRouting			
		18	73430	07:12:16:508	75456	Completed	OK	RPMSInBound	AGMPI RPMSMessageRouting			
		19	73428	07:12.16:028	73422	Completed	OK	RPMSinBound	AGMPI RPMSMessageRouting			
		20	73426	07:12:15:546	73425	Completed	OK	RPMSInBound	AGMPI RPMSMessageRouting	-		
	<								>			
												€ 130% •

Figure 5-2: Message Viewer

3. Click on a message to see the details for that message (Figure 5-3).

4. Click on the **Contents** tab to see the HL7 message (Figure 5-3, green arrow). The HL7 message opens (Figure 5-4).

Source Refer Refer <t< th=""><th>Menu Hume (HeathStave (About (Help) Logant Manaage Viewert</th><th>Save</th><th>entik ></th><th>Meesage Vesse</th><th>iernespace #</th><th>GMPIF0Q2D</th><th>Dentch</th><th>This is a Developme</th><th>ent System SHARE</th><th></th><th></th><th>InterSystems</th></t<>	Menu Hume (HeathStave (About (Help) Logant Manaage Viewert	Save	entik >	Meesage Vesse	iernespace #	GMPIF0Q2D	Dentch	This is a Developme	ent System SHARE			InterSystems
Sect CM Page State	Search Cancel Reset Reserd	Prev	Cin	Next				t _i				Message Viewer
Niewei Fried 1 7.444 103.22.407 PMIC Compando OK Em Schedalferunder Time Contry 1 7.444 103.22.407 PMIC Compando OK Em Schedalferunder Em Schedalferunder Time Contry 1 7.444 103.22.407 PMIC Compando OK Em Schedalferunder Em Schedalferunder - 8 abst Colteria 3 7.446 0.55.222 PMIC Compando OK Em Schedalferunder Em Schedalferunder Status Type 3 7.446 0.52.222 PMIC Compando OK Em Schedalferunder Status Type 3 7.446 0.52.222 PMIC Compando OK PMISSchedund ADMIT PMRAhmangRinter Status Type 7.7448 0.72.43.222.200 PMIC Compando OK ADMIT PMRAhmangRinter Status Type 7.7448 0.72.44.60 Compando OK PMISSchound ADMIT PMRAhmangRinter Status Type 7.7448 0.72.44.60 Compando OK PMISSchound ADMIT PMRAhmangRinter <td>Sort Order Page Size</td> <td>0</td> <td>10</td> <td>Time Creat</td> <td>ed Session</td> <td>Status</td> <td>Error</td> <td>Source</td> <td>Target</td> <td>~ 22 **</td> <td>eeder Body Cornents</td> <td>Trace</td>	Sort Order Page Size	0	10	Time Creat	ed Session	Status	Error	Source	Target	~ 22 **	eeder Body Cornents	Trace
Time Tom U Page 2 2 20 402 0613 3323 Page Completed Charles End Schuldwinsche • Basic Chiefen 2 7240 0613 3323 Page Charles Ein Schuldwinsche Ein Schuldwinsc	Newrost First V 100	0	1 73	64 1317:32.40	W THEA	Completed	OK	Ers.ScheduleService	Ens.SchodukiHandiw	i ir	<objectid></objectid>	1364
1 0 7.240 09/5.232 8:86 Completed CM 5% Schoold Honder CM Schoold Honder Schoold Honder • Basic Chitma Schoold 1 7.240 09/5.2233 Schoold Schoold Honder Schoold Honder <td< td=""><td>Tene Formal Ploge</td><td></td><td>2 73</td><td>62 06:53:30:53</td><td>2 2545</td><td>Completed</td><td>ок</td><td>Ern SchuduleService</td><td>Ers.Schulukhlander</td><td></td><td>TargetBusiness Type Type</td><td>Regard</td></td<>	Tene Formal Ploge		2 73	62 06:53:30:53	2 2545	Completed	ок	Ern SchuduleService	Ers.Schulukhlander		TargetBusiness Type Type	Regard
Basis Criteria Compande OK Compan		0	3 73	60 00553522	T TINK	Compilated	OK	Ens SchoduleService	Ern-SchoduluHandlur		Invocation	Own
Statu: Type 5 7.14/0 07.12.2230 188 Complete OK FMSIshbourd ACMR SPMBMassageRouth All Section Stat	Basic Criteria		4 73	158 00.54 36.30	A Third	Completed	OK	Ens ScheduleService	Ern ScheduleHandler		Session Id	75454
Norm Discussion Start Image: Start	Statur Turu	Q.,	5 73	156 07:12.22.28	Q: 73494	Completed	OK	RPMSinBound	ACMPL RPMSMessageRoote		SourceConfigName TargetConfigName	RPM2Stationand ACMP11IPM5MetmageRouting
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Figure 5-3: Message details

5. To view the content detail of the HL7 message, click on View Full Contents or View Raw Contents (Figure 5-4).

Note: View Full Contents shows the HL7 message with links to supporting documentation explaining the elements. View Raw Contents shows only the unformatted data.

6. Click on the **Trace** tab (Figure 5-4, green arrow) to see the flow of the message through Ensemble.



Figure 5-4: HL7 message

7. Click on View Full Trace (Figure 5-5, green arrow) to see details.



Figure 5-5: Message flow through Ensemble

8. The Visual Trace window has two panes (Figure 5-6). The left pane shows the trace and displays a graphic representation of the Services, Processes, and **Operations** related to the selected message. Clicking on any of the elements in the trace brings up the details for that element. The right pane shows one of three tabs: Header, Body, Contents.

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vices	Processes	Operations		Header Body Contents	-	<u>9</u>		
RPMSInBound	AGMPI RPMSMessageRouting	MPIOutBound		<objectid> TargetBusigessType</objectid>	73454 ParsinessProcess			
			-	Type	Request			
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HL7 Message	*			CorrespondingMessageId				
				Session id	73454			
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				Bankad	0			
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Figure 5-6: Visual Trace window

9. Click on **Contents** (or another tab) to see details (Figure 5-7).

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				~

Figure 5-7: Visual Trace window - Contents tab selected

6.0 View Events

The Ensemble event log does not provide any information about Ensemble system events. The event log collects certain types of text messages generated by Ensemble host classes. A developer or system administrator can view event log entries from the **Event Log** page.

Events listed in the event log are color-coded using the colors shown below.

Table 6-1: Colors associated with event status in the Event Log

Event Status	Color
Alert	Yellow
Error	Red
Warning	Orange
Info	Green
User Trace	Blue

6.1 Event Log

Start at the **HEALTHSHARE** - Home page (see Section 3.2 for navigation tips).

1. Click on **Ensemble**, **View** and then **Event log** (Figure 6-1).

Virve Configure > Messages System Identified Built > Suspended Messages Virve > Configure > System Identified Virve > Event Log. Virve > Configure > System Identified Virve > Event Log. Virve > Configure > >	Menu Welcome	Home About Help Logout	Server Unar	Namespace AGMPIFOQ2D Switch This is a Licensed to: OIT-AZDEV Instance	Development System	InterSystems'
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View > Event Loc. Week System Decidencial Ist * Business Rule Log System Up The of 0 (6) 33n Monitor * Business Process Log Manage > Manage * Manage Alerts Prove Tableonic Interoperate * Enterprise Mossage Bank Your Medical Interoperate * Enterprise Mossage Bank Prove Tableonic Interoperate * Enterprise Mossage Bank Prove Tableonic Interoperate * Enterprise Mossage Bank Prove Tableonic Image * Manage Alerts Prove Tableonic Image * Finance Prove Tableonic Image * System Operation Prove Tableonic Image * System Explorer AddMFPG200 Image * System Administration in AddMFPC200 Running Ver ideality V		Home	Configure » Build »	Messages Suspended Messages		System Information General details on this system
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A GMPI PatientRegistration in A GMPI ⁺ (q1D		System Administration				AGMPI.PatientRegistration in AGMPIFOQ2D Running View dotails
	-	-,				AGMPI-PatientRegistration in AGMPIF1Q1D

Figure 6-1: Open Event Log

2. The Event Log can be searched in three ways: Quick Search, Event Types, and Search Events By... (Figure 6-2).

Event Log	Server	mble > Event I.		Namespace: AGMPIF0Q20 Licensed to: OIT-AZDEV) Switch	This is a Instance	Development System HEALTHSHARE		InterSystems
Search Cancel Reset Previous	Next	Export							Event Log
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Guick Search		info 25	19874	2021-03-22 13:17:33.206	75464	2996	Ens ScheduleHandler	Productio	
		info 25	19873	2021-03-22 13 17 33 078		1172		Productio	
Event Types		Error 25	19872	2021-03-22 13:17:32:492	4	9036	MPIOutBound	Not Alertir	
		Into 25	19871	2021-03-22 13:17:32:492	4	9036	MPIOutBound	Disconner	
Search Events By		info 25	19870	2021-03-22 13:17:32:492	4	9036	MPIOutBound	Opened T	
		info 25	19869	2021-03-22 13:17 32:472		12140	RPMSOutBound	Configiter	
Purge Event Log		into 25	19868	2021-03-22 13 17 32 462		11588	RPMSinBound	Configiter	
		Info 25	19867	2021-03-22 13:17:32.412		10984	MPlinbound	Configiter	
		Info 25	19866	2021-03-22 13:17:32.407		9036	MPIOutBound	Configiter	
		Info 25	19865	2021-03-22 13 17 32 347		11528	EnsLib Testing Process	Confighter	
		into 25	19864	2021-03-22 13:17:32:332		2995	Ens.ScheduleHandler	Configiter	
		info 25	19863	2021-03-22 13 17 32 322		6396	Ens MonitorService	Confighter	
		info 25	19862	2021-03-22 13:17:32:302		3964	Ens Alert	Confighter	
		into 25	19861	2021-03-22 13:17:32.287		9444	Ens Alarm	Configiter	
		into 25	19860	2021-03-22 13 17 32 282		9500	BacilMessage	Contigiter	
		into 25	19859	2021-03-22 13:17:32:272		7628	Ens Actor	Configiter	
		info 25	19858	2021-03-22 13:17 32:257		5040	Ens Actor	Confighter	
		into 25	19857	2021-03-22 13:17:32.227		6656	AGMPI.RPMSMessageRouting	Confighter	
		Info 25	19856	2021-03-22 13 17 32 217		9328	AGMPI MPIMessageRouting	Configiter	
		info 25	19855	2021-03-22 13:17:32:135		1172		Productio	
	-	Info 25	19854	2021-03-22 13:17:28:356		11476		Productio	

Figure 6-2: Events Log

3. Click on **Quick Search** (Figure 6-2). The search details are visible and parameters for the search can be chosen by clicking on the drop-down menus (Figure 6-3).

Menu	Home	Health	Share	About	Help Logout
Event L	og				
Sea	rch	Cancel	F	leset	Previou
					«
- Quick	Search				_
Quick Auto-F	Search lefresh	Page			_
Quick Auto-F None	Search lefresh	Page			
Quick Auto-F None Sort O	Search Refresh	Page 1 Page	Size		-
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Quick Auto-F None Sort O Newe Time F	Search lefresh rder st First N	Page 1 Page 500	Size		

Figure 6-3: Quick Search parameters

- 4. Click on **Event Types** (Figure 6-2).
- 5. All types are selected by default. Check only the boxes next to the type that will be viewed (Figure 6-4). In this case, Error is chosen, and the message list only displays error messages.

Menu Home HealthShare About Help Logout Event Log	Serve User	< older	Event Log	Namespace AGMPIFO	Q2D Swit	Switch This is a Development System Instance: HEALTHSHARE				InterSystems'
Search Cancel Reset Previous	Ner	d E	ixport							Event Log
ĸ		Туре	ID.	Time Logged	Session	Job	Source	Text ^	30	
Quick Search		Error	2519872	2021-03-22 13:17:32:492	4	9036	MPIOutBound	Not Alerting during retry grace		
		Efror	2510637	2021-03-22 06:53 36 716	4	1552	MPIOutBound	Not Alerting during retry grace		
		Error	2492987	2021-03-19 06:55:35 441	4	7284	MPIOutBound	Not Alerting during retry grace		
		Error	2475325	2021-03-18 06 54 36 649	4.	3124	MPlOutBound	Not Alerting during retry grace		
		Error	2380903	2021-03-15 06 54 55 839	4	6988	MPlOutBound	Not Alerting during retry grace		
		Error	2363177	2021-03-12 06 52 29 909	4	6872	MPlOutBound	Not Alerting during retry grace		
		Error	2345499	2021-03-11 06:54:34.404	4	5408	MPIOutBound	Not Alerting during retry grace		
Firmer Withmann		Error	2327781	2021-03-10 06 52 50 373	4	7552	MP1OutBound	Not Alerting during retry grace		
Alert Trace		Error	2310153	2021-03-09 06 56 43 374	4	1996	MPIOutBound	Not Alerting during retry grace		
Info Assert		Error	2310035	2021-03-08 21:38:44.475	4	6824	MPIOutBound.	Not Alerting during refry grace		
A REAL PROPERTY OF THE REAL PR		Error	2292448	2021-03-08 06 58:24 611	4	544	MPlOutBound	Not Alerting during retry grace		
Search Events By		Error	2274729	2021-03-05 08:52:49 751	4	6088	MPlOutBound	Not Alerting during retry grace		
- Denne Dennet Lan		Error	2257119	2021-03-04 06:57 22:202		7332	MPlOutBound	Not Alerting during retry grace		
Purge Event Log		Error	2239443	2021-03-03 06:54:38:019	4	4732	MPIOutBound	Not Alerting during retry grace		
		Error	2187288	2021-03-01 06:57:14 352	8	7984	MPlOutBound	Not Alerting during retry grace		
		Error	2169563	2021-02-26 08:52:38:254	4	7248	MPlOutBound	Not Alerting during retry grace		
		Error	2151873	2021-02-25 08:54 04:375	4	8056	MPlOutBound	Not Alerting during retry grace		
		Error	2098091	2021-02-23 06:55:28:681	.4	5436	MP/OutBound	Not Alerting during retry grace		
		Error	2080417	2021-02-22 06:54 41 293	4	7320	MPIOutBound	Not Alerting during retry grace		
		Error	2062705	2021-02-19 06:53:06:327	4	8112	MPlOutBound	Not Alerting during retry grace 🧹		
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										130% -

Figure 6-4: Event Types

7.0 Credentials Page

Ensemble stores and uses login credentials in place of the username and password to access remote systems.

Each login credential is associated with a unique ID supplied during configuration that identifies the role of the user and is associated with that user's username and password.

Using the unique ID, an adapter retrieves the username and password from the Credentials table, and then sends them to the remote system with a request to login.

Credentials can only be created or edited by navigating to the Credentials page (Figure 7-1).

Menu Home (About Help Welcome,	Logout Server User	Namespace AGMPIF002D Switch This is a Development System Licensed to OrT-AZDEV Instance. HEALTHSHARE	InterSystems
View:		Search:	Management Portal
A	Configure »	Production	Sustam Information
Home	Build »	Gid Businéss Partnerstons or details.	General details on this system
	View »	Credentials	View System Dashboard
A HealthShare	List »	Schedule Specs	System Up Time 04 6b 35m
(.)	Monitor »	Data Lookup Tables	Member of Mirror
	Manage »	System Default Settings	HEALTHSHARE Type: Failover
DeepSee	Interoperate »	Enterprise Systems	Status: Primary
	Test »	Public-Service Registry	VIEW MILES MORE
0		External-Service Registry	Ensemble Productions
O Ensemble		Message Bank Link	system
System Open	ation		AGMPLPatientRegistration in AGMPICHITD Suspended View dotails
System Expl	orer		AGMPI.PatientRegistration in AGMPIF001D Suspended Vice datails
System Adm	inistration		AGMPLPatientRegistration in AGMPIF6Q2D Running Viow dotails
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Em//10.76.6.151-57722/con/est/9235058	Protection and PONAMESPACE - AGM/REDOUDS		\$ 1105 •

Figure 7-1: Navigate to Credentials

Credentials can be created or removed from within the **Credentials Viewer** (Figure 7-2).

Menu Home HeathShize Al	Server Usor	Namespace AGMPIF0Q2D Licensed to OIT-AZDEV	Switch This is a Development System Instance. HEALTHSHARE	
				Credentials Viewer
Indentials are your adhorization keys to connect adhorization keys to connect white tensemble. The table shows all the redentials currently defined or this namespace. You can nee the form on the right to reader, edit of delete redentials.	D User name No Perufts	Passand	Baalness Parther	ID ACMP1 ACMP1 ACMP1 Acmente Acmente

Figure 7-2: Credentials Viewer

Note:	Detailed instructions for configuring a production using the
	configuration pages, including specifying credentials, are
	found in the Patient Registration MPI Interface/Ensemble
	(AG) Installation Guide and Release Notes
	(ag_0720.010_ens2012.pdf).

8.0 Starting and Stopping a Production

Only one production can be run at a time. If it is necessary to change productions, see Section 3.3.

8.1 Start Production

- 1. Enter Ensemble following the steps in Section 2.0. If the production is running (Figure 8-1, golden arrow), it must be stopped before another can be started. Click **Stop** (Figure 8-1, green arrow).
 - a. If a stopped or suspended production is initially opened, click **Start** (Figure 8-4, green arrow).

دی ه http://	Q - C .	Production Configuration ×			
A IHS VPN					
Menu Home HealthShare About Help Logout	Ensemble > Production	Configuration			
AGMPI.PatientRegistration	Server Usa UnknownUser	Namespace: AGMPIF0Q2D S Licensed to: OIT-AZDEV	Switch This is Instand	a Development	System RE
View: Start Stop		${igodoldoldoldoldoldoldoldoldoldoldoldoldol$	 off 	Sort: Name	Status Number
Production Running		Category: All	~	Legend	Production Settings
Services 步	Processes 🖈		Opera	tions 🔊	
MPIInbound	AGMPI.MPIMessage	Routing	BadM	essage	
RPMSInBound	AGMPI.RPMSMessa	geRouting	🔘 Email	Alert	
	Ens.Alert		MPIO	utBound	
			RPMS	SOutBound	

Figure 8-1: Production Configuration page – production running

2. A dialog box opens with the question **Do you want to start this Production?** Click **OK** (Figure 8-2).



Figure 8-2: Dialog box – start production

3. The Start Production window opens. Click OK (Figure 8-3).



Figure 8-3: Start Production window

8.2 Stop Production

1. Choose a new namespace (see Section 3.1). Click **Start** (Figure 8-4, green arrow).

C	a D + C 💁	Mail - Dvorak, Grant (Vangent)	F5 Dynamie	: Webtop	Production Configuration
👍 🗆 IHS VPN					
Menu Home HealthShare About Help Logout	Ensemble > Production C	Configuration			
AGMPI.PatientRegistration	Server UnknownUser	Namespace: AGMPICHITD So Licensed to: OIT-AZDEV	witch This is Instan	a Development	System ARE
View: Stop		O Refresh: Oon	• off	Sort: Name	Status Number
Production Suspended		Calegory All	~	Legend	Production Settings
Services #	Processes *		Opera	ations 👏	
O MPIInbound	AGMPI.MPIMessage	Routing	O Badl	lessage	
RPMSInBound	AGMPLRPMSMessa	geRouting	C Ema	ilAlert	
	O Ens.Alert		O MPIO	DutBound	
			O RPM	SOutBound	

Figure 8-4: Production Configuration page - production suspended

2. A dialog box opens with the question **Do you want to stop this Production?** Click **OK**.

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Figure 8-5: Dialog box - stop production

3. The Stop Production window opens. Click OK (Figure 8-6).

Stop Production		301.
Stop Production		
Stopping Production: AGMF Please wait, progress messages	PI.PatientRegistration will appear below	
13:13:47.624:Ens.Director: 13:13:47.654:Ens.Director: production. 13:13:47.654:Ens.Director: Done.	StopProduction initiated. Queued messages are being saved in the Production 'AGMPI.PatientRegistration'	suspended suspended.
		Þ
		ок



8.3 Auto-Start Production

Production starts may be scheduled.

Management Portal Manual July 2021 1. From the Management Portal, click on Ensemble and Manage, then Auto-Start Production (Figure 8-7).



Figure 8-7: Management Portal

2. On the Auto-Start Production page, click the drop-down menu and select AGMPI.PatientRegistration.

Menu Home HealthShare About Holp Logout Auto-Start Production	Ensurelle - Auto Sant Production Sorror Ensure Language AGMPICH TD Selfch This is a Development System Ulsir: UnknowLater Licensed to OTFAZDEV Instruce HEALTHSHARE	InterSystems*
Apply		Auto-Start Production
Choose a production to start automatically on	Ensemble startup, then click Apply:	
	× 6	
AGMIPL PatientRegistration		

Figure 8-8: Auto-Start Production page

3. Click the **Apply** button.

Memo Headlight Headlight Ensemble > Auto-Start Production Auto-Start Production Server Namespace: AGMPICH TD Switch This is a Development System User UnknownElser Consend to OTT-22DEV Instance: HEALTHSHARE				
Apply	Auto-Start Production			
Choose a production to start automatically on Ensemble startup, then click Apply:				
AGMPI PatientRegistration				

Figure 8-9: Auto-Start Production page - Apply

9.0 Purge Management

Follow the procedure for purging in the *Patient Registration MPI Interface/Ensemble* (*AG*) *Installation Guide and Release Notes* (ag_0720.010_ens2012.pdf).

10.0 System Monitor

The **System Monitor** page displays real-time status information about the currently running production in a condensed, one-page format.

1. On the Management Portal page, click Ensemble and Monitor, then System Monitor (Figure 10-1).

Menu	Home About Help Logout				
Welcome		User Licen	space AGMPICHITD Switch This is a D sed to: OIT-AZDEV Instance:	evelopment System HEALTHSHARE	
View:	View: Search:				
Home		Configure »	System Monitor		
	Build »	Production Monitor			
	View »	Queues			
å	HealthShare	List »	Jobs		
(-)		Monitor »	My Managed Alerts		
DeepSee		Manage »	Activity Volume And Duration		
	DeepSee	Interoperate »			
		Test »			
60	Ensemble				
•	System Operation				
-	System Explorer				
+	System Administration				

Figure 10-1: System Monitor

2. The **System Monitor** page opens. It is a real-time monitor only. Configurations cannot be changed from this page (Figure 10-2).

u Home About Holp Logout Ensemble > Monit semble System Monitor Serve User	Amospace: %\$Y\$ This is a Develor Licensed to OIT-AZDEV Instance HEA	opment System LTHSHARE	InterSystem
			Ensemble Monitor
dashboard displays real-time status of key Ensemble perior ing on this system:	mance indicators for all Ensemble productions	ne: 2021-03-25 13:34:21.318	
ENSEMBLE THROUGHPUT	SYSTEM TIME	ERRORS AND ALERTS	
Namespace: All Namespaces	System Up Time: 0d 6h 40m	Serious System Alerts: 0	
Productions Running: 2	Last Backup: Mar 24 2021 03:30PM	Ensemble Alerts: 0	
Productions Suspended or Troubled		Ensemble Errors 1	
nooming Mossages in Last 30 Seconds: 0	SYSTEM USAGE		
and because the second s	Database Space Normal	LICENSING	
ast incoming Message. Today, 06:54:15AM	Database Journal Normal	License Limit 200	
Dutgoing Messages in Last 30 Seconds: 0	loumal Space Normal	Ourset Lineare Une	
ast Outgoing Message: Today, 01:34:17PM	Sourier Space.	tenen boense ose.	N
	Journal Entries. 1,536,030	Highest License Use:	14
ENSEMBLE JOBS	Lock Table: Normal	\$25	
fotal System Processes 69	Write Daemon: Normal		
Active Ensemble Jobs: 31	L	TASK MANAGER	
ferition Encombile John 0	ENSEMPLE QUEUES	Upcoming Tasks:	
voling crisence soos.	Active Queues: 28	Task Time Status	
lost Active Processes:	Host Actual Cusuat:	Mirror Monitor Launch Task 13.35 Scheduled	
Interpace comgname PiD commands	Namesoace Oueue Messages	Mirror Monitor Launch Task 13.45 Scheckled	
ISystem 7252 39 524	AGMPIF0Q2D MPIOutBound 36591	Mirror Monitor Launch Task 13:50 Scheduled	
[System] 1220 31.575	AGMPICHITD MPIOutBound 207	Mirror Monitor Launch Task 13.55 Scheduled	
[System] 1320 14,853	AGMPIF9Q2D MPIOutBound 198		
AGMP1F0Q2D MP1OutBound 2732 14,221	AGMPIF1Q2D MPIOutBound 140		
[System] 11812 8,308	CCDAF0Q2D Ens Actor 6		
CCDAF0Q1D Ens.MonitorService 7184 5,779	CCDACHITD EmailAlert 4		
	Emplaint 1		

Figure 10-2: Systems Monitor page

11.0 Ensemble E-Mail Alerts

If there is an error within the Ensemble production, e-mail alerts are sent to individuals listed in the Ensemble e-mail alert configuration.

The messages in this section will come to the user's email account and may have a different format, however the content of the messages will be the same across applications.

Note: Detailed instructions for configuring e-mail alerts and recipients in Ensemble are found in Section 4.12 of the *Patient Registration MPI Interface/Ensemble (AG) Installation Guide and Release Notes* (ag 0720.010 ens2012.pdf).

11.1 Erroneous messages

Erroneous alerts from **MPIInbound** can be ignored (Figure 11-1). The MPIInbound alert indicates that the listener is not receiving messages within 5 seconds from initially receiving a message.



Figure 11-1: Ensemble e-mail alert for MPIInbound

11.2 Segment undefined or unknown

Contact IT support for assistance with this alert (Figure 11-2).

Phone: (888) 830-7280 (toll free)

Web: <u>https://www.ihs.gov/itsupport/</u>

Email: <u>itsupport@ihs.gov</u>



Figure 11-2: Ensemble e-mail alert for AGMPI.MPIMessageRouting

11.3 Other Message Types

RPMS AGMP routine had an error (Figure 11-3).

```
From: Ensemble_AGMPI@HLOMPI_rpms [Ensemble_AGMPI@HLOMPI_rpms]
Sent: Friday, May 07, 2010 9:20 AM
To:
Subject: Ensemble alert from sys:RPMSInBound
There is an issue obtaining a lock on the HLB global in the
HLOGlobalInbound Adapter:
```



Figure 11-4 through Figure 11-23 show e-mail alerts that may be sent from Ensemble.

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Ensemble E-Mail Alerts

Note: If any of the following e-mail alerts are received, notify IT Support:

Phone: (888) 830-7280 (toll free)

Web: <u>https://www.ihs.gov/itsupport/</u>

Email: itsupport@ihs.gov

"ERROR in Configuration"

Figure 11-4: Configuration Error Message

"There is an issue obtaining a lock on the HLB global in the HLOGlobalInbound Adapter:"

Figure 11-5: HLB global Error Message

```
"There is an issue obtaining a lock on the HLA global in the HLOGlobalInbound Adapter:"
```

Figure 11-6: HLA global Error Message

Figure 11-7: HL7 Error Message

"There was an error in the HLOGlobalInbound Adapter:"

Figure 11-8: HLOGlobalInbound Adapter Error Message

"There is an issue obtaining a lock on the HLB global in the HLOGlobalOutbound Adapter:"

Figure 11-9: HLB global in the HLOGlobalOutbound Error Message

"There is an issue obtaining a lock on the HLA global in the HLOGlobalOutbound Adapter:"

Figure 11-10: HLA global in the HLOGlobalOutbound Error Message

"Failure: The HLOGlobalOutbound adapter failed to Process Message (an ACK) because it did not contain a Message Control ID:"

Figure 11-11: ACK without a Message Control ID Error Message

"Failure: The HLOGlobalOutbound adapter failed to Process Message (an ACK) because the 'B' reference node did not exist for Message Control ID"

Figure 11-12: L ACK without a B reference node Error Message

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Ensemble E-Mail Alerts

```
"Alert: The HLOGlobalOutbound adapter received message (an ACK message) that did not contain an 'AA' or 'CA' Acknowledgment Code: The MessageControl ID is"
```

Figure 11-13: Missing AA or CA ACK Code Error Message

```
"Failure: The HLOGlobalOutbound adapter failed to find an open IEN after 100 tries"
```

Figure 11-14: Failure to find an open IEN Error Message

"Failure: The HLOGlobalOutbound adapter failed while looping though an HL7 message segments: MessageID="

Figure 11-15: Failure with MessageID in HL7 Error Message

"Failure: The HLOGlobalOutbound adapter failed: Error="

Figure 11-16: HLOGlobalOutbound adapter Error Message

"Failure: The HLOGlobalOutbound adapter failed: Error="

Figure 11-17: HLOGlobal Patient Record Number Error Message

"MPI DFN="_DFN_" :: "_"ERROR WHEN CREATING A01"

Figure 11-18: Patient Record Number Error Message for A01

"MPI DFN=" DFN " :: " "ERROR WHEN CREATING A03"

Figure 11-19: Patient Record Number Error Message for A03

Warning: An e-mail alert containing the message "The HLOGlobalOutbound adapter failed" indicates that a programming error occurred within the adapter. This error must be reported to OIT. The Ensemble production should be shut down until the error is investigated.

Failure: The HLOGlobalOutbound adapter failed: Error= 0

Figure 11-20: HLOGlobalOutbound adapter error

This error occurs when the MPI sends an unusually large ERR segment back to the client.

```
TCP Read timeout (5) expired waiting for terminator SegTerminatorAscii=13, on |TCP|8899|2984, data received =''
```

Figure 11-21: TCP Read timeout error

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Ensemble E-Mail Alerts

Warning: If a TCP Connect timeout error is occurring repeatedly, the MPI is down, and IT Support must be notified immediately.

Phone: (888) 830-7280 (toll free)

Web: <u>https://www.ihs.gov/itsupport/</u>

Email: itsupport@ihs.gov

TCP Connect timeout period (5) expired for 161.223.90.106:8899

Figure 11-22: TCP Connect timeout error

This Ensemble email alert message indicates that the site might not be receiving AA messages from the MPI. If a site receives several of these messages, check Ensemble settings or contact OIT. This could be an indication that there is a problem with the station number, or it could mean that the network or MPI server is not responding quickly.

No Connection made on port 5026 within interval 5 $\,$

Figure 11-23: No connection error

The IP address set in the HLO SYSTEMS PARAMETER file is incorrectly setup for another system.

```
Failure: The HLOGlobalOutbound adapter failed to Process Message 308834 (an ACK) because the 'B' reference node did not exist for Message Control ID 14752 345:::
```

Figure 11-24: Failure to process message error

Appendix A RPMS Rules of Behavior

The Resource and Patient Management (RPMS) system is a United States Department of Health and Human Services (HHS), Indian Health Service (IHS) information system that is *FOR OFFICIAL USE ONLY*. The RPMS system is subject to monitoring; therefore, no expectation of privacy shall be assumed. Individuals found performing unauthorized activities are subject to disciplinary action including criminal prosecution.

All users (Contractors and IHS Employees) of RPMS will be provided a copy of the Rules of Behavior (ROB) and must acknowledge that they have received and read them prior to being granted access to a RPMS system, in accordance IHS policy.

- For a listing of general ROB for all users, see the most recent edition of *IHS General User Security Handbook* (SOP 06-11a).
- For a listing of system administrators/managers rules, see the most recent edition of the *IHS Technical and Managerial Handbook* (SOP 06-11b).

Both documents are available at this IHS website: <u>https://home.ihs.gov/security/index.cfm</u>.

Note: Users must be logged on to the IHS D1 Intranet to access these documents.

The ROB listed in the following sections are specific to RPMS.

A.1 All RPMS Users

In addition to these rules, each application may include additional RoBs that may be defined within the documentation of that application (e.g., PCC, Dental, Pharmacy).

A.1.1 Access

RPMS users shall

- Only use data for which you have been granted authorization.
- Only give information to personnel who have access authority and have a need to know.
- Always verify a caller's identification and job purpose with your supervisor or the entity provided as employer before providing any type of information system access, sensitive information, or non-public agency information.
- Be aware that personal use of information resources is authorized on a limited basis within the provisions *Indian Health Manual* Part 8, "Information Resources Management," Chapter 6, "Limited Personal Use of Information Technology Resources."

RPMS users shall not

- Retrieve information for someone who does not have authority to access the information.
- Access, research, or change any user account, file, directory, table, or record not required to perform your OFFICIAL duties.
- Store sensitive files on a PC hard drive, or portable devices or media, if access to the PC or files cannot be physically or technically limited.
- Exceed their authorized access limits in RPMS by changing information or searching databases beyond the responsibilities of their job or by divulging information to anyone not authorized to know that information.

A.1.2 Information Accessibility

RPMS shall restrict access to information based on the type and identity of the user. However, regardless of the type of user, access shall be restricted to the minimum level necessary to perform the job.

RPMS users shall

- Access only those documents they created and those other documents to which they have a valid need-to-know and to which they have specifically granted access through an RPMS application based on their menus (job roles), keys, and FileMan access codes. Some users may be afforded additional privileges based on the function they perform such as system administrator or application administrator.
- Acquire a written preauthorization in accordance with IHS policies and procedures prior to interconnection to or transferring data from RPMS.

A.1.3 Accountability

RPMS users shall

- Behave in an ethical, technically proficient, informed, and trustworthy manner.
- Logout of the system whenever they leave the vicinity of their PC.
- Be alert to threats and vulnerabilities in the security of the system.
- Report all security incidents to their local Information System Security Officer (ISSO).
- Differentiate tasks and functions to ensure that no one person has sole access to or control over important resources.
- Protect all sensitive data entrusted to them as part of their government employment.
- Shall abide by all Department and Agency policies and procedures and guidelines related to ethics, conduct, behavior, and IT information processes.

A.1.4 Confidentiality

RPMS users shall

- Be aware of the sensitivity of electronic and hardcopy information and protect it accordingly.
- Store hardcopy reports/storage media containing confidential information in a locked room or cabinet.
- Erase sensitive data on storage media, prior to reusing or disposing of the media.
- Protect all RPMS terminals from public viewing at all times.
- Abide by all HIPAA regulations to ensure patient confidentiality.

RPMS users shall not

- Allow confidential information to remain on the PC screen when someone who is not authorized to that data is in the vicinity.
- Store sensitive files on a portable device or media without encrypting.

A.1.5 Integrity

RPMS users shall

- Protect your system against viruses and similar malicious programs.
- Observe all software license agreements.

- Follow industry standard procedures for maintaining and managing RPMS hardware, operating system software, application software, and/or database software and database tables.
- Comply with all copyright regulations and license agreements associated with RPMS software.

RPMS users shall not

- Violate Federal copyright laws.
- Install or use unauthorized software within the system libraries or folders
- Use freeware, shareware, or public domain software on/with the system without your manager's written permission and without scanning it for viruses first.

A.1.6 System Logon

RPMS users shall

- Have a unique User Identification/Account name and password.
- Be granted access based on authenticating the account name and password entered.
- Be locked out of an account after 5 successive failed login attempts within a specified time period (e.g., one hour).

A.1.7 Passwords

RPMS users shall

- Change passwords a minimum of every 90 days.
- Create passwords with a minimum of eight characters.
- If the system allows, use a combination of alpha, numeric characters for passwords, with at least one uppercase letter, one lower case letter, and one number. It is recommended, if possible, that a special character also be used in the password.
- Change vendor-supplied passwords immediately.
- Protect passwords by committing them to memory or store them in a safe place (do not store passwords in login scripts, or batch files.
- Change password immediately if password has been seen, guessed, or otherwise compromised; and report the compromise or suspected compromise to your ISSO.
- Keep user identifications (ID) and passwords confidential.

RPMS users shall not

• Use common words found in any dictionary as a password.

- Use obvious readable passwords or passwords that incorporate personal data elements (e.g., user's name, date of birth, address, telephone number, or social security number; names of children or spouses; favorite band, sports team, or automobile; or other personal attributes).
- Share passwords/IDs with anyone or accept the use of another's password/ID, even if offered.
- Reuse passwords. A new password must contain no more than five characters per 8 characters from the previous password.
- Post passwords.
- Keep a password list in an obvious place, such as under keyboards, in desk drawers, or in any other location where it might be disclosed.
- Give a password out over the phone.

A.1.8 Backups

RPMS users shall

- Plan for contingencies such as physical disasters, loss of processing, and disclosure of information by preparing alternate work strategies and system recovery mechanisms.
- Make backups of systems and files on a regular, defined basis.
- If possible, store backups away from the system in a secure environment.

A.1.9 Reporting

RPMS users shall

- Contact and inform your ISSO that you have identified an IT security incident and you will begin the reporting process by providing an IT Incident Reporting Form regarding this incident.
- Report security incidents as detailed in the *IHS Incident Handling Guide* (SOP 05-03).

RPMS users shall not

• Assume that someone else has already reported an incident. The risk of an incident going unreported far outweighs the possibility that an incident gets reported more than once

A.1.10 Session Timeouts

RPMS system implements system-based timeouts that back users out of a prompt after no more than 5 minutes of inactivity.

RPMS users shall

• Utilize a screen saver with password protection set to suspend operations at no greater than 10-minutes of inactivity. This will prevent inappropriate access and viewing of any material displayed on your screen after some period of inactivity.

A.1.11 Hardware

RPMS users shall

- Avoid placing system equipment near obvious environmental hazards (e.g., water pipes).
- Keep an inventory of all system equipment.
- Keep records of maintenance/repairs performed on system equipment.

RPMS users shall not

• Eat or drink near system equipment

A.1.12 Awareness

RPMS users shall

- Participate in organization-wide security training as required.
- Read and adhere to security information pertaining to system hardware and software.
- Take the annual information security awareness.
- Read all applicable RPMS Manuals for the applications used in their jobs.

A.1.13 Remote Access

Each subscriber organization establishes its own policies for determining which employees may work at home or in other remote workplace locations. Any remote work arrangement should include policies that

- Are in writing.
- Provide authentication of the remote user through the use of ID and password or other acceptable technical means.
- Outline the work requirements and the security safeguards and procedures the employee is expected to follow.
- Ensure adequate storage of files, removal, and non-recovery of temporary files created in processing sensitive data, virus protection, intrusion detection, and provides physical security for government equipment and sensitive data.

• Establish mechanisms to back up data created and/or stored at alternate work locations.

Remote RPMS users shall

• Remotely access RPMS through a virtual private network (VPN) whenever possible. Use of direct dial in access must be justified and approved in writing and its use secured in accordance with industry best practices or government procedures.

Remote RPMS users shall not

• Disable any encryption established for network, internet, and web browser communications.

A.2 RPMS Developers

RPMS developers shall

- Always be mindful of protecting the confidentiality, availability, and integrity of RPMS when writing or revising code.
- Always follow the IHS RPMS Programming Standards and Conventions (SAC) when developing for RPMS.
- Only access information or code within the namespaces for which they have been assigned as part of their duties.
- Remember that all RPMS code is the property of the U.S. Government, not the developer.
- Shall not access live production systems without obtaining appropriate written access, shall only retain that access for the shortest period possible to accomplish the task that requires the access.
- Shall observe separation of duties policies and procedures to the fullest extent possible.
- Shall document or comment all changes to any RPMS software at the time the change or update is made. Documentation shall include the programmer's initials, date of change and reason for the change.
- Shall use checksums or other integrity mechanism when releasing their certified applications to assure the integrity of the routines within their RPMS applications.
- Shall follow industry best standards for systems they are assigned to develop or maintain; abide by all Department and Agency policies and procedures.
- Shall document and implement security processes whenever available.

RPMS developers shall not

- Write any code that adversely impacts RPMS, such as backdoor access, "Easter eggs," time bombs, or any other malicious code or make inappropriate comments within the code, manuals, or help frames.
- Grant any user or system administrator access to RPMS unless proper documentation is provided.
- Release any sensitive agency or patient information.

A.3 Privileged Users

Personnel who have significant access to processes and data in RPMS, such as, system security administrators, systems administrators, and database administrators have added responsibilities to ensure the secure operation of RPMS.

Privileged RPMS users shall

- Verify that any user requesting access to any RPMS system has completed the appropriate access request forms.
- Ensure that government personnel and contractor personnel understand and comply with license requirements. End users, supervisors, and functional managers are ultimately responsible for this compliance.
- Advise the system owner on matters concerning information technology security.
- Assist the system owner in developing security plans, risk assessments, and supporting documentation for the certification and accreditation process.
- Ensure that any changes to RPMS that affect contingency and disaster recovery plans are conveyed to the person responsible for maintaining continuity of operations plans.
- Ensure that adequate physical and administrative safeguards are operational within their areas of responsibility and that access to information and data is restricted to authorized personnel on a need to know basis.
- Verify that users have received appropriate security training before allowing access to RPMS.
- Implement applicable security access procedures and mechanisms, incorporate appropriate levels of system auditing, and review audit logs.
- Document and investigate known or suspected security incidents or violations and report them to the ISSO, CISO, and systems owner.
- Protect the supervisor, super user, or system administrator passwords.
- Avoid instances where the same individual has responsibility for several functions (i.e., transaction entry and transaction approval).

- Watch for unscheduled, unusual, and unauthorized programs.
- Help train system users on the appropriate use and security of the system.
- Establish protective controls to ensure the accountability, integrity, confidentiality, and availability of the system.
- Replace passwords when a compromise is suspected. Delete user accounts as quickly as possible from the time that the user is no longer authorized system. Passwords forgotten by their owner should be replaced, not reissued.
- Terminate user accounts when a user transfers or has been terminated. If the user has authority to grant authorizations to others, review these other authorizations. Retrieve any devices used to gain access to the system or equipment. Cancel logon IDs and passwords and delete or reassign related active and back up files.
- Use a suspend program to prevent an unauthorized user from logging on with the current user's ID if the system is left on and unattended.
- Verify the identity of the user when resetting passwords. This can be done either in person or having the user answer a question that can be compared to one in the administrator's database.
- Shall follow industry best standards for systems they are assigned to; abide by all Department and Agency policies and procedures.

Privileged RPMS users shall not

- Access any files, records, systems, etc., that are not explicitly needed to perform their duties
- Grant any user or system administrator access to RPMS unless proper documentation is provided.
- Release any sensitive agency or patient information.

Glossary

Archiving

The storing of historical or little-used data off-line (often on tape).

Configuration Diagram

A graphical representation of the business hosts in a production.

Entry Point

Entry point within a routine that is referenced by a "DO" or "GOTO" command from a routine internal to a package.

File

A set of related records or entries treated as a single unit.

FileMan

The database management system for RPMS.

Flowsheet

A tabular format for organizing and displaying data in a special section of the health summary.

Global

In MUMPS, "global" refers to a variable stored on disk (global variable) or the array to which the global variable may belong (global array).

INDEX (%INDEX)

A Kernel utility used to verify routines and other MUMPS code associated with a package. Checking is done according to current ANSI MUMPS standards and RPMS programming standards.

This tool can be invoked through an option or from direct mode (>D M INDEX).

Kernel

The set of MUMPS software utilities that function as an intermediary between the host operating system and application packages, such as Laboratory and Pharmacy. The Kernel provides a standard and consistent user and programmer interface between application packages and the underlying MUMPS implementation. These utilities provide the foundation for RPMS.

Menu

A list of choices for computing activity. A menu is a type of option designed to identify a series of items (other options) for presentation to the user for selection. When menu-type options are displayed, the prompt includes the name of the menu preceded by the word "Select" and followed by the word "option," as in "Select Menu Management option" (the menu's "Select" prompt).

Namespace

A unique set of two to four alpha characters assigned by the database administrator to a software application.

Option

An entry in the Option file. As an item on a menu, an option provides an opportunity for users to select it, thereby invoking the associated computing activity. Options may also be scheduled to run in the background, non-interactively, by TaskMan.

Production

The unit of delivery for Ensemble-based development projects.

Production Table

Contains information about the currently running production.

Panel

A tabular format for presenting a series of clinical measurements or results in the health summary.

Queuing

Requesting that a job be processed at a later time rather than within the current session.

Routine

A program or sequence of instructions called by a program that may have some general or frequent use. MUMPS routines are groups of program lines that are saved, loaded, and called as a single unit via a specific name.

Utility

A callable routine line tag or function. A universal routine usable by anyone.

Acronym List

Acronym	Term Definition
AG	Namespace for Patient Registration
EIE	Ensemble Integration Engine
ICD	International Classification of Diseases.
IHS	Indian Health Service
IEN	Internal Entry Number. The number used to identify an entry within a file. Every record has a unique internal entry number.
IRM	Information Resource Management. The IHS personnel responsible for information systems management and security.
MPI	Master Patient Index
RPMS	Resource and Patient Management System. A series of integrated software components that includes clinical, administrative, and financial functions.
HLO	HL7-Optimized (interface)
ADT	Admission, Discharge, Transfer
OIT	Office of Information Technology

Contact Information

If you have any questions or comments regarding this distribution, please contact the IHS IT Service Desk.

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