



VOXXL

Stream your medical images

6/23/2014

2D/3D IMAGING TECHNOLOGIES

- **2 D - Digital pathology: 100 000 x 100 000 pixels (RGB)**
 - 30 GB
 - Ave : 15 GB
 - Max (Z-planes, 10 images) : 3,75 TB

- **3 D - Tomography : 4000 x 4000 x 4000 pixels (16 Bits)**
 - 128 GB
 - Ave : 16 GB
 - Max : >10 TB

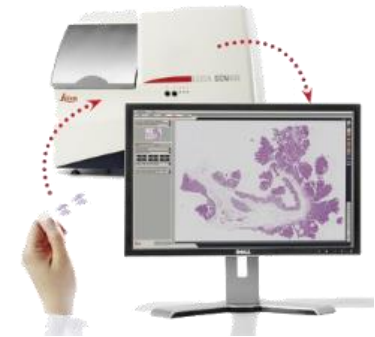
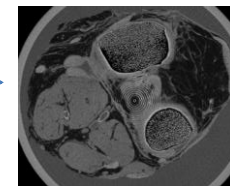


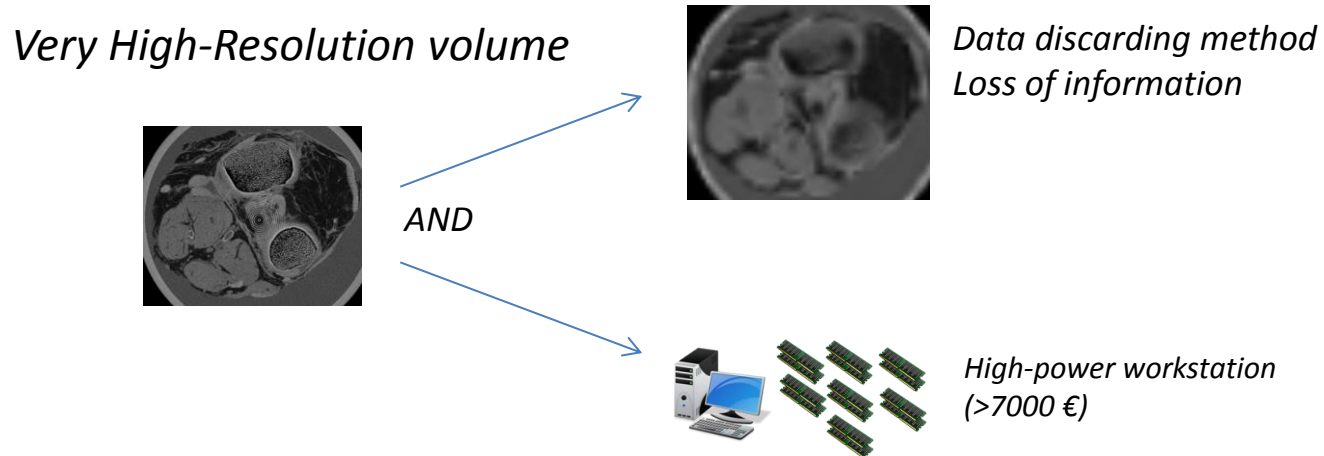
Image acquisition devices



Very High-Resolution volume



2D/3D IMAGING TECHNOLOGIES - ISSUES



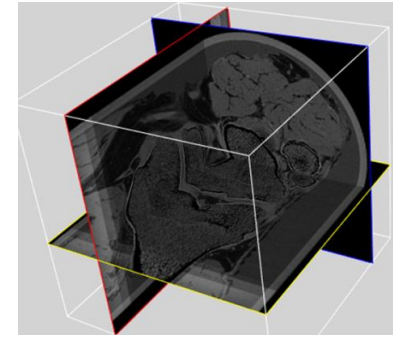
Technologies to visualize and analyze have lagged behind

■ ISSUES

- How to manage these data on standard computer ?
- How to remotely display and work on these data ?
- “Environment” – Few (R&D dept.) to no (industry) workstation

VERY HIGH-RESOLUTION 3D IMAGE - CONTEXT

■ Synchrotrons & Visitors



Context

Limits

Very High Resolution Sensors -> 4000³ pixels (1992)

Workstations **aren't powerful enough** to handle sensors maximum potential

Numerous daily experiments

Insufficient number of workstations

Collaborative work between different structures

Very slow data transfer, critical issue (FTP, Hard-drive disk, USB Flash drive....)

Centralized data storage

Slow data transfer, major issue (FTP, Hard-drive disk, USB Flash drive....)

Collaborative Research projects with hospitals, physicians

No high performance workstation in industrial environment

Close to industrials

Hard to industrialize – Expensive daily routine, requires organization, scheduling

Very high performance computers – Still have limits

Scientists **don't push** their acquisitions devices **to their maximum potential**

COMPANY - VOXXL

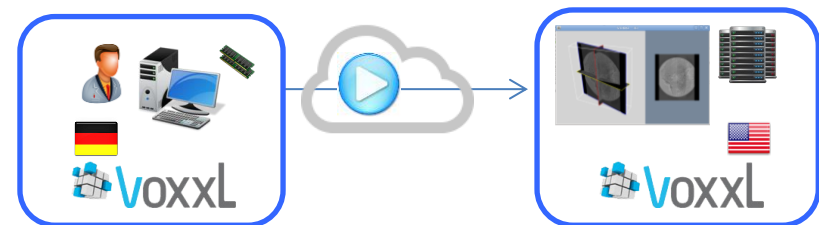
■ « *Stream your medical images* »

■ Product

- 3D massive image visualization and analysis software
 - « Lossless » compression – No “Data Loss”
 - Local visualization on any desktop and low specs. computer
 - Analysis of any volume, independent of station performance (Workstation, laptop, Tablet, smartphone...)
 - Faster interaction and analysis

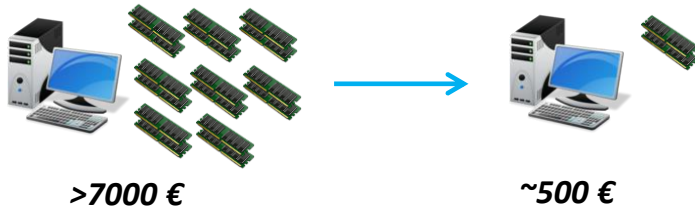
- Cost Efficient – Use every computer
 - Any computer becomes a workstation

- Remote visualize any large 3D data
 - On standard bandwidth (3G, H, xDSL...)



INNOVATION – VOXXL – “STREAM YOUR IMAGES”

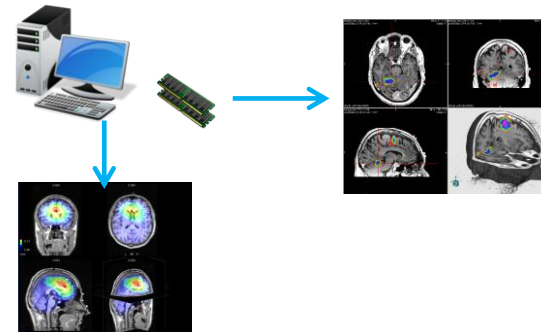
- **“Lossless” compression** – No Data loss – identical to native image
- **Visualize any volume on low tech. computer**



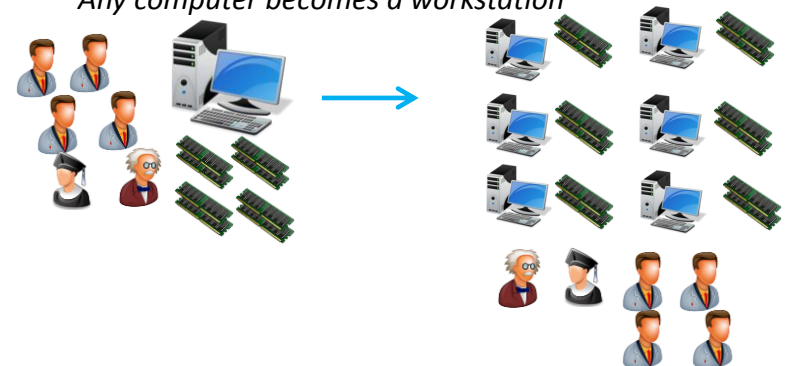
- **Streaming technology – Remote working**



- **Visualize, compare multiples images simultaneously on single computer**



- **Cost Efficient – Use every computer**
Any computer becomes a workstation



Volume – 16 GB	Today	VOXXL
RAM usage	16 GB	0,006 GB
100 Mbit/s Bandwidth	Waiting time : 1280 sec	Waiting time : 0,5 sec



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