

iHE User Success Story



Hôpitaux Universitaires de Genève

Consistent Presentation of Images— A Case Study and Success Story

Geneva Cantonal Hospital was established in 1856, and became the foundation of a number of hospitals in Switzerland. In 1945 a new facility was built and by 1995 all the Geneva Cantonal Hospitals merged to become Hôpitaux Universitaires de Genève (HUG). HUG has 2187 beds and a staff of 7865. The hospital provides consultation services for a wide geographical region and sees upwards of 550,000 patients annually.

Hôpitaux Universitaires de Genève's department workflow utilizes Cedara Software Corp.'s PACS solutions. Images are acquired from one of HUG's 30 modalities See table (including XA, CT, MRI, PET, SPECT, US, CR, DF, MG, and Bone Densitometry), most of them with digital capabilities. The Cerner Image Manager stores these acquired images and then automatically routes them to the Cedara I-SoftView™ 5.0.2 Image Creator/Display workstation.

The workflow at the site is as follows: Images are routed to the Cedara I-SoftView reading stations and the image cache server for the Electronic Patient Record (EPR) automatically upon arrival at the Cerner's Image Manager/Archive. They are queried and displayed by the Cedara I-SoftView™ 5.0.2 Image Display workstation. Preliminary reading by residents and clinical round preparation with senior residents occurs within the Radiology Department. Using the Cedara I-SoftView 5.0.2 application, minimal changes in window width and level can be easily made and saved for enterprise-wide access. Images are also measured, annotated, and transformed by the physicians. The IHE transactions **Creator Images Stored** and **Creator Presentation State Stored** are both performed to the archive. Cedara I-SoftView™ 5.0.2 appropriately uses the built-in GSPSS technology, which conforms to the IHE Consistent Presentation of Images (CPI) profile as the Image Display and Image Creator actors. See figure for transaction workflow. During the clinical rounds the group can review the images with all relevant changes on the image displays that are available to the enterprise.



The image display systems will perform the following IHE transactions: **Query Images, Query Presentation States, Retrieve Images, and Retrieve Presentation States.**

Hôpitaux Universitaires de Genève performs clinical rounds on a routine basis.

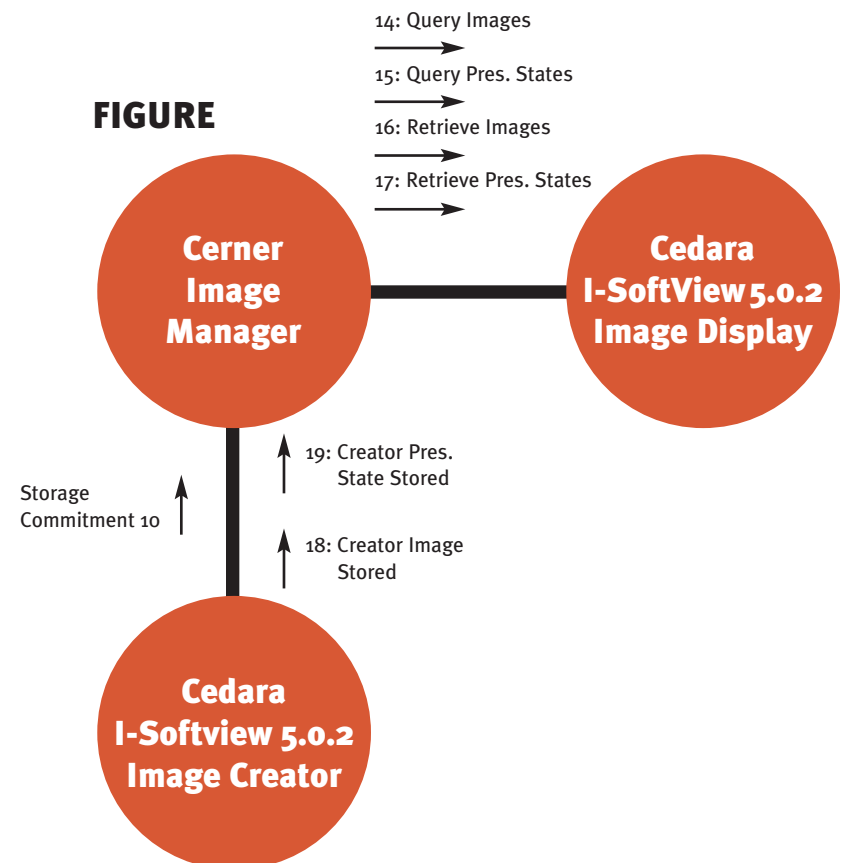
Studies are presented to referring clinicians. Those rounds are clinic-oriented (orthopedics, internal medicine, neurology, pediatrics, etc.). Images become available to referring clinicians through HUG's homemade EPR.

Radiologists across the enterprise use the capability of Consistent Presentation of Images to collaborate on reporting patient studies. Displaying these studies with a uniform image appearance contributes to comfort level and accuracy (especially when reviewing images including patient pathology) as it maintains consistent image display from system to system.

Thus, the IHE Framework through its CPI profile guides the GSPSS technology to remove image display variations as a variable in the reporting of patient pathology.

The Hôpitaux Universitaires de Genève radiology department is the research leader of Project #9 of the NCCR-COME of the Swiss National Science Foundation on the "Minimally Invasive Local Treatment of Malignant Tumors under MRI Guidance". HUG launched their PACS project in 1992 with a homemade solution (an image viewer called OSIRIS was implemented and two archive servers were installed). In 1997 HUG made the decision to acquire a commercial solution and in 1998 called for tender responses. In 1999 the first phase of PACS deployment focused on the Radiology Department and continued into 2000-2002. In 2001 integration to the EPR and distribution of images to referring clinicians began.

FIGURE



TABLE

Modality description		(University Hospital of Geneva)
MR	1	Philips Eclipse 1.5 T (Marconi)
MR	1	Philips Proview 0.23T (Marconi)
MR, OT	1	Twinstar Workstation Philips (Marconi)
MR, OT	1	Vistar Workstation Philips (Marconi)
CT	2	Philips MX8000 Quad (Marconi)
CT, MR, OT	3	Philips Workstation MXView (Marconi)
CT	1	GE Highspeed CT/I
CT, MR, OT	2	GE Workstation Advantage-Windows release 2.0
OT	1	Vitrea 2 Workstation Vital Images release 3.01
CT	1	Philips PQ2000s (Marconi)
CT, OT	3	Philips Workstations Voxel Q
CR	2	ADC AGFA
CR	2	Thoravision Philips
XA	1	Philips Integris
OT	1	Workstation Philips 3DRA
XA, OT	1	Workstation Philips EasyVision release 5.1
RF	3	Philips DSI
RF	1	Workstation Philips EasyVision release 3.0
US	1	Aloka Prosound SSD-5000
US	1	ATL Philips HDI-5000
US	2	Acuson Sequoia 512
OT	1	Hologic Delphi Bone Densitometry
OT	1	GE Prodigy Bone Densitometry
NM	1	Philips AXIS
NM	1	Philips IRIX
OT	8	Paxport AGFA

30 Image providers
14 workstations
Site is mostly using the AGFA Drystar 3000