mScope 3.6.1 Clinical Portal User Guide

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1. Introduction

Aurora Interactive's mScope Clinical Application enables hospitals, clinics, and laboratories to easily and intuitively view, manage, diagnose, distribute, document, share and collaborate around digital medical content using any Web browser connected to the network.

This document describes the functionality and implementation of the mScope Clinical Suite v3.5.

It addresses the needs of users, administrators and IT personnel.

2. mScope Components and Concepts

This section describes the main components of an mScope Clinical Suite, how they interact and their primary functions.

mScope Overview 2.1.

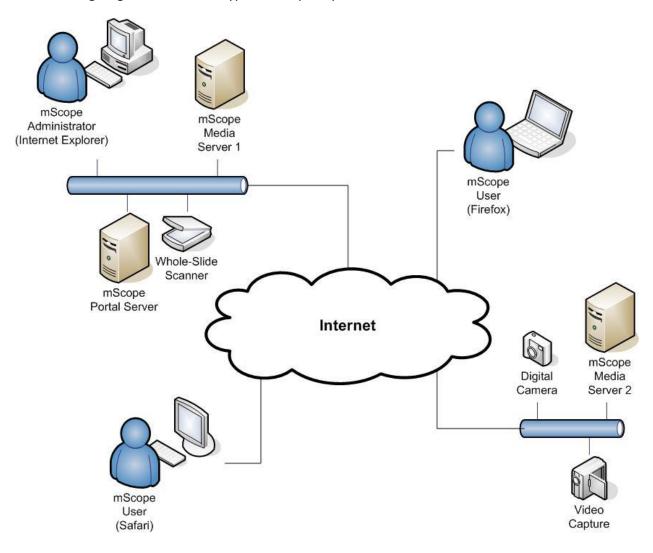
The mScope Clinical application is a Web-based thin-client application that:

- manages all forms of media and information required to support medical organization •
- uses a centralized mScope Portal server to organize and share medical media and information • and route user requests to view media stored on one or more distributed Media Servers
- uses the mScope Viewer to allow users to view, enrich and collaborate around media without • displacing it from its Media Server
- operates on multiple operating systems (e.g. Windows, Mac)
- may be launched within multiple browser types (e.g. Internet Explorer, Safari, Mozilla Firefox, • etc.)
- supports many image formats (all major whole-slide scanner manufacturers, DICOM, digital video, digital cameras, etc.)

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The following diagram illustrates a typical mScope implementation:





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What is Media 2.2.

In the context of the mScope Clinical application, media is defined as any file containing visual information. mScope supports hundreds of media formats. Examples include:

- 2D images (e.g. .jpg, .gif, etc.) ٠
- video (e.g. .mpeg) ٠
- whole-slide images produced by slide scanners (e.g. Aperio, Hamamatsu, Zeiss, etc.)

Media is displayed in the mScope Portal using thumbnails

📻 Media	Add existing media	💡 Upload new med	ia 🗱 <u>Ren</u>	nove all media
	Information	Annotations	Attributes	Actions
1	prostate2 sample description	New Annotation 😽		
2*	prostate2-K1	No Annotations		X

mScope Portal Overview 2.3.

The mScope Portal may be accessed through any Web browser (e.g. Internet Explorer, Mozilla Firefox, Safari, etc.) and is the primary work area for users and administrators of the mScope Clinical Suite. It is through the mScope Portal that users and administrators access, upload, manage, link, enrich and share content.

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mScope Studies Opinions Panel Discussion	se Modalities					Log Out Help Search			
- All cases (14) - Cases by status		ases 🖣	New case						
Draft (3)								Disp	lay 1 to 14 of 14
····· New case (2) ····· Ready for diagnosis (4)	Site	<u> </u>	Date Created	<u>Status</u>	Case ID	Active assignees	Attributes	Media	Actions
Frozen section draft (1) Diagnosis complete (1)	MSC	Priority 3	15/04/2010	Diagnosis complete	MSC00001926 dd	Creator: Douglas Dillon	No Attribute	No Media	
Awaiting frozen section (1) Frozen section cancelled (2)	MSC	Priority 3	27/05/2010	Draft	MSC00002113 dd2	Creator: Douglas Dillon	No Attribute	No Media	関 🗶
Cases by active assignee Assigned to me (10) Administrator User (4) Richard Kearnes (2)	MSC	Priority 3	07/06/2010	Draft	MSC00002143 ACCD443	<u>Creator;</u> Douglas Dillon	No Attribute	164 22	
William Dittman (2) Archived Cases (0)	MSC	Priority 3	30/06/2010	Ready for diagnosis	MSC00002237 ACC-Dittman-1	<u>Pathologist:</u> Administrator User <u>Pathologist:</u> William Dittman	No Attribute		

The Portal may be configured to include all or some of the following modules (tabs):

- Studies
- Opinions
- Panel Discussion
- **Knowledge Base**
- Modalities •
- Search Results

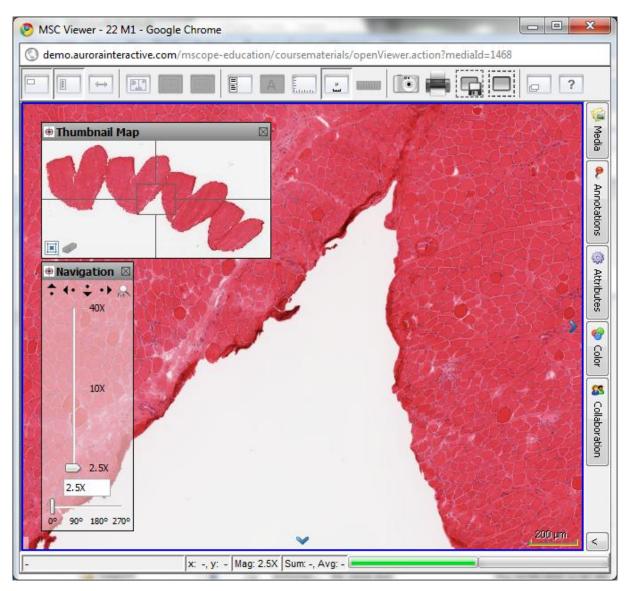
For a detailed description of the mScope Portal, its modules and their features, please refer to Section 4.0 mScope Portal.

mScope Viewer Overview 2.4.

The mScope Viewer is a Java application that is launched when a user clicks on a media thumbnail in the Portal. In order to eliminate the requirement to download the entire media file (which in some cases is several GBs in size), it selectively and intelligently loads the data corresponding to the region within the viewing area. The mScope Viewer includes tools to allow users to navigate, zoom and export media.

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The Viewer may also be configured to include all or some of the following modules (tabs):

- Media
- Annotations
- Attributes
- Color
- Collaboration

For a detailed description of the mScope Viewer, its modules and their features, please refer to Section 6.0 mScope Viewer.

3. mScope FAQ

This section addresses frequently asked questions (FAQs) from mScope Clinical Suite users and administrators.

3.1. Hardware and software requirements

The following table highlights the minimum and recommended hardware and software configurations for administrators and users of the mScope Clinical Suite v3.5:

	Minimum	Recommended
Operating System	Windows XP, Mac OS 10.4	Windows XP+, Mac OS 10.4+
Internet Browser	MSIE 6.0, Firefox 2.0, Safari 3.0	IE 7+, Firefox 3.0+, Safari 3.0+
Cookies	Enabled	Enabled
Additional Software (plug-ins)	Java 1.5+	Java 1.6+
Java Virtual Memory	64 MB	128 MB+
СРИ	2GHz single core	Dual core+
RAM	1 GB	2 GB+
Hard Drive Space	Not applicable	Not applicable
Screen Resolution	1024 x 768	1024 x 1280+
Network Connection	3 Mbps	10 Mbps+

3.2. Language Setting

The mScope Clinical Suite is designed to detect the language setting of the user's Internet browser and display the appropriate translation. In the event the user's Internet browser setting is not supported, English will be displayed as the default language.

The mScope Clinical Suite currently supports the following Internet browser language settings:

- English
- French
- Spanish
- German

3.3. Logging in and out

To enter the mScope Portal users must authenticate themselves by logging in. Clicking the "Log in" button at the top right of the mScope Portal window will bring up the page shown below. The user must then enter their username and password to gain entry. By selecting the "Remember me on this computer" checkbox, the next time the user visits the login page; his or her password will automatically be entered when the username has been typed in.

A INT

mScope ®		Log in 👔
Log In		Search
	Welcome to mScope E*Health Portal Please identify yourself Username: Password:	
	Remember me on this computer. Iforaot my password. Log in	
Licensed to Aurora Developer Team	mScope E*Health Portal 3.1.2 © Aurora MSC Inc.	AUR®RA MSC

Exiting the program is done by selecting "log out" from the header.



Δ Ir

Forgot my password 3.4.

If you forgot your password you may select the "I forgot my password" link.

Please	identify yourself	
Username:		Ι
Password:		1
	ber me on this computer. aot my password.	

3.5. **Change Password**

Users can change their password by clicking their username in the top right of each mScope Portal page beside "Welcome". This will load the Profile page. Simply click "Change Password" in the left menu and enter your old and new passwords:

mSco	mScope ® Welcome Douglas Dillon 🖋 Home Administration Log Out 💡								
-	Profile							[Search
Home	Unapproved	d Media	Library	Public Library	My Worksp	Course Materials	Atlas	Evaluations	
						Profile			
	Settings					Welcome to yo	ur profil	le page	
	Change passw				т	his page allows you to cu	stomize yo	our profile settings	
•	Update user co	onfiguration							
mSco	ope ®								Douglas Dillon
•	Change	passv	vord						
Change password : ddillon									
	γ		* 0	old password:					
<u>َ</u>	-		* Ne	w password:					
	~	*	Confirm ne	ew password:					
	Save Cancel								

User Configuration 3.6.

Users can change viewer properties by clicking their username in the top right of each mScope Portal page beside "Welcome". This will load the "Update user configuration" page.

mScop				Welco	me Douglas Dillon	New	Out @		
	Profile								Search
Home	Unapproved Media	Library	Public Library	My Workspace	Course Materials	Atlas	Evaluations		
					Profile				
	Settings				Welcome to yo	ur profil	e page		
	hange password pdate user configuration			This p	age allows you to cus	tomize yo	our profile setting	j S	

The following aspects of the viewer may be configured:

Navigation Map Visibility: on or off by default at startup

Zoom Control Visibility: on or off by default at startup

Viewer memory: increases performance by allowing the viewer to download data before you need it

-Undate ucer confi	auration
Update user config	Julation
Navigation map visible at	Default 💌
startup:	
otartapi	
	This setting define whether or not to display the navigation map at viewer startup
	Visible by default?: <u>Visible</u>
Zoom control visible at startup:	
Zoom control visible at startup.	Default
	This action define whether an act to discloy the approximatel of viewer stadys
	This setting define whether or not to display the zoom control at viewer startup
	Visible by default?: <u>Visible</u>
Viewer memory (MB):	Defeut
, , , , , , , , , , , , , , , , , , , ,	Default 💌
	This setting sets the amount of virtual memory dedicated to your image viewer. The higher the setting, the more image tiles you
	can keep in memory and the faster your experience when navigating images.
	Current default memory setting (MB): 128
	current deridat memory setting (mb). 120
	Save Cancel
	V Save Sancor

Settings not supported 3.7.

When a user logs in the system performs a check to verify that the user's computer has all the required components and software to run mScope. If this process is successful, they will be brought to their home page. If the process fails, a warning message is issued.

mScope ®	
Here I Log In	Search

Settings not supported

Our application has not been certified to work with the settings you are using. You may continue, but the application might not behave as expected. View more information

By clicking the link "View more information" you will be directed to a Setting Summary page highlighting your settings as they compare to system requirements:

Setting Name	Current Settings	Certified Settings	Result	t Links				
Browser	firefox/2.0.0.5	MSIE 6.x+, Firefox 2.0.0.2+	\bigcirc					
OS	intel mac os x	Windows NT 5.1+, MAC	\bigcirc					
Javascript	Javascript 1.2	JavaScript 1.2+	\bigcirc					
Java		Java 1.5+		Java 1.5+				
Cookie	Enabled	Enabled	\bigcirc	2				
Screen Resolution	2560x1600	1024x768+	\bigcirc					
User Agent	Mozilla/5.0 (Macintosh	Mozilla/5.0 (Macintosh; U; Intel Mac OS X; en-US; rv:1.8.1.5) Gecko/20070713						

Clicking on the "Links" will redirect you to a website that supplies the required fix for the settings issue. Note: It is possible that your network administrator may prevent you from applying the updates. You'll need to consult with them if this occurs.

One common cause of the "Settings not supported" message that is not highlighted in the Setting Summary above is when the Web browser's security settings are too high. In this case, reduce them by one increment and refresh the Log in page to see if that corrects the problem.

4. mScope Portal

The mScope Portal may be accessed through any Web browser (e.g. Internet Explorer, Mozilla Firefox, Safari, etc.) and is the primary work area for users and administrators of the mScope Clinical Suite. It is through the mScope Portal that users and administrators access, upload, manage, link, enrich and share content.

The Portal may be configured to include all or some of the following Modules (tabs):

- Studies
- Opinions •
- Panel Discussion
- Modalities •
- Search Results •

Studies Opinions Panel Discussi	Search Results					Log Out Help Search			
- All cases (14) Cases by status		Cases 🕂	New case						
Draft (3) New case (2) Ready for diagnosis (4)	Site	¶≟ <u>Priority</u>	Date Created	Status	<u>Case ID</u>	Active assignees	Attributes	Disp Media	lay 1 to 14 of 14 Actions
Frozen section draft (1) Diagnosis complete (1)	MSC	Priority 3	15/04/2010	Diagnosis complete	<u>MSC00001926</u> dd	<u>Creator:</u> Douglas Dillon	No Attribute	No Media	
	MSC	Priority 3	27/05/2010	Draft	MSC00002113 dd2	Creator: Douglas Dillon	No Attribute	No Media	X
 Assigned to me (10) Administrator User (4) Richard Kearnes (2) 	MSC	Priority 3	07/06/2010	Draft	MSC00002143 ACCD443	<u>Creator:</u> Douglas Dillon	No Attribute	164 2	X
└─ William Dittman (2) └─ Archived Cases (0)	MSC	Priority 3	30/06/2010	Ready for diagnosis	MSC00002237 ACC-Dittman-1	<u>Pathologist:</u> Administrator User <u>Pathologist:</u> William Dittman	No Attribute		

Portal Header 4.1.

mScope [®] (a) Clinical							AUR®RA I	VTEF	RACT	IVE
			+				Welco	me <u>Douglas Dillon</u>	Administration Lo	og Out Help
	Studies	Opinions	Panel Discussions	Knowledge Base	Modalities	Search Results				Search

The mScope Portal Header is accessible from all pages of the Portal and includes the following elements:

User Profile

By clicking the username after "Welcome" in the top right of the Header, the user is redirected to the Profile page where his or her password can be changed.

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Home & Requirements

Clicking "Home" in the top right of the Header is identical to clicking "Home" in the Module Navigation menu and redirects the user to the mScope Education Suite Home page. Additionally, mScope displays requirement validation to the left of the Home link. A check mark denotes that your computer has the minimum requirements for browser, java, and screen resolution. If any are not met an "x" will appear.

Administration

The "Administration" link in the top right of the Header may or may not appear depending on whether or not the User has administrative privileges. If it does appear, clicking it redirects the User to the Administration page where Users, Groups, Servers, Licenses, Media Attributes and Media Links are managed.

Log Out

Clicking "Log Out" in the top right of the Header logs the User out and redirects them to the Home page.

<u>Help</u>

Clicking 😢 redirects the User to Aurora MSC's mScope Help website, where documentation and technical support can be obtained.

Search

The "Search" tool allows Users to Search Media, Folders, Projects and Cases and returns all results that contain the characters entered. Example: a search for "pro" will return "project', "protein", "prohibit", etc.

Module Navigation menu (tabs)

By clicking the Module Navigation menu tabs, the User is redirected to the desired Module. Note that the Module the user is currently in is displayed above the Module Navigation menu beside the mScope bullseye. Modules which are unavailable due to user permissions or licenses will be grey.

Studies 4.2.

The Studies page is the first of the Portal Header or Module Navigation menu (tabs) and is the main work area or (Case box) of the user listing cases to be reviewed. The left side of the window shows the case filters and the right displays the case list.

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—	Studies Opinions Panel Discussions Knowledge Base Modalities Search Results										
All cases (14)		raiomeage De	inodulities	ocurent teodito							
Cases by status	All C	Cases 🖪	New case								
Draft (3)								Disp	lay 1 to 14 of 14		
···· New case (2) ···· Ready for diagnosis (4)	Site	<u> </u>	Date Created	<u>Status</u>	<u>Case ID</u>	Active assignees	Attributes	Media	Actions		
Frozen section draft (1) Diagnosis complete (1)	MSC	Priority 3	15/04/2010	Diagnosis complete	<u>MSC00001926</u> dd	Creator: Douglas Dillon	No Attribute	No Media			
Awaiting frozen section (1) Frozen section cancelled (2)	MSC	Priority 3	27/05/2010	Draft	MSC00002113 dd2	Creator: Douglas Dillon	No Attribute	No Media	X X		
Cases by active assignee Assigned to me (10) Administrator User (4) Richard Kearnes (2)	MSC	Priority 3	07/06/2010	Draft	MSC00002143 ACCD443	<u>Creator;</u> Douglas Dillon	No Attribute	864 22			
— William Dittman (2) — Archived Cases (0)	MSC	Priority 3	30/06/2010	Ready for diagnosis	MSC00002237 ACC-Dittman-1	<u>Pathologist:</u> Administrator User <u>Pathologist:</u> William Dittman	No Attribute				





4.2.1. Case Filters

Case filters allow you to easily identify case by status and assignment. Only cases assigned to you or a group you are a member of will be visible.



Note: case status filters are based on the management workflow engine configurable for each user. The example above may differ from one facility to another based on what best suits their workflow.

4.2.2. Case List

Case List displays the selected cases providing the following details:

- Site •
- Priority •
- **Creation Date** •
- Status
- Case ID •
- **Active Assignees** •
- Attributes •
- Media
- Actions •

Cases may be sorted by selecting the title of any column that is underlined.

Site	<u> </u>	Date Created	<u>Status</u>	<u>Case ID</u>	Active assignees	Attributes	Media	Actions
MSC	Priority 3	15/04/2010	Diagnosis complete	<u>MSC00001926</u> dd	<u>Creator:</u> Douglas Dillon	No Attribute	No Media	
MSC	Priority 3	27/05/2010	Draft	MSC00002113 dd2	<u>Creator:</u> Douglas Dillon	No Attribute	No Media	X
MSC	Priority 3	07/06/2010	Draft	MSC00002143 ACCD443	<u>Creator:</u> Douglas Dillon	No Attribute	566 2	X



4.2.3. Request an Opinion

During diagnosis you may request a consult by selecting the "Request consultation" link in the Workflow Actions. This moves the case to the Opinions tab where you can request assistance.

Status: Diagnosis in progress	• <u>Complete diagnosis</u>	• <u>Pause diagnosi</u>	• <u>Request consultation</u>					
Active assignees: 🕹 Administrator User Pathologist , 🗳 Douglas Dillon Pathologist								
Other assignees: & Douglas Dillon Creator								

4.2.4. Case Workflow Operations

Depending on the configuration different operations will be available at different stages of the workflow.

Status: Diagnosis in progress	• <u>Complete diagnosis</u>	• <u>Pause diagnosis</u>	• <u>Request consultation</u>					
Active assignees: 🕹 Administrator User Pathologist , 🕹 Douglas Dillon Pathologist								
Other assignees: 🕹 Douglas Dillon Creator								

4.3. Opinions

The Opinions Module lists cases you have asked or been asked to consult on. Like the Studies Module the left side of the window shows the case filters and the right displays the case list.

mScop	mScope [®] -										
Studies Opinions	Panel Discussions	s k	Knowledge Base	Modalities	Search Results					Search	
All cases (2)		AII C	ases 💠	lew case							
Cases by active assignee	,									Display 1 to 2 of 2	
Assigned to me (2)		Site	<u> ¶≟Priority</u> <u>I</u>	ate Created	<u>Status</u>	<u>Case ID</u>	Active assignees	Attributes	Media	Actions	
Administrator User (2) Archived Cases (0)	1	MSC	Priority 3 0	8/01/2010	Consultation complete	<u>MSC00000475</u> 1234	<u>Pathologist:</u> Administrator User <u>Pathologist:</u> Douglas Dillon	No Attribute	No Media		
	I	MSC	Priority 3	7/06/2010	Consultation complete	MSC00002140 ACCD123	<u>Pathologist:</u> Administrator User <u>Pathologist:</u> Douglas Dillon	No Attribute	• *Ø		

4.3.1. Case Filter

See 4.2.1 Studies Case Filter.

4.3.2. Case List

See 4.2.2 Studies Case List.

4.3.3. Case Workflow Operations

Workflow Actions allows the user to move the case to the next or previous step of the workflow. For example, a case that is ready for the pathologist would be assigned by selecting "Ready for Diagnosis". If the pathologist required more information they could select "Incomplete case" to send it back. The workflow actions are:

- o Request consultation
- Ready for consultation selected by owner when they are ready to have consultants review

AIN

- o Cancel consultation
- o Return for clarification sends case back if more information is required
- Start consultation
- Pause consultation
- Consultation complete

Operations are configurable based on the needs of an organization.

4.3.4. Request Opinion

To request an opinion select the "Request consultation" operation.

Status: Diagnosis in progress	• <u>Complete diagnosis</u>	• <u>Pause diagnosi</u> s	 <u>Request consultation</u> 					
Active assignees: 🕹 Administrator User Pathologist , 🗳 Douglas Dillon Pathologist								
Other assignees: & Douglas Dillon Creator								

Select the type of opinion you require.

Γ	Request an opinion						
* Type: 🔘 Unbiased opinion 🔘 Validation opinion							
	Vext Cancel						

Select who you want to consult from the Opinions section at the bottom of the case.

1	Opinions					Add specialists	
		Туре:	Validation	n opinion			
	Specialist		Date	Rating	Explanation	Actions	
No	opinions						

Assign the case.

Status: Consultation requested	<u>Ready for consultation</u> <u>Cancel consultation</u>
Active assignees: & Douglas Dillon Patho	logist
Other assignees: 🌡 Douglas Dillon Create	r , 🕹 Douglas Dillon _{Specialist}

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4.3.5. Rendering an Opinion

To render an opinion select "Start consultation".

Status: Consultation pending	• <u>Return for clarification</u>	• <u>Start consultation</u>
Active assignees: 🕹 Douglas Dillon Specialist		
Other assignees: 🏖 Douglas Dillon Creator , 🗳 D	Oouglas Dillon Pathologist	

Enter opinion by selecting "Start" from the opinions section at the bottom of the case.

٩	Opinions				dd specialists
		Type: Validation	opinion		
	Specialist	Date	Rating	Explanation	Actions
1	Douglas Dillon	Waiting f	or opinion		Start
Close	the consultation.				
Stat	tus: Consultatio	on in progre	ess	• Pause consultation	• Complete consultation
Acti	ve assignees: 🕹 D	ouglas Dillor	Specialist		
Oth	er assignees: 🚨 Do	ouglas Dillon	Creator,	Douglas Dillon Pathologist	

4.4. Panel Discussion

The Panel discussion allows multiple specialists to work together on rare and difficult cases both simultaneously and asynchronously. A user can see the panels they are a member of and the cases they are to work on. Unlike "Studies" cases where there is one owner of a case at any time all members of a Panel have complete access to the cases associated with it.

Studies Opinions Panel Discussion		Weldge Base Modalities Search Results
All cases (22) Cases by status Open for comment (2) Expired (14) Closed (6) Archived Cases (1)		Panel Discussions The panel discussions module is a communications tool that brings medical experts together to review interesting and/or difficult cases and discuss diagnoses and treatment options.
		Neuropathology Tumor Board 8 Members : Fabrice Heloir, Amy Verrinder, Marc Chonech, Lou Ramondetta, Douglas Dillon, Matthew Smith, Pierre Le Fevre, Alex 18 18 18 18 18 18 18 1
	<u>,</u>	Amy's Case of the Week 8 Members : Amy Verrinder, Douglas Dillon, Fabrice Heloir, Lou Ramondetta, Marc Chonech, Matthew Smith, Pierre Le Fevre, Alex 4 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

4.4.1. Panel case list

Panel cases are centered on timelines and as such the Panel case list provides a simplified workflow vs. Studies and Opinions based this. Cases are organized as to active "Open for comment", passed due "Expired", and complete "Closed".

mScope®	-Clinica	l			AUF	₽ 			
Studies Opinions Panel Discus	sions Kn	owledge Base	Modali	ties Sea	arch Results				Search
Panel discussions: Neuropath	ology Tur	nor Board 🔻	List case	5					New case
All cases (18)	All Ca	ses							
Open for comment (1) Expired (12) Closed (5)	Site	<u>Status</u>	Age	↓ <u>∃Due</u>	Panel	Case ID	Attributes	Media	isplay 1 to 18 of 18 Actions
Archived Cases (1)	MSC	Expired	26 days, 17 hours ago	20 days, 7 hours ago	Neuropathology Tumor Board	MSC00002307 PATH00003	No Attribute	*	
	MSC	Expired	36 days, 16 hours ago	27 days, 7 hours ago	Neuropathology Tumor Board	MSC00002275 5675675678	No Attribute	19. 200	

Knowledge Base 4.5.

The Knowledge Base is a repository or interesting and unusual cases for reference material. Cases may be copied from Studies or Opinions into the Knowledge Base.

Cases in the Knowledge Base are de-identified removing privileged information.

mScope®_	- Clinical	AUR ‡ I		
Studies Opinions Panel Disc	ussions Knowledge Base M	Iodalities Search Results		Search
Media Format Microbrightfield	All Cases 🖶 New ca	ise		
Aperio MPEG Video Hamamatsu Aurora	Case ID	Attributes	Di	isplay 1 to 20 of 47 <u>Next</u> <u>Last</u> Actions
Aurora Flat Images Dicom Olympus	MSC00000427 1260546042940	<u>Media Format,</u> Hamamatsu <u>Organ:</u> Brain <u>Stains:</u> Papanicolaou		
Zeiss Source	MSC00000488 z1263422531042	<u>Disease:</u> Mesothelioma		×
LabCorp Quest Johns Hopkins	MSC0000500 1263572781842	<u>Media Format:</u> Aperio	1 111 🛌	
CSI Harvard	MSC00000515 1263920373917	<u>Cancer Stage;</u> 2 <u>Gross vs Microscopic;</u> Microscopic Im	age	× 2



Modalities 4.6.

Modalities refer to any media capture device. Some examples include.

- **Grossing stations** •
- Video cameras •
- Whole slide scanners •

The mScope media server can be configured to monitor the output of these devices adding them to the application.

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mScope [®]	Clinical	
Studies Opinions Panel Discussi	ons Knowledge Base Modalities Search Results	Search
├─ All media (93) ── Media by server └─ Default MSC Media Server (93)	Media List	Display 1 to 20 of 93 <u>Next</u> <u>Last</u>
	Media Reference ID	Media Scan Date Ingestion Date Actions Server
	L1C2_Normal_heart_HP2 c/hdd_sides/upload/48/Lab1_case2_Normal_heart_HP2.jpg	Default.MSC- 0rt.2 2009 0rt.2 2009 MediaServer 2:23:00 AM 2:23:01 AM Classify 💥 Delete

4.6.1. Media Servers

The media server is a web application providing the backbone for content managing Media, Meta Data, and Annotations. Media may come from any number of Modalities such as grossing stations, video, whole slide scanners.

The Portal displays information seamlessly from any number of media servers allowing cases to contain images stored in various locations across a country or the world.

4.6.2. Modality Media List

The media list displays all images created by a modality that could not automatically be added to a case. Orphan media may be manually added to cases using the "Classify" action.

mScope	Clinical	
Studies Opinions Panel Discussion	ns Knowledge Base Modalities Search Results	Search
	Media List	
Default MSC Media Server (93)		Display 1 to 20 of 93 <u>Next</u> <u>Last</u>
	Media Reference ID	Media Scan Date Ingestion Date Actions Server
	L1C2_Normal_heart_HP2 c:\hdd_sides\upload\48Lab1_case2_Normal_heart_HP2.pg	Default-MSC- Oct 2, 2009 Oct 2, 2009 MediaServer 2,23:00 AM 2,23:01 AM

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4.6.3. Classifying Media

Classifying media is the process of moving media to a case that could not be automatically be done by the system.

mScope	linical	
Studies Opinions Panel Discussion	ns Knowledge Base Modalities Search Results	Search
All media (93) Media by server Default MSC Media Server (93)	Media List	Display 1 to 20 of 93 <u>Next</u> <u>Last</u>
	Media Reference ID	Media Scan Date Ingestion Date Actions Server
	L1C2_Normal_heart_HP2 c:hdd_sideslwpload/49Lab1_case2_Normal_heart_HP2.jpg	Default-MSC- Oct 2, 2009 Oct 2, 2009 MediaServer 2.23:00 AM 2:23:01 AM

Selecting "Classify" opens the "Classify Media" page where you pick the case to add it to.

Classify Med	ia				
					<< Return to media list
Step 1: Choose	e your destination				
Studies Opinions	🛇 Knowledge Base				
Step 2: Choose	e your case				100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100
			Display 1 to 14 of 14	Reference	L1C2_Normal_heart_HP2
Case ID	Attributes	Media	Actions	ID:	
MSC00002143 ACCD443	No Attribute	rg6 🔛	Classify	Scan Date:	Oct 2, 2009 2:23:00 AM
ACCD445				Ingestion Date:	Oct 2, 2009 2:23:01 AM
MSC00002293 acc123456	No Attribute		Classify		
MSC00002316 abc	No Attribute	No Media	Classify		

4.7. Search

Searching content is available via the Search module. To conduct a search, simply enter name or partial name you are looking for in the search box located at the top right of the page. The results page lists all cases that contain the text specified.

Studies Opinions Panel Discussions Knowledge Base Modalities Search Results Search		AUR®RA INTERACTIVE	
Studies Opinions Panel Discussions Knowledge Base Modalities Search Results Search	+	Welcome Doubles Different Administration Les Out Help	
	Studies Opinions Panel Discussions Knowledge Base Modalities	Search Results Search	>

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mScope searches the following fields of a case.

- Case ID
- Diagnosis
- Clinical Info
- Patient Name
- Patient ID
- Attribute values
- Grossing stations
- Video cameras
- Whole slide scanners

To help you search mScope supports wildcard searches using "?" and "*". An example would be to search for acc1* which will return anything beginning with acc1 like acc123. Examples and descriptions are provided on the right side of the search page.

5. Cases

The case window is divided into the three sections;

- Left: Case filter list
- Top Right: "dashboard" :
 - o providing details as to the status of the case (owner, workflow state...)
 - o operations available (assign, transition...)
- Bottom Right: case details which include:
 - o Patient information
 - o Media
 - o Diagnosis
 - o References
 - o Attributes
 - Opinion (if required)
 - o Comments
 - o Transition logs



5.1.

Opening a Case

To open a case select "Case ID" from the case list.

Site	<u> Î∄Priority</u>	Date Created	<u>Status</u>	Case ID	Active assignees	Attributes	Media	Actions
MSC	Priority 3	15/04/2010	Diagnosis complete	MSC00001926	Creator: Douglas Dillon	No Attribute	No Media	
MSC	Priority 3	27/05/2010	Draft	MSC00002113 dd2	<u>Creator:</u> Douglas Dillon	No Attribute	No Media	関 🗙
MSC	Priority 3	07/06/2010	Draft	MSC00002143 ACCD443	<u>Creator:</u> Douglas Dillon	No Attribute	rg (X

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5.2. **Case Content**

Cases are the core content organization element containing media, documentation, and files.

5.2.1. Case Identifier

The Case ID uniquely identifies it and contains details as to the author and owner. A user may move from one case to another using the "previous", "next" links and edit or delete the case if they have permission to do so.



5.2.2. Workflow Control

The workflow control panel contains information about the state of the case along with options for moving it through the workflow to completion. Depending on the position of the case in the workflow different options will be available. .

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	MSC S ACCD443 (MSC00002143) Created by Doug Dillon on Jun 7, 2010 11:23:18 PM, Last modified by Doug Created by Doug Dillon on Jun 7, 2010 11:23:18 PM, Last modified by Doug	New	C Return to list Displaying 2 of 9 < Previous Next ≥	
<	Status: Diagnosis in progress	• <u>Complete diagnosis</u>	• <u>Pause diagnosis</u>	• <u>Request consultation</u>
	Active assignees: 🗳 Administrator User randoget, 🔮 De	uglas Dillon putrisis		
	Other assignees: 🕹 Douglas Dillon Creator			

5.2.3. Patient Information

Information such as the patient's name, gender, age, and clinical details are available. When connected to a hospital information system these fields will be automatically populated. If the user has permission they may modify these values.

Accession Number:	ACCD443
Patient Information	🖉 Edit
ID:	
Name:	
Gender:	N/A
Age:	
Clinical information	P Edit

All media associated with the case is contained in the media section. It can be organized by using the handle dragging the file to the desired position. Media not automatically added to a case may be case by "Add existing media" which lists media in the modalities module (see Modalities) or "Upload new media" (see 5.4 Upload Media) which copies files from your computer.

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📕 Media		dd existing media	Lipload new media	Remove all media	
	Information	Annotations	Attributes	Actions	
1	CNS 13	No Annotations		\	
2	CNS 14	No Annotations			

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5.2.5. Diagnosis

Cases have an optional section diagnosis. Selecting "edit" allows the user to enter the information.

💸 Diagnosis information	/ Edit
No diagnosis information	
Update case diagnosis information	
Font Name and Size Font Style Lists Insert Item Arial I II III IIII IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	
Save Cancel	

5.2.6. References

An optional section for additional details is available via references.

A References	🥖 Edit
No references	
Attributes	
Attributes may be set by the user if they have permission (see Attributes)	

🌮 Attributes 🧳	P Edit
----------------	--------



5.2.7. Comments

Comments may be added to cases in the Atlas by selecting the "Add Comment" Operation or by replying to an existing comment.

Font Name and Size Arial	✓ 13 ↓ B	Style I U abe D /	Lists	Insert Item	

Comments support images as well as hyperlinks.

Administrator	· · · · · · · · · · · · · · · · · · ·
Admin	The following was imported from Path 201.
13 Aug 10:02	
	Reply
Administrator	
Administrator Admin	Details are available <u>here</u> .



Additional documentation and dictation is contained in the attachments section of the case. This is for non media files not supported by the viewer. Uploading attachments from your computer is done by selecting "Add attachment". Selecting "Record new audio" allows you to add sound segments to the case that can later be transcribed.

ą	Comments (0)	Ø	Attachments (0)	12	<u>Transition Logs (0)</u>		
						Record new audio	Add attachment
	Label		Description			Size (kb) Ty	Actions
	No Attachment						

Adding audio clips is done by selecting the record button. Selecting record again will allow you to add additional clips. Clips can be saved or removed from the list using the buttons at the top left.

Audio Player - Google Chrome	
demo.aurorainteractive.com/mscop	e-clinic/secure/remotediagnosis/‹
Hew Audio Track	00:05 min

Transition Log

The transition log lists the history or the case as it moves through the workflow.

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ę	<u>Comment</u>	<u>ts (0)</u>	Attachments (0)	🗓 Tra	ansition Logs (4)	
ł	Date	User	From	То		Elapse Time
	18/08/2010 16:32 Douglas Dillon		Ready for diagnosis		agnosis in progress	6 days, 18 hours
	18/08/2010 16:32	Douglas Dillon	Diagnosis in progress	Re	ady for diagnosis	6 days, 18 hours
	11/08/2010 22:12	Douglas Dillon	Ready for diagnosis	Dia	agnosis in progress	an instant
	11/08/2010 22:12	Douglas Dillon	Draft	Re	ady for diagnosis	an instant

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Case Assignment 5.3.

Selection of the case owner is done by selecting "Assign to pathologist" and picking the person.





5.4.

Add Existing Media



Unassigned media may be added to a case by selecting "Add existing media" and picking the files.

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-Add	l Media–		
_			Display 1 to 20 of 93 <u>Next</u> <u>Last</u>
	Thumbnails	Media Information	Actions
		L1C2_Normal_heart_HP2	Add
		L1C2_Normal_heart_40x	Add
		L1C2_heart_unknown_LP	Add
		Heart, unknown, micro, 40	Add
		Add Cancel	



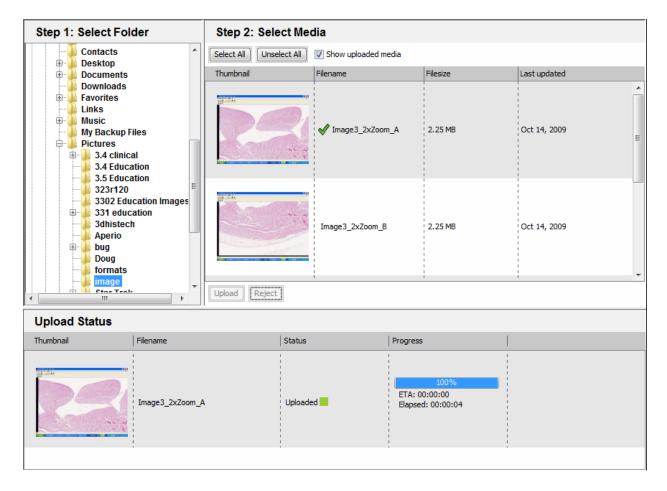
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5.5. Upload New Media

"Upload New Media" allows you to add media from your local machine to the mScope application. The process involves two steps identified on the window.

- 1. Selecting the folder on your drive where the media is located. All media will appear in the "Step2" pane.
- 2. Select the file(s) you want to upload. Use the Shift or Ctrl keys to select multiple files.
 - Upload will copy the files to the server
 - Reject will remove selected files from the list of files media available for upload

The status pane shows the progress of media being uploaded.



Archive 5.6.

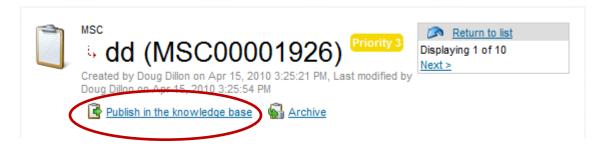
When a case is complete archiving it will remove it from the case list allowing you to search active cases more easily.

A IN

1	MSC i dd (MSC00001926) Priority 3 Created by Doug Dillon on Apr 15, 2010 3:25:21 PM, Last modified by Doug Dillon on Apr 15, 2010 3:25:54 PM	<u>Return to list</u> Displaying 1 of 10 <u>Next ≥</u>
	Publish in the knowledge base	

5.7. Publish to knowledge base

Selecting "Publish to knowledge base" will create a de-identified copy of the case without patient information for reference purposes.



mScope®

6. mScope Viewer

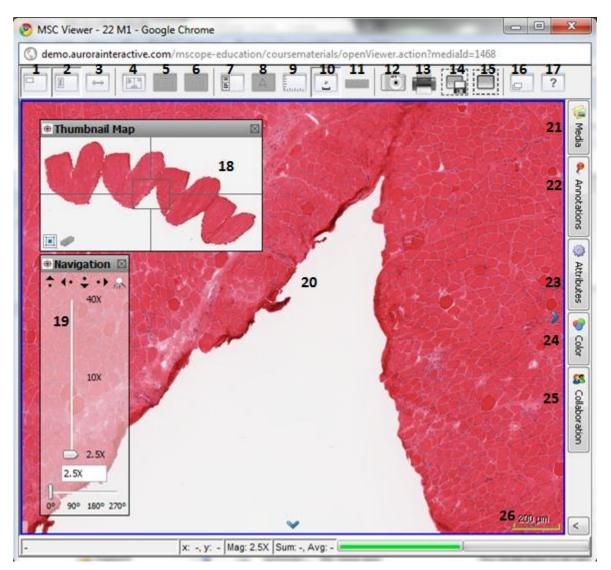
This section describes all the main components of an mScope Education Suite, how they interact and their primary functions.

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6.1. Viewer Basics

The features of the viewer are identified on the image and described below:



	1. Show/Hide Navigation Window:	15. Key Image Snapshot: uses a region defined by
	toggles window (24) on and off	the user (left click, drag, and release) to create a
	2. Show/Hide Magnification: toggles window (25)	view of the defined area without creating a new
	on and off	image
	3. Mode : switch navigation mode between Default	16. Sub Images: cycles through any additional sub
	(drag left to move media left) and	images if they are present
ļ	Microscope (drag left to move media right)	17. Help: description of how to navigate images
5	4. Split Screen: allows you to have two images	18. Navigation Window: provides overall view of
	displayed at the same time	media, what area you are looking at
7	5. Orientation: switch between having 2 nd on the	19. Magnification Window: allows control of
	right or underneath	magnification and provides tools for navigating
	6. Synchronize view: locks the position of the	and rotating the image
	images so moving one will result in an equal move	20. Main Image Window: current view area of the
	in the other	image
	7. Slide Details: displays the details tab on the left	21. Media: all media associated with a case, jump
	of the screen containing slide details along with	to any media by clicking on it
	annotations and groups for viewing only	22. Annotations: allows for creation, organization
	8. Attributes: allows persistent display of image	and viewing of annotations depending on your
	attributes (must be configured by the	permissions
	administrator to be available)	23. Attributes: detailed information about the
	9. Grid: cycles through available grid types	media including any assigned mScope attributes
	10. Show/Hide Scale: toggles the legend	24. Color: non-persisted adjustments for
	11. Clear Measurements: Removes temporary	brightness, contrast, gamma, red, green, and blue
	measurements from the image (only available if	25. Collaboration: work with others viewing and
	the original media includes metric information)	annotating the image at the same time as if
	12. Snapshot : captures the current field of view as	through the same eyepiece
	a .jpg to your computer	26. Scale : provides size information when the
	13. Print: sends the current view to the printer	information is available
	14. Detailed Snapshot: captures a region defined	
	by the user (left click, drag, and release) to create	
	a .tiff file with based on the resolution requested	
	on your computer	

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6.2. Opening the viewer for the first time

The mScope viewer is a JAVA Applet so it will work in any Web browser. The first time you open an image the viewer will be downloaded to and installed on your machine. The process may take some

time if your connection is slow and your settings may ask you to accept it; if so, be sure to select the remember option to avoid the question in the future.

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6.3. **Viewer Performance**

Increasing the viewer memory (Section 3.6) will improve performance by allowing it to pre-fetch more of the image you are viewing. The following are recommended memory settings.

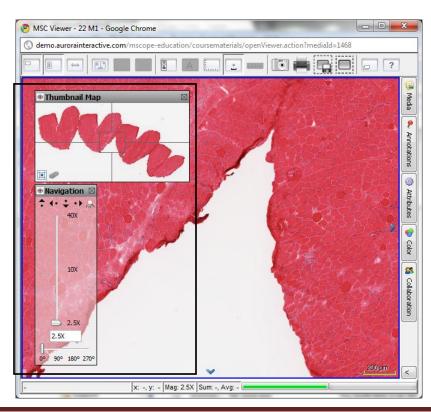
Physical memory of	Recommended mScope viewer
Computer	memeory
Less than 1 Gig	128 MB
1 to 3 Gig	256 MB
More than 3 Gig	512 MB



Navigating the image 6.4.

Navigation of an image may be accomplished both by interacting directly with the image or using the navigation and magnification windows seen in the image area below. The basic navigation controls are as follows:

Action	Directly on Image	Thumbnail Map	Zoom Control
Zoom In	Left mouse button	N/A	Drag slider to a higher power
Zoom Out	Right mouse button	N/A	Drag slider to a lower power
Zoom to mouse	Alt left mouse	N/A	N/A
Zoom to area	Alt-left drag to define the area	N/A	N/A
Pan	Click and drag image	Click and drag the cross hair	N/A
Jump to Location	N/A	Left mouse button on the center of desired location	N/A

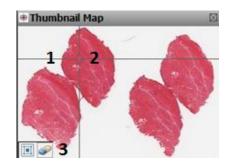


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6.5.

Navigation Window

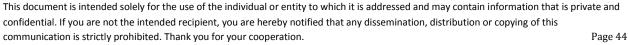


- 1. Image: Thumbnail view of complete image
- 2. ROI: Region of interest identifying the current view area
 - you can drag the ROI to move the image in the main viewer
 - left clicking anywhere in the thumbnail will move the image to that location •
- View History: Highlights the areas viewed by the user (selecting the eraser clears the history) 3.

Magnification Window 6.6.

- 1. Scroll Left: Scroll image right to bring what is left of the current display into view
- 2. Scroll Right: Scroll image left to bring what is right of the current display into view
- 3. Scroll Down: Scroll image up to bring what is below of the current display into view
- 4. Scroll Up: Scroll image up to bring what is below of the current display into view
- 5. Zoom to Fit: Fits the complete image into the viewer area
- 6. Magnification Slider: Select the magnification desired
- 7. Current Magnification: the level you are currently viewing
- 8. Rotate: adjust the image orientation by the provided increments







6.6.1. Attributes

The Attributes tab provides detailed information about the media, including any assigned mScope attributes.

Image Attribute	25		
mScope Attributes			
Name	Value		utes
Author	Administrator	A	
Organ			1
scanDate	2007-07-20		Colout
			Ĕ
Image Attributes			
			88
Name	Value		
AppMag	40		Collaboration
Date	07/20/07	-	rati
Filename	18811	=	9
Filtered	3		
ImageID	18811		2
Left	18.663152		- A
LineAreaXOff	0.031903	Ŧ	5
1			~

6.6.2. Colors

The Color tab provides non-persisted adjustments for brightness, contrast and gamma as well Red, Green, and Blue.

	Colour Control	
	General Colour Controls	Attri
	1.0	Attributes
	• • • • • • • • • • • • • • • • • • •	
		Colour
4	Colour Channel Controls	
New	Red 1.0	Collat
The	Green	Collaboration
	Blue	-
	Reset	2 2

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6.6.3. Collaboration

Collaboration

Collaboration enables multiple users to synchronize viewing of an image. A collaboration session is lead by a host. All actions taken by the host such as navigating the image and adding annotations are visible to the participants in real time. Participants may be located anywhere provided they have web access. The collaboration tab near the bottom of the module toolbar located on the right of the view lists the number of users currently viewing the image. Selecting the button shows you who these people are.

Collaboration	3
2 admin Go Offline Collaboration Users	🌼 Attributes
	📀 Colour
Public	Collaboration
Note that any messages you type in the public chat tab can be viewable by any other user viewing the same media.	Ş
	 Annotations
	🔰 Media
*	
Send	

NOTE: An image may reside in multiple locations. For example, if two users have included the same image in cases in their shared documents they will not see each other when looking at the image since the images they are viewing are in separate case.

Initiating a Collaboration

To start a collaboration open the collaboration tab (explained above) and invite the users you want to join by double clicking on their names. You will be given the chance to name the session and to select a flexible or fixed hosting style. If the flexible hosting style is selected users will have the option to assume control of the session as opposed to fixed which locks the initiator as the host.

Choose C	ollaboration Name 🛛 🔀
Please en	er a name for your collaboration:
admin +	· jd
	user may become Master current Master controls who becomes Master OK Cancel

The Collaboration tab of the guest's viewer will change color indicating the request. Opening the tab they will see the invitation in the list. To join the collaboration they simply double click it.

Collaboration	1
👤 s1 Go Offline	이
Collaboration Users	1 €
✓ admin	- 🏹
· · · · · · · · · · · · · · · · · · ·	
	l e
	or a
	1 5
	_ 🖸
Collaboration Invitations	
ladmin + s1	Annotations
	3
	i a
	Ins
	Media
	=
Public	_1
@	
Note that any messages you type in the public chat tab can be viewable by any other user	.
viewing the same media.	
Send	

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Passing Control and Exiting

Once the session has begun, it is possible for users to assume control of the presentation becoming the host. This is done by selecting the button "Take Control". Leaving the collaboration is done by selecting the "Disconnect" button or closing the viewer. mScope provides a chat window so you can communicate with other collaborators if you do not have a phone or VOIP.

Collaboration Solution: s1 Solution: s1 Solut	Scolour 📀
Take Control Disconnect Collaboration Users Image: Collaboration Users Image: Collaboration Users Image: Collaboration Users	👪 Collaboration (1)
Public × admin + s1	🔍 Annotations
Note that any messages you type in the public chat tab can be viewable by any other user viewing the same media.	🎉 Media
Send	



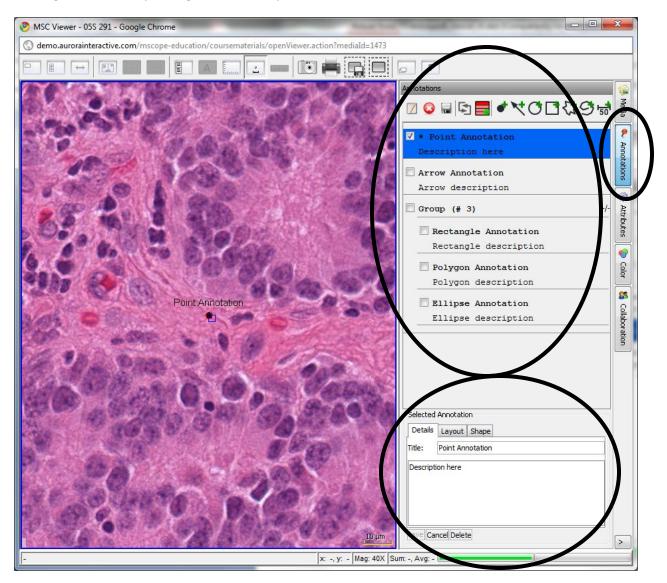
The Annotation tab lists all annotations associated with the image and allows you to view, create, edit, and organize them depending on the user's permissions.

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6.6.4.1. Creating an Annotation

mScope provides the following annotation types:

- Arrow •
- Ellipse •
- Rectangle •
- Polygon •
- Polyline
- Measurement

Annotations		
☑ Q 🗟 🔄 🗲 ♦ २००२३७ 🗟	Media	
<pre>✓ * Point Annotation Description here</pre>	P Anr	
Arrow Annotation	Annotations	

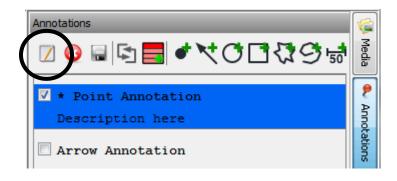
Annotation Type	Creation
Point	left click the image at the desired location and magnification
Arrow	left click the image at the desired start point and drag to the end
Ellipse	left click the image at the desired start point and drag to the end
Rectangle	left click the image at the desired start point and drag to the end
Polygon	left click the points on the image, right click to specify the last point
Polyline	left click the points on the image, right click to specify the last point
Measurement	left click the image at the desired start point and drag to the end





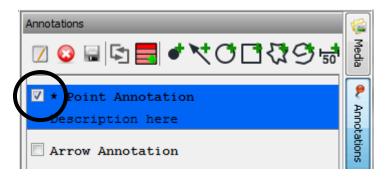
6.6.4.2. Editing Annotations

Editing Annotations is done by selecting the annotation from the list in the annotation tab and selecting edit. This will bring you to the annotation properties window described below



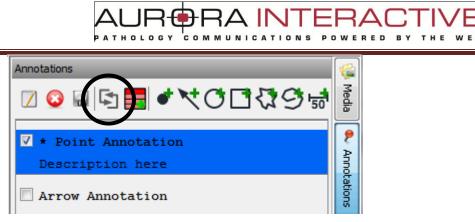
6.6.4.3. Viewing Annotations

Select the annotation's checkbox will to it on or off. The annotation will appear at the way it was recorded. If you select multiple annotations the viewer will choose the best fit possible.



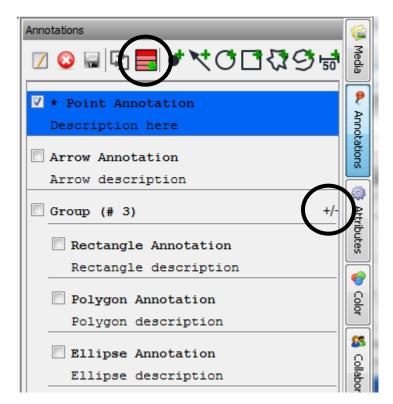
6.6.4.4. Ordering Annotations

Selecting the organize button will allow you to adjust the order of annotations by dragging them with your mouse.



6.6.4.5. Grouping Annotations

Groups allow the display of multiple annotations with a single selection. Dragging annotations into a group makes them part of it. To view the contents of a group select the "+/-" button.





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6.6.4.6. Annotation Properties

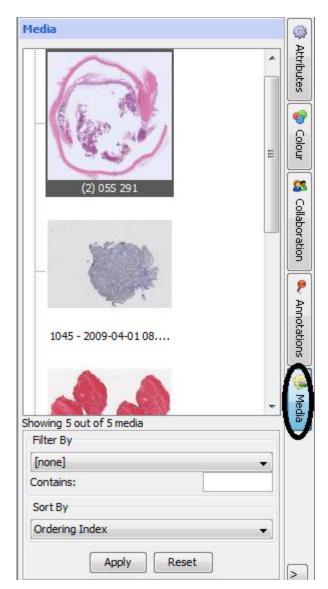
Selected Annotation	Selected Annotation		1	Selected Annotation
Details Layout Shape	Details Layout Sh	ape		Details Layout Shape
Title: Point Annotation 1	Text Position:	North 3	•	Line Color:
Description here	Text Color:	4		Filter Color: Reset
	Font:	SansSerif 5	•	Filter Opadity: 10
2	Style:	Bold Ditak		Fill Color: 11
	Size:	Normal 7	•	Fill Opedity: 12
lave Cancel Delete	Save Cancel Delete	'	[ave Cancel Delete

- 1. Title: the text that appears in the viewer to identify the annotation
- 2. Description: detailed information about the annotation that will appear when a user's cursor hovers over the annotation in the viewer
- 3. Text Position: controls the position of the Title (1)
- 4. Text Color: controls color of the Title (1)
- 5. Font: controls the font of the Title (1)
- 6. Style: controls the style of the Title (1)
- 7. Size: controls the display size of the Title (1)
- 8. Line Color: controls the line color of the arrow, circle, and square annotations
- 9. Filter Color: controls the color that is applied to everything outside the annotation
- 10. Filter Opacity: the intensity of the filter
- 11. Fill Color: controls the color that is applied to everything inside the annotation
- 12. Filter Opacity: the intensity of the fill



6.6.5. Media

The Media tab displays the media of the case allowing you to quickly jump to any of them without returning to the application.



7. mScope Administration

This section describes the components of the Administration section of mScope.

7.1. **Users**

The "mScope Users" section of the administration module allows you to manage user accounts. You can view all users or filter them by the last name of the individual. Details include the user name, email, and groups the user is associated with (see the mScope Groups section below). The Actions column identifies the tasks that may be applied to the user.

			By last name:
Sites: All Sites All - A - B - C - D - E - F - G - H	- I - J - K - L - M - N - O	- P - Q - R	• S - T - U - V - W - X - Y - Z - Other
Local Users			
User	Last login	Site	Actions
admin <u>Full Name:</u> Administrator Admin <u>Email:</u> admin@ehp.net <u>Groups:</u> Administrators	Apr 30, 2010 7:51:11 AM	Default Site	灯 Edit
mscope-api <u>Full Name:</u> MSCOPE-API MSCOPE-API <u>Email:</u> mscope-api@ehp.net <u>Groups:</u> MSCOPE Api	Apr 30, 2010 8:08:38 AM	Default Site	灯 Edit
p 1 <u>Full Name:</u> p Path1 <u>Groups:</u> Pathologist	Apr 30, 2010 7:59:50 AM	Default Site	🕥 Edit 🧭 Disable 💢 Delete 🎎 Groups

7.2. Groups

Groups provide Access Control Logic (ACL) to users. This defines what rights a user has as well as forming the basis of user organization. For example, creating a group "HEMO101 2009" for the students enrolled in a class allows an administrator to grant them all the same level of access. In addition, it provides a simple method for sharing information with them (see sharing read/write).

		Add New
Groups		
Name	# of Members	Actions
Administrators	Í.	📝 Edit 🎎 Permissions
Professor	0	Carte I 🚱 Delete I 🤮 Permissions
Student	o	📝 Edit 🚱 Delete 🎎 Permissions



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Permissions 7.3.

By default, groups are created with no privileges. Adding or editing the permissions of a group is done by selecting "Permissions" under the "Actions" column of the group page.

Access Permissions

Access Administration	Gives the user access to the portal administration module

Studies

Create Case	User can manually create a case
Delete all Cases	Delete permission

Opinions

Create Case	User can manually create a case
Delete all Cases	Delete permission

Knowledge Base

Access Knowledge Base	Grants viewing rights to Knowledge Base
Create Case	User can manually create a case
Update Case	User can modify case information
Delete Case	User can remove a case
Add Media	Can add media to cases
Upload Media	Can copy media from local computer to application
Annotate Media	Can add/modify media annotations
Update Case Attribute	Can set/modify case attributes
Add Attachment	Can copy a file from local computer to attachments of case

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Update Diagnosis	Can modify the diagnosis
Add Comment	Can insert comments
Update case media	Can modify media name and description
Update Media Attribute	Can set/modify media attributes

Modalities

Access modalities Module	Permission to enter the module

Panel Discussion Module

Access Panel Discussion Module	Permission to enter the module
--------------------------------	--------------------------------



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Select All, None Access Permissions Access Administration Studies Module Permissions Create Case Delete All Cases **Opinions Module Permissions** Create Case Delete All Cases Knowledge Base Module Permissions Access Knowledge Base Create Case Update Case Delete Case Add Media Upload Media Delete Media Annotate Media Update Attribute Add Attachment Update Attachment Delete Attachment Update Diagnosis Delete All Cases Add Comment Update case media Update case media attribute Modalities Module Permissions Access Modalities Module Panel Discussions Module Permissions Access Panel Discussions Module Cancel Save Permissions



7.4. Servers

mScope may connect to multiple media and PACS servers depending on the licensing agreement. The "Servers" section lists all defined media servers and provides an "Add Server" for connecting to additional media servers.

Add	Server	
T	ype*: MSC Media Server 💌	
	Add	
Serv	ers	
Туре	Server	Actions
3	Default MSC Media Server http://[RequestServer]: [RequestPort]/mediaapi	🛐 Edit 💥 Remove ⊘ Deny 🤿 Test

The media server is broken into 6 sections

- Identity
- Scanner Service
- Ingester Service
- Upload Service
- Delivery Service
- Remote Request Service

7.4.1. Identity

The identity encompasses the

- Display Name display name in the list of media servers (must be unique) •
- Identification Name the actual name of the media server (must be unique) •
- Primary Address URL of the media server e.g. http://185.119.1.97:8081/ •
- Secondary Address -•

Type :	
Color :	
Display Name*:	Default MSC Media Server
Identification Name*:	Default-MSC-MediaServer
Primary Network Address*:	http://[RequestServer]:[RequestPort]/mediaapi
Availability:	Test
Secondary Network Address:	
	Example: http://www.address.com/mediaapi
	Example: http://192.168.1.109:8080/mediaapi
	Example: http://[RequestServer]:8081/mediaapi
	Example: http://[RequestServer]:[RequestPort]/mediaapi
Notes:	

7.4.2. Scanner Service

The first section of the scanner service allows you to define the locations media will reside and configure how often they should be checked for new content. "Auto Start" is used to turn the scanner server on and off. This allows you to turn it off if you only periodically update content.

Minimum Age: Wait Time between Scans: Auto Start?:	15 seconds ✓ 15 seconds ✓ ● Enabled ○ Disabled		
Directory to Scan			
The directories to scan for new media.			
1. :	C:\dev\slides\UofT		
2. :	C:\dev\slides\sample sk		
3. :			
4. :			
5. :			

Ignore Patterns allows you to specify text strings for the scanner to ignore.

Ignore Patterns	
The filename patterns to igno	re when scanning the directories for new media.
1. :	
2. :	
3. :	
4. :	
5. :	

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7.4.3. Parent Directory

Some formats such as those produced by Zeiss and Olympus have multiple files associated with a single image. By selecting the Parent Directory Plug-in mScope will display one image using the directory as the name. Otherwise, all files will be read individually.

-	D	D:	DI
\checkmark	Parent	Directory	Plugin

This plugin uses the parent directory name of the new media file as the media reference instead of the file name.

7.4.4. Media Thumbnails

If selected, mScope will create thumbnails for all images that are equal to or larger than the specified resolution threshold. If "Overwrite" is set to yes thumbnails will be created every time the scanner searches the folders.

Media Thumbnail Plugin		
This plugin generates thur	nbnails of different sizes from the new media that are medias.	
Resolution Threshold :	1280x1024 💌	
Overwrite? :	● Yes ○ No	

7.4.5. Video Thumbnails

This option creates thumbnails for video content. If "Overwrite" is set to yes thumbnails will be created every time the scanner searches the folders.

Video Thumbnail Plugin		
This plugin generates thumbnails of different sizes from the new media that are videos.		
Overwrite?: Yes O No		

7.4.6. JPEG Splitter

Though compressed, JPEG images can still be quite large so rather than download them completely mScope provides the option to split them into tiles to make them more efficient for web viewing. The

Quality setting allows you to reduce the size even further and the Resolution Threshold determines the size an image must be before it is split.

JPEG Splitter Plugin		
This plugin splits a large JPEG image into multiple smaller tiles.		
Quality :	20%	
Resolution Threshold :	1280x1024 💌	

7.4.7. Light Viewer

The Light Viewer plug-in has been created to assist viewing by creating layers (magnifications) that are not available in the file or improve performance by removing overlapping of tiles from a file. It is currently only available for Zeiss slides. When selected, mScope will use the lowest layer or highest magnification to generate the required sub layers. The new layers are created with non-overlapping tiles providing maximum performance when viewing.

Light Viewer Plugin		
This plugin generates the light viewer version for media, if required.		
Quality Level : 20%		
Zeiss SDK Executable :]	
Temporary Directory :]	

7.4.8. Remote Notification

Remote Notification allows the ingester to reside on a server other than that of the media server by providing the ingester with the location to send information.





7.4.9. Image Analysis Plugin

mScope allows you to integrate with image analysis.

Providers Configuration File	Location of where you save the provider xml files e.g. /media/analysis
Local Input Directory	Location on the Media Server where images will be stored before being analyzed. e.g. /media/analysis/input
Local Output Directory	The directory on the Media Server where analysis results are stored. e.g. /media/analysis/output

Third Party Services		
	Image Analysis Plug	jin
In	nage Analysis Service	
	Providers Configuration Directory *:	
	Local Input Directory *:	
	Local Output Directory *:	

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Upload Service 7.4.10.

mScope offers users an upload option so they can add media from their computer to the portal.

Upload Directory defines where uploaded media will be stored on the server.

Upload Url is the web address of the Upload directory.

Ingest Upload Media specifies whether uploaded media will be added to the portal. If it is set to "No" media will be copied to the location but will not be visible to the user.

Г	Upload Service	
	The upload service allows to upload new media.	
	Upload Directory *:	C:\medias\upload
		Example: c:\media\upload
	Ingest Upload Media? :	● Yes [©] No



7.4.11. **DICOM Proxy Protocol**

This protocol allows the media server to serve images stored in a PACS Server.

PACS Server is a list of all PACS Servers available to the media server. You may only have one PACS Server defined for a media server.

AE Title is the AE Title of the selected PACS Server and may be retrieved by viewing the details of the PACS Server.

Host is the IP of the PACS Server and may be retrieved by viewing the details of the PACS Server.

Port is the port the media server will use to communicate with the PACS Server.

DICOM Cache Directory is the location where the media server stores cached thumbnails and images to avoid making unnecessary calls to the PACS server.

DICOM Proxy Protocol * Fields are mandatory when enabled		
The DICOM proxy protocol is used to interact with media that are stored in the PACS.		
PACS Server*:	Select a PACS Server 💌	
AE Title *:		
Host:		
Port *:	401	
DICOM Cache Directory *:	/hdd_slides/dicom	
	Example: c:\media\dicom	

7.4.12. **MSC Proxy**

The MSC Proxy allows the media server to locate and serve media through the unique identified associated with it in the media database. An example for UofAurora would be http://UofAurora:8080/ehp/services/MscServerApi.

MSC proxy protocol is use	ed to resolve a media using a media identifier stored in the MSC Server.	
MSC Server URL Address *:	http://localhost:8080/ehp/services/MscServerApi	
Address *:	× ×	

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Local Proxy 7.4.13.

The local proxy uses the filename to serve images.

|--|

The local proxy protocol resolves a media using a filename

Remote Queue 7.4.14.

The Remote Queue is a service that allows for asynchronous execution of tasks. There are two tasks currently available (thumbnail regeneration and light image versions). Additional services can be implemented at integration time by the integrator.

Remote Requests Service	
The Remote Request Service allo	ws remote execution of requests.
Persistence on Disk *:	C:\medias\qp
	Example: C:\Aurora\Processor
Idle wait time:	5s 💌
Auto Start?:	Enabled Oisabled

7.5. Licenses

The license section provides details about the rights granted with the license available. This includes:

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Distributed servers allowed the number of media servers that may be included in the portal.

Servers currently registered the number of media server currently included in the portal.

Modules enabled which modules you have available.

There is also a link to upload a new license on the top right of the page.

License Details	
Application:	Clinical-Educational [Only for testing]
Version:	3.2.0
Generated on:	Dec 1, 2008 12:26:53 PM
Distributed servers allowed:	20
Servers currently registered:	1
Modules enabled:	 Single Sign-on Common Authentication - LDAP Collaboration Opinions Studies Knowledge Base Tests Atlas

7.6. Audits

All actions in mScope are recorded. "Audits" allows you to generate a list of actions performed. The results may be exported to a CSV file which can be used by applications like EXCEL to measure user activity.

Filter audits					
	From*: 04/05/2010 To *: 04/06/2010	List audits			
Audit List					Export audits to CS
Date	Full name	Туре	Object Id	Object name	Details
May 4, 2010 10:40:04 AM	Administrator Admin	ACCESS_TERMS (10003)	2	admin	
May 4, 2010 10:40:00 AM	Administrator Admin	ACCESS_TERMS (10003)	2	admin	
May 4, 2010 10:37:07 AM	Administrator Admin	ACCESS_LOGIN (10001)	2	admin	
May 4, 2010 10:01:06 AM	MSCOPE-API MSCOPE-API	SERVER_DELETE (10303)	1	Default MSC Media Server	
May 4, 2010 10:01:04 AM	MSCOPE-API MSCOPE-API	ACCESS_LOGIN (10001)	3	mscope-api	

Attributes 7.7.

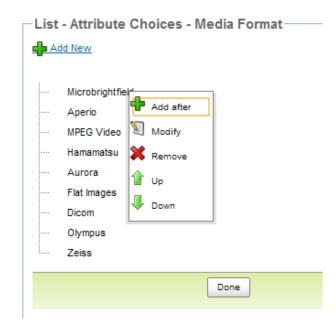
mScope provides user-defined Attributes that may be added to Projects, Cases, and Images. Each type of Object (Project, Case or Media) can have its own group of attributes. It is also possible to define the attribute as mandatory. In this case, the user will need to provide a value for it and not be able to ignore the attribute.

Attributes may be one of the following

- Text •
- Value List
- Value Tree (tree branches/plus levels)

				Add New
Attributes	3			
Position	Name	Туре	Applied To	Actions
1.	Media Format	Value List	Case Media	🕼 First Up 🌷 Down 🌳 Last 🕥 Edit 💥 Delete 📄 Values
2.	Organe	Value Tree	Media	Ы First 🏠 Up 🌷 Down 🌳 Last 🕥 Edit 😭 Delete 📄 Values
3.	Lésion	Value List	Media	Ы First 🏠 Up 🌷 Down デ Last 🕥 Edit 💢 Delete 📄 Values
4.	media	Value List	Media	쉀 First 🏠 Up 💿 Down ም Last 🕥 Edit 😭 Delete 📄 Values

Value Lists are created by entering a name in the "Value" field and "Position". The order of the list is configurable through the "Order" column.





Value Trees behave similarly to Value Lists with the addition of depth. This is facilitated by "Indenting" the entry.

COMMUNI

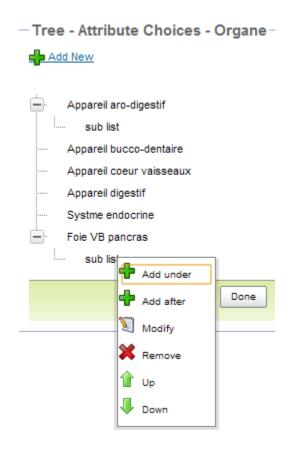
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Configurations

nfiguration allows you to set the text displayed in the application. Each field represents a "label" in the mScope dictionary.

➔ Local Users ➔ External/I DAP Users	Configurations		
 ⇒ Groups ⇒ Role sets 	Name	Value	Delete
 → Servers → License → Audits 	clinical.workflow.all.opinio	10	
Configuration	clinical.workflow.first.opir	8	
 Attributes Configurations 	fallback.enabled	false	
Clinical			
 Sites Modalities Search Discussion Panels 	license	IrqNoWPqBG+jH&yxA2b3A1/fn0Er22u2)73EJAqk3IXPmwsnn9WrFYAED2ARWV1D9IZHIk DF4d63Cclv2rqcYGm9zsOQxc9uNBs0MB100xyN7Z4UKbFo3Of0VZjn9HanzS1LfTh0YBIZ eqwUmDdvsf4Zo+AZICd5j9hugUuXIVeqh64la0FiNIZvFbWHP8gISBKVtn02HceAl9yGsZ/ uIN3YoLHnytLINIUp4wtaVXyVCuSG7leGuokcy2kNQJSZE19NREnoJplpO9gWApGRQn12M bN-0yoUQTIMikyAkhLAO4irGu76TdRJRis06HG8HjV7c1U7m3Q8avY5alULbW0jxAy6H1N w0tragA6xJ382590/+zP53IVPBXVbSOpOXB84bEIBVfWinK0ZfH0x8RD9hgDSZFd4p Gy0krYr06UP6inT3+dG4WBumtgYhus9ysWhYQjh4mnc8lagQx3SbxV2YptCNK5m3AzztQ mEKCjHTCBTUatN9xLiAYGUSb2LREHQWojeKQdGCMq+vA1jolGOJDZhZBKHDKQFBeSd/u	
	module.newlibrary.enable	false	
	mscope.application.policy	mScope	



New

Sites

mscope allows you to define multiple locations via "Sites". Users are assigned to sites ensuring they see only cases within their jurisdiction.

New Local Site New Remote Site

Sites					
Master	Name (Code)	Туре	MSC Media Server	# Of Modalities	Actions
	aurora hospital (S1)	LOCAL	Default MSC Media Server	0	划 Edit 💥 Delete
	aurora hospital 2 (S2)	LOCAL	Default MSC Media Server	0	🗐 Edit 💢 Delete
«	Default Site (MSC)	LOCAL	Default MSC Media Server	0	灯 Edit 💥 Delete

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Add New

Panel Discussion 7.10.

Defining panel groups is handled in the Discussion Panel link of administration. You can create a Panel with "Add New" and add members by "Update".

List Discussion Panels	
Name	Actions
Neuropathology Tumor Board 8 Members: Fabrice Heloir, Amy Verrinder, Marc Chonech, Lou Ramondetta, Douglas Dillon, Matthew Smith, Pierre Le Fevre, Alex Piguet	划 Update 💥 Delete
Amy's Case of the Week <u>8 Members:</u> Amy Verrinder, Douglas Dillon, Fabrice Heloir, Lou Ramondetta, Marc Chonech, Matthew Smith, Pierre Le Fevre, Alex Piguet	划 Update 💥 Delete