



# DICOM Network

- as a service. Integration of Medical image services in RENAM



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# DICOM Standard

DICOM (Digital Imaging and Communications in Medicine) is a standard for handling, storing, printing, and transmitting information in medical imaging. It includes a file format definition and a network communications protocol.

The communication protocol is an application protocol that uses TCP/IP to communicate between systems. DICOM files can be exchanged between two entities that are capable of receiving image and patient data in DICOM format.

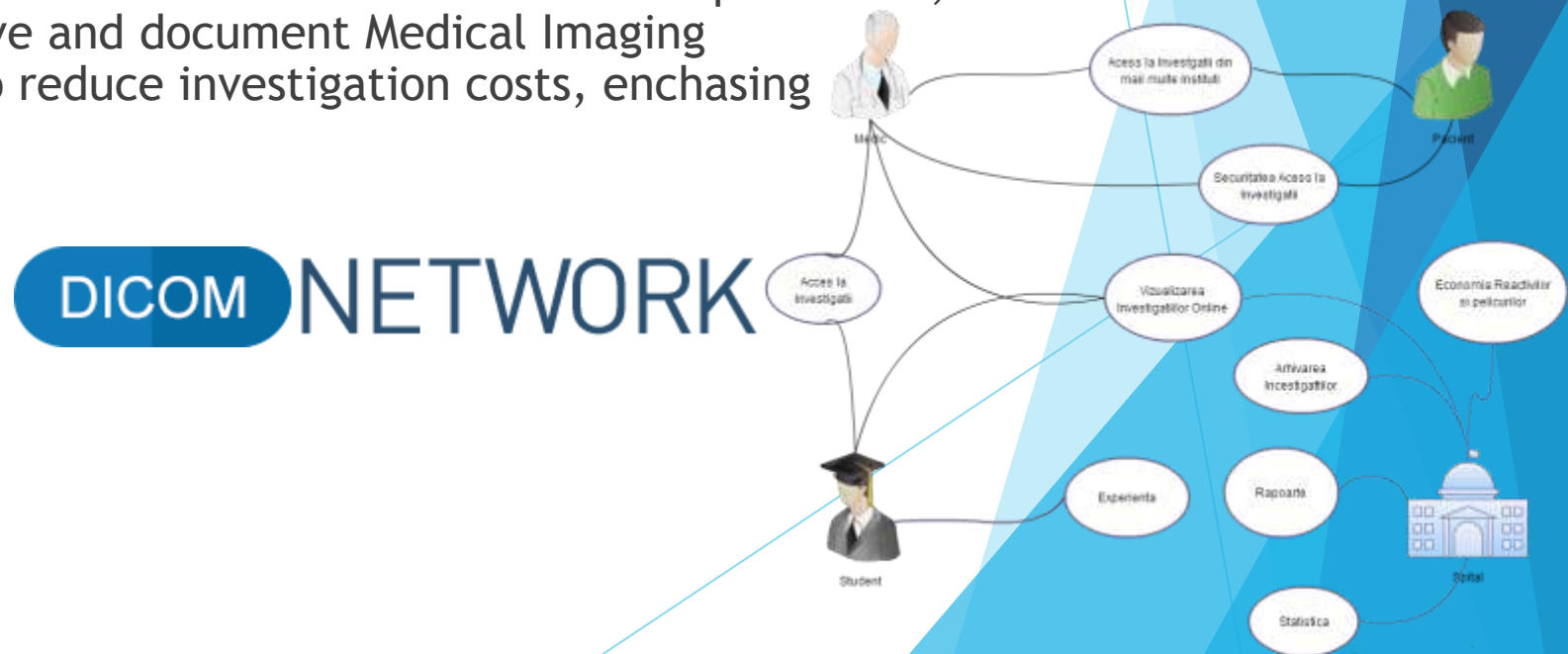


# System Overview

«DICOM Network» Informational System was planned and developed for Medical and Diagnostically Institutions for collections, processing and visualization of medical images.

This system covers all the workflow for processing and documentation of medical investigations from collecting images from equipment to archiving investigation in the patient medical record.

«DICOM Network» offers necessary functionality for quality medical management and secure investigation access in ONLINE mode. This helps doctors, specialists and patients to access, save and document Medical Imaging Investigations and help institutions to reduce investigation costs, enchasing quality of service.



# Services & Features

- **Data Collect** - import DICOM investigations data from equipment
- **Data Archive** - full archive of investigations for several years
- **Data Access** - role based access to the investigation online with reporting and filters features.
- **Visualization** - Visualization of investigations in DICOM Viewer

# DICOM Portal

- ▶ Web portal provides end-user access to the system through an Web interface. Portal offers work space for following user roles:
- ▶ Patients who have access only to their investigations based on IDNP.
- ▶ Medical doctors who have access only to their patients investigations.
- ▶ Users with limited time access, to get temporary access to specific research. This is necessary to ensure access to foreign experts, the legacy organizations, etc.
- ▶ System Administrator that performs monitoring and configuration of the system and «DICOM Server» and regulates the level of access for other users on the system.
- ▶ For administrators there are developed management console also available ONLINE.

# DICOM Portal

DICOM NETWORK
system administrator  
administrator

Equipment	Count
DD2	40
DD6	21
TC12	6
DD1	9
TC3	3

### Investigatii Efectuate

#	Pacient	Data	Echip.
79	Tatiana Budalan	18.10.2018 11:15	DD6
78	Igor Curasenici	18.10.2018 11:26	DD2
77	Inna Schiba	18.10.2018 10:17	TC12
76	Maria Calnic	18.10.2018 11:11	DD6
75	Alexandru Ursu	18.10.2018 11:26	TC12
74	Nicolai Bulut - in Deservire	18.10.2018 11:12	DD2
73	Ana Marou - in Deservire	18.10.2018 11:26	DD1
72	Sergiu Rozca - in Deservire	18.10.2018 11:19	DD2
71	Valentina Borgan	18.10.2018 10:54	DD6
70	Maria Calnic	18.10.2018 11:19	TC12
69	Alla Cioreacu - in Deservire	18.10.2018 11:07	DD2
68	Ana Gradinaru	18.10.2018 10:51	DD6
67	Elena Copocari - Neurologie(1818436)	18.10.2018 11:06	TC3
66	Mihail Baraniciu - in Deservire	18.10.2018 11:00	DD2
65	Tudor Avram	18.10.2018 10:51	DD6
64	Alexandra Ciaut - Ortopedia si traumatologie in (1818436)	18.10.2018 10:56	DD2
63	Dimitri Vasilevscu - Neurochirurgie in (1818432)	18.10.2018 10:49	DD2

SMI

Setari

Registru Investigatii

Lista Pacientilor

# DICOM Portal

DICOM NETWORK system administrator administrator


Nome:  Prenume:  Data: 21/09/2018 Ora: 13 05

Echipament:  Examinarea:

Informatie Suplimentara:

SERII

Tibia/Fibula  
21 09 2018 13:05



Salveaza    Printeaza    Actualizarea



# DICOM Service

This module provides a service of collecting data from an equipment, saving images and inform «DICOM Portal» about new investigations.

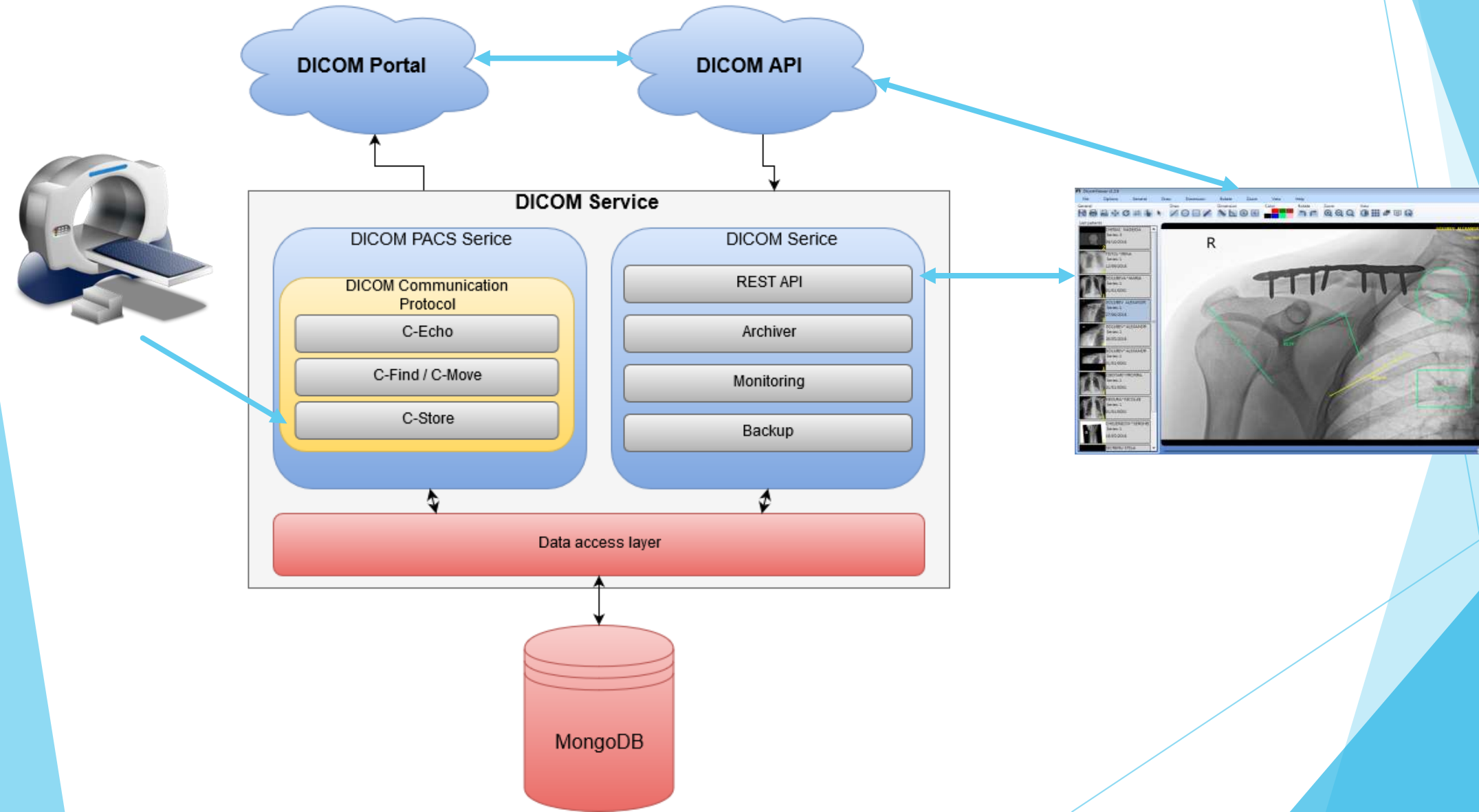
This service is using PACS communication interface to retrieve data and PACS/REST API to send data to Desktop and Mobile viewers.

The service can store DICOM files on several storages those can be located on different locations.

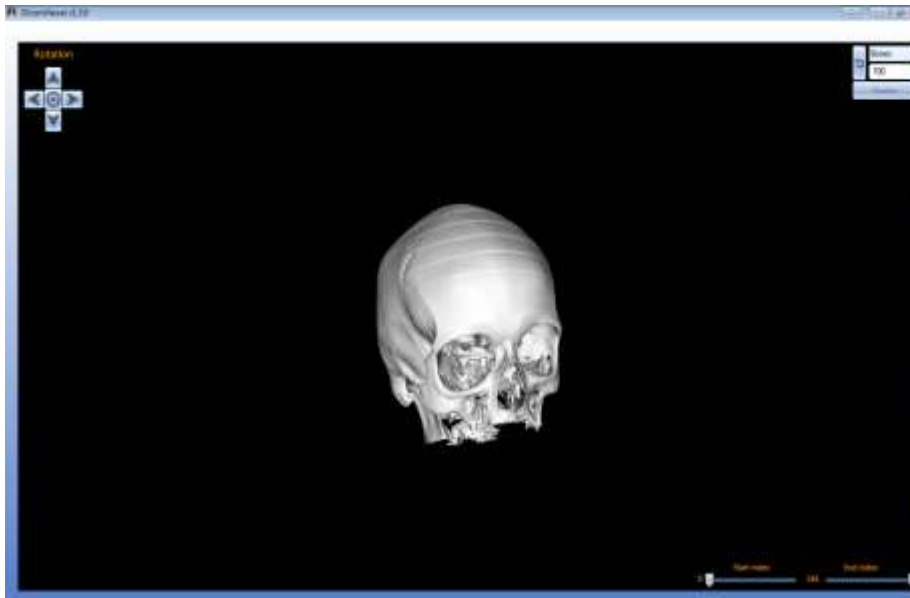
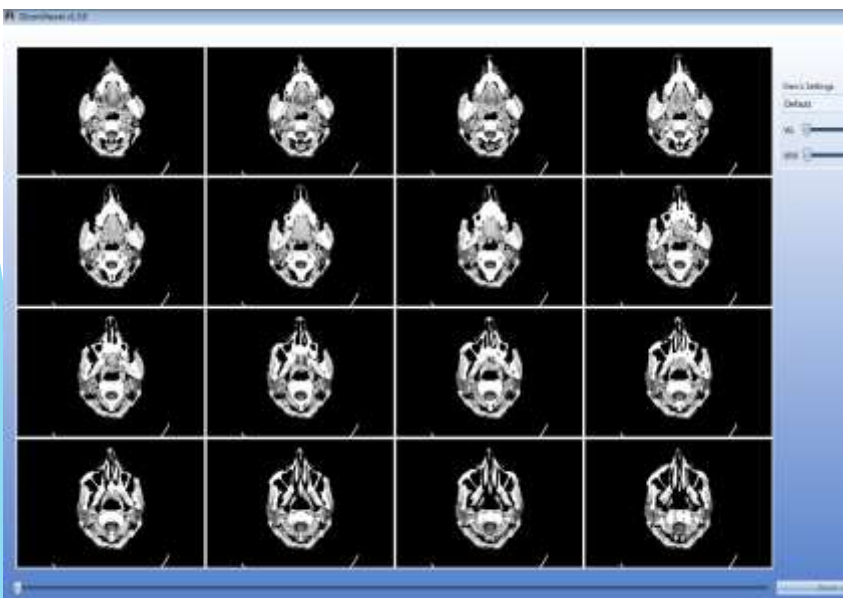
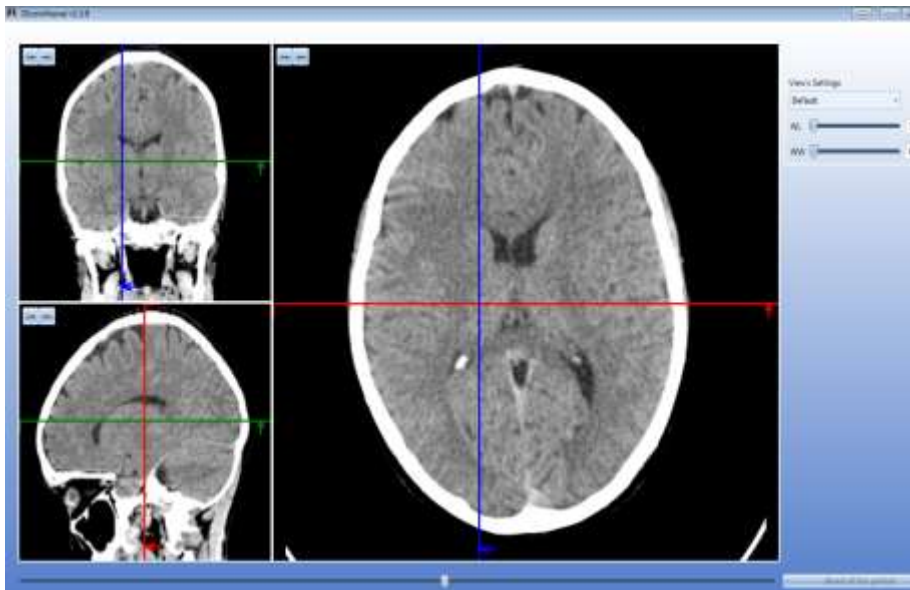
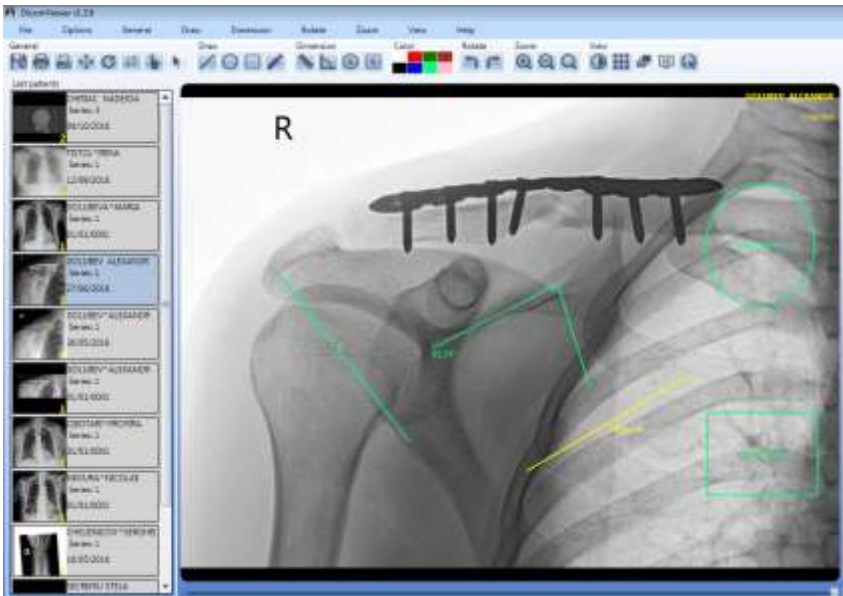
This component can be installed in different locations and organizations, allowing you to store image archive distributed without impacting the concrete infrastructure of certain organizations.

The service has multiple capabilities archiving old data, backup data, notify administrators about storage capacity.

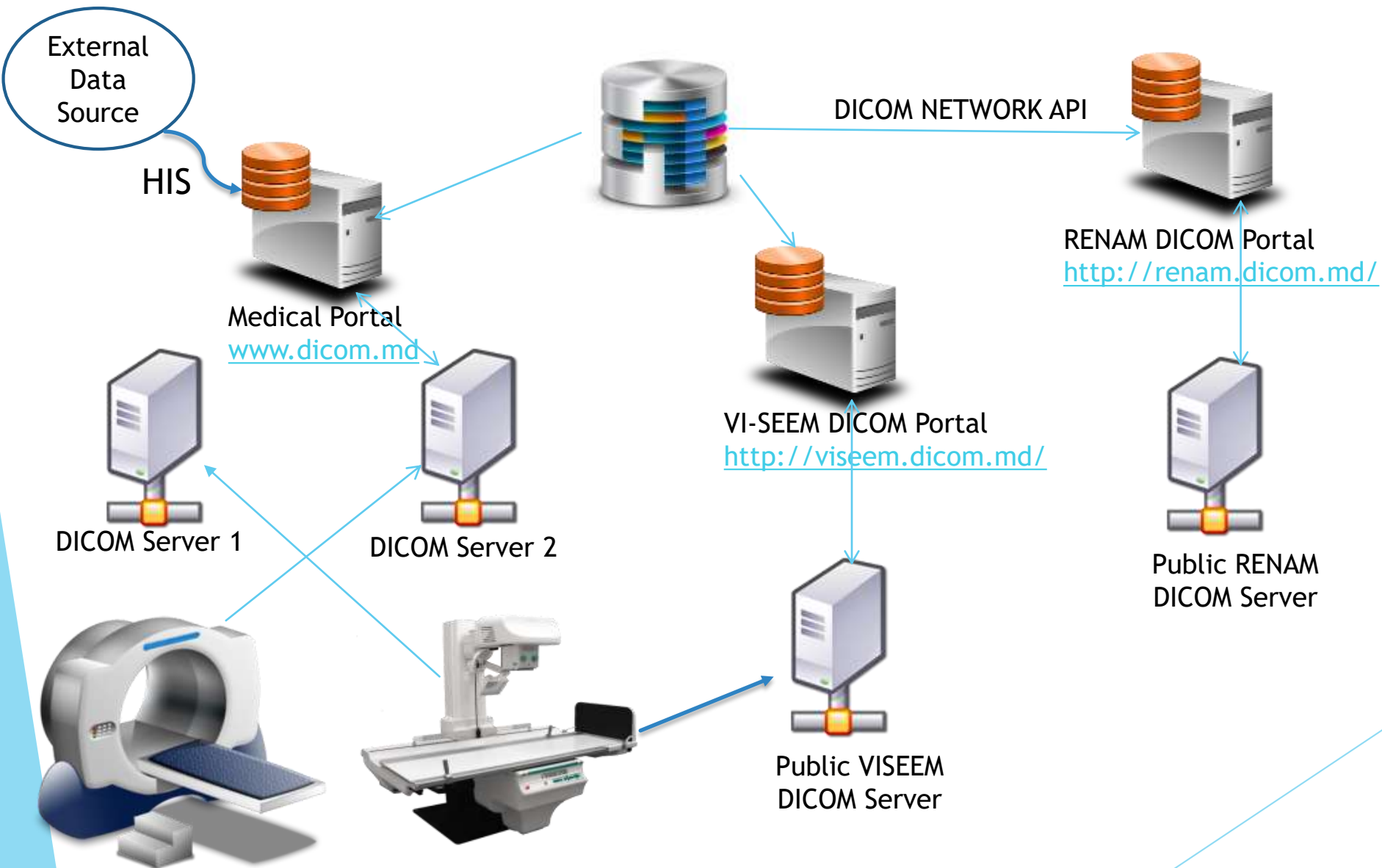
# DICOM Service communication model



# DICOM Viewer



# Architecture



# Conclusions

- ▶ **7** Medical equipment's were connected to the “DICOM Network”.
- ▶ **16** Doctors from radiology section are working in “DICOM Network” system 24/7.
- ▶ **200** Investigations average per day are collected by the system now.
- ▶ **496** Doctors have access to their patients investigations from their working place
- ▶ **196 493** Times investigations were downloaded by doctors and specialists via Desktop Viewer.
- ▶ **80%** data is archived.

Thank you for your  
attention!

Questions?