IMOTEP Network

(PET On-line Multi centre Interpretation)

Structure

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Rationale

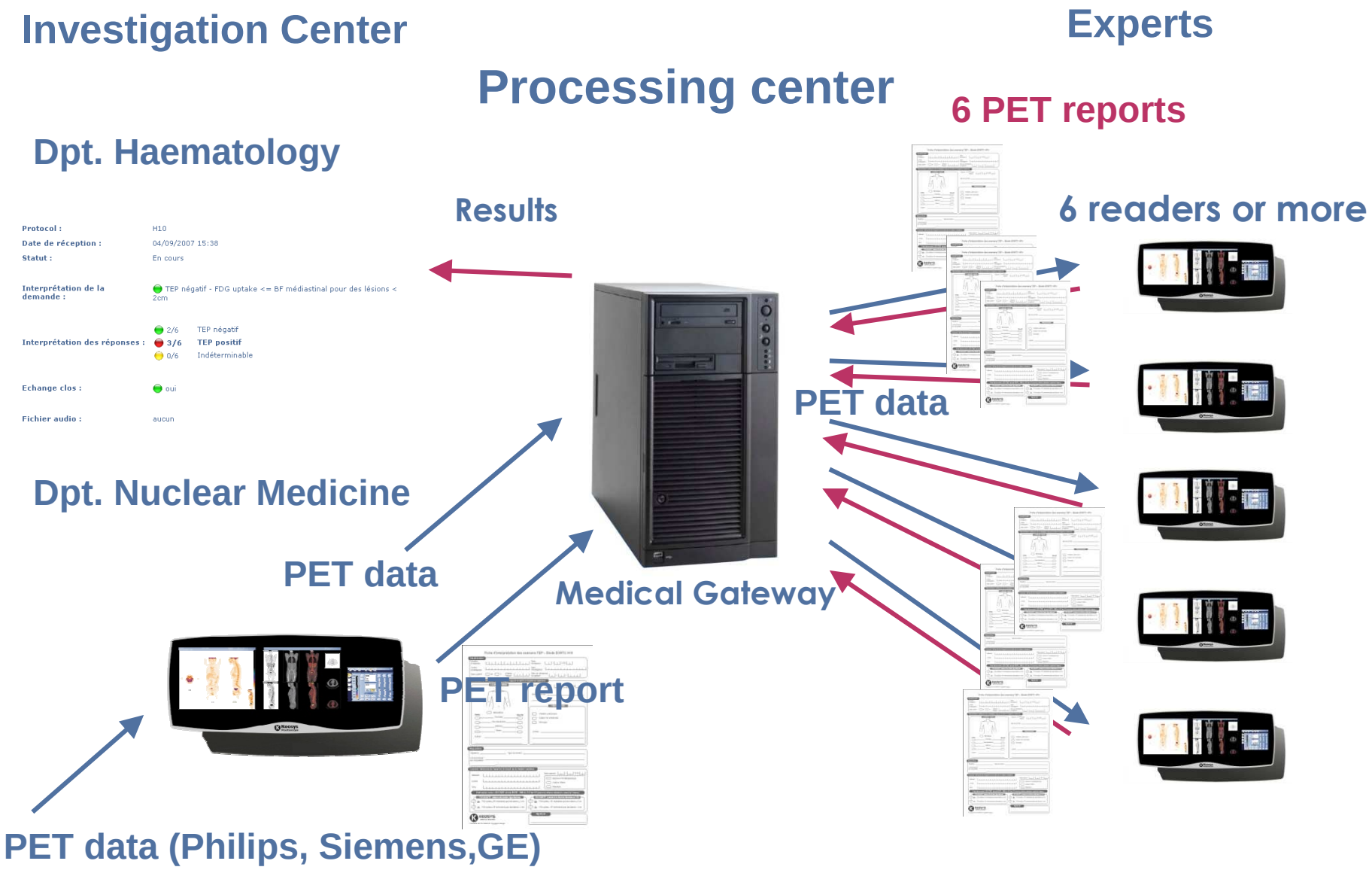
- For trials where interim PET was used to tailor strategy (H10, LNH07-3B)

- Independent reading by a non limited number of experts
- Interpretation on a similar workstation dedicated for PET/CT analysis
- Inclusion of the investigator interpretation in the final result
- Final interpretation must be obtained in a short time (48 or 72 hours)
  - Friendly and compatible with clinical routine practice (fast transfer of PET/CT images, fast processing)
  - Fast transfer of the results to the investigation center

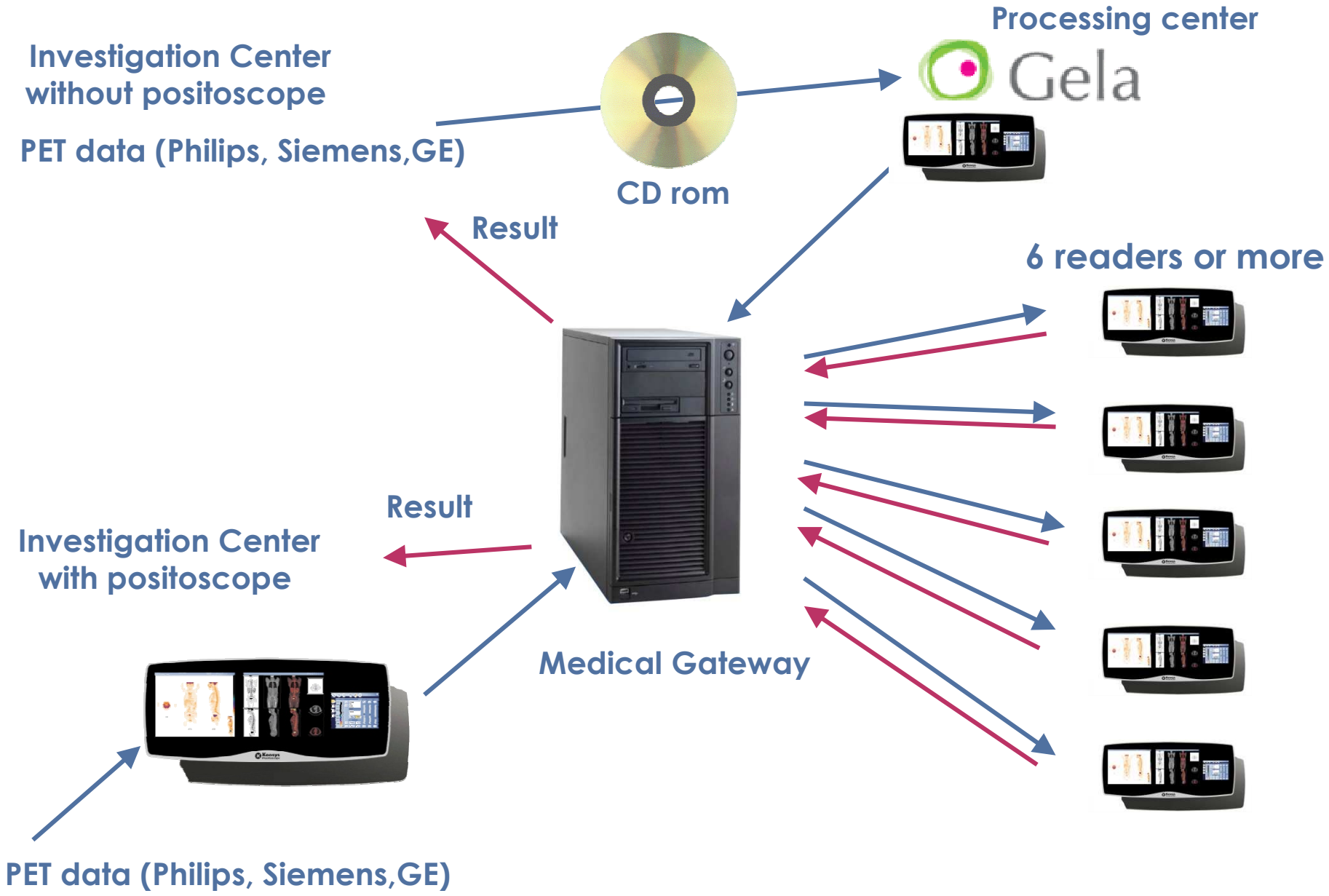
Cornerstone: Positoscope

Multimodality dual screen workstation linked to the DICOM -VPN
Side to side display of pre and post-treatment PET/CT
Complete processing: Multi slices display, MIP, triangulation, ROI, SUV

The IMOTEP network



Today: How does it work?



Risk adapted strategy

IMOTEP Network

JOURNAL OF CLINICAL ONCOLOGY

CORRESPONDENCE

Development and Application of a Real Time On-Line Blinded Independent Central Review of Interim Pet Scans to Determine Treatment Allocation in Lymphoma Trials

TO THE EDITOR: [^{18}F]fluorodeoxyglucose–positron emission tomography (PET) interpretation criteria in lymphoma have been recently established[1]; however, their application is restricted to end of treatment assessment.[1] By contrast, there is still no consensus on the interpretation criteria for interim PET. Several studies using variable criteria have demonstrated that early PET has a high prognostic value in non-Hodgkin's lymphoma and Hodgkin's lymphoma suggesting that it could be used to guide therapeutic strategy.[2-4] Criteria have ranged from purely visual or quantitative to a mix of visual and quantitative, with some advocating a certain amount of minimal recomputed tomography (CT), as well as complete image processing, including standardized uptake values analysis. PET/CT volume files acquired on the various PET cameras (GEMS; Siemens Medical, Philips Medical, CITY, STATE/COUNTRY) are stored in the workstation. The investigator sends through the network the PET/CT files and an optical form containing his masked interpretation. A central GELA server dispatches the raw data to the workstations of six experts in France and Belgium. The network is based on digital subscriber line Internet connections, using file transfer protocols. The Digital Imaging and Communications in Medicine data are anonymized, and the internet connection is encrypted. A typical complete file size of about 200 megabytes is sent in less than 30 minutes from one center to the other. The experts make their own independent image processing and interpretation, and send the optical scan report form with the result to the central server where an integrated computation of the seveb interpretations (six experts plus the local center) is performed.

PET2 are binary interpreted as positive or negative. The final result (computation of the local and of two, four, or six experts' readings obtained within 72 hours) is then sent to the coordinating

Meignan, Itti, Bardet et al. ***J Clin Oncol*** 2009

IMOTEP Network advantages

- Fast and secure transfer of all PET/CT volume files single reader evaluates the full set of exam
- Similarity of processing and display for all experts with a dedicated workstation with all functionalities (SUV) whatever the PET device used
- Independent and on line reading by experts including the investigation center with no limitation in number.
- Rapid synthesis of the results (optical form) for risk adapted strategy

From June 2007

2053 exams have been analyzed through this network

1. 1199 for the H10 protocol (52 centers have sent PET or PET/CT)

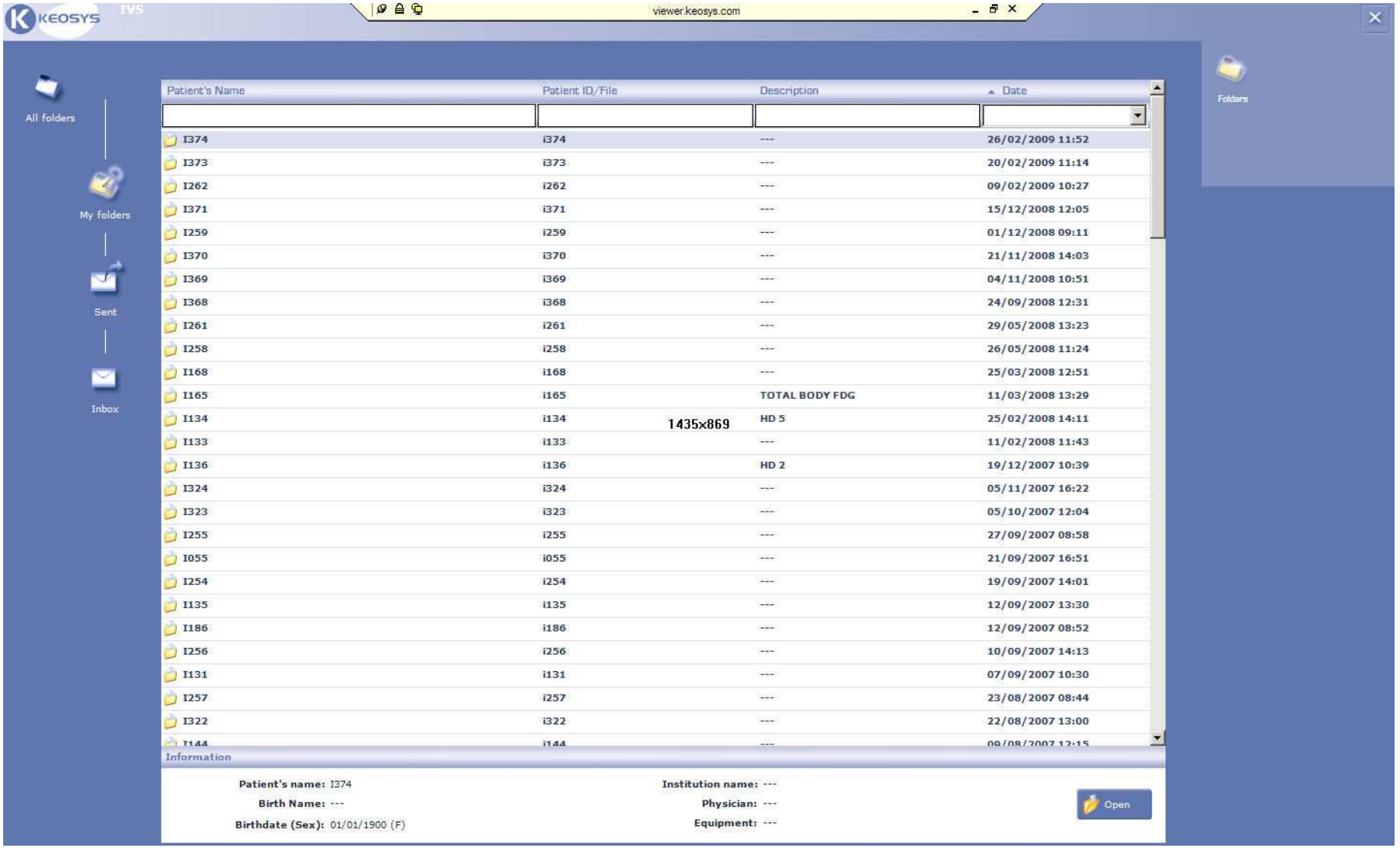
6 experts + including center

2. 600 for the LNH07-3B protocol (47 centers)

2 experts + including center

3. Final global interpretation obtained within 72 h

Web solution (IMAGYS) for the GELA trial



Web solution (IMAGYS) for the GELA trial