

# Feasibility: Is this possible?

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# Three stage problem

- “Patient-to-instrument” interface
  - Interconnection of monitors/devices from different manufacturers
- Local data storage (“intrahospital”)
  - Charting, waveforms, images
  - Gigabyte to terabyte requirements
- Long-term, large-scale data storage
  - Terabyte to petabyte storage requirements

# Patient-to-instrument

- Highly vendor dependent
  - Commercial “protection”
- Some vendors play better with others
  - Philips
  - Nihon Kohden
- Interconnectivity depends on physical interface and knowledge of protocol
  - Cat 5 (RJ45), RS232/485
  - Binary, ascii, bit-resolution, temporal resolution

# Hospital Intranet

- Unit/Ward/Floor data storage and management
  - Local servers?
- Charting integration
  - HTML/XML based electronic forms
  - Lab work integration
- Patient file integration
- Imaging integration
- Hardware and software choices
  - Data density on the order of gigabytes per patient over time

# Long-term data storage

- HIPAA/HL7 data protection
- Balance between data availability/accessibility and security
- Data density on the order of hundreds of gigabytes to petabytes
  - Data centers already exist for static storage
  - Database access is still a problem!

# Where to go from here?

- Development of “open” tools
  - Open source model for hardware/software
- Consortium for “informal” standards
  - Collaboration!
- ISO hardware standard for comm interface?
- ANSI protocol development for file integration/standards?

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