Secure (Research) Data Desktop

Stuart C. Ray, MD
Director, Infectious Diseases Fellowship Training Program
Professor of Medicine and Oncology
Johns Hopkins Medical Institutions
Secure (Research) Data Desktop

• Secure staging area for enterprise data
  – Access
  – Analysis

• Guiding principles
  – Utility
  – Community
  – Economy
  – Security
Growing Population of Data Requestors
Goals

• Implement data security policies relevant to research data
• Promote good data management practices
• Promote good data analysis practices
• Promote collaborative analysis

• Carrot (rather than stick) approach to adoption
Realities

• There is no one-size-fits-all solution for data
• Specification in development
• Initial funding imminent

• J-CHiP pilot has been well-received, instructive
Virtual Machines - Utility

- Access via thin client/browser
- State maintenance
- Rapid deployment
- Integrated backup
- Customizable
- Streamlined data storage approval likely
Virtual Machines - Community

• Shared context
  – Access
  – User experience
  – Applications

• Data sharing with reduced risk

• Multi-level support (IT, biostats, peers)
Virtual Machines - Economy

• Scale to cost ~$20/month (clinical version ~$12)

• Convenient
  – Access via thin client/browser
  – State maintenance

• Standardizable
Virtual Machines - Security

- Standardized base configuration
- Software/port controls
- Audit logs

- (Streamlined data storage approval likely)
Use cases – high-level examples

• A post-doc fellow performs a pilot study using JHM Enterprise clinical data
• A trainee analyzes data from a medium-sized formal research study
• A PI is participating in a multi-center study is provided with a large dataset to analyze
Needs

- Use cases for SRDD: highlighting strengths, risks, etc
- Specification of tools: biostatistical, GIS, visualization, reporting, collaboration, etc
- Policies: authorization, authentication, auditing, etc
- Cost recovery?