

# UAB IT Research Computing Services

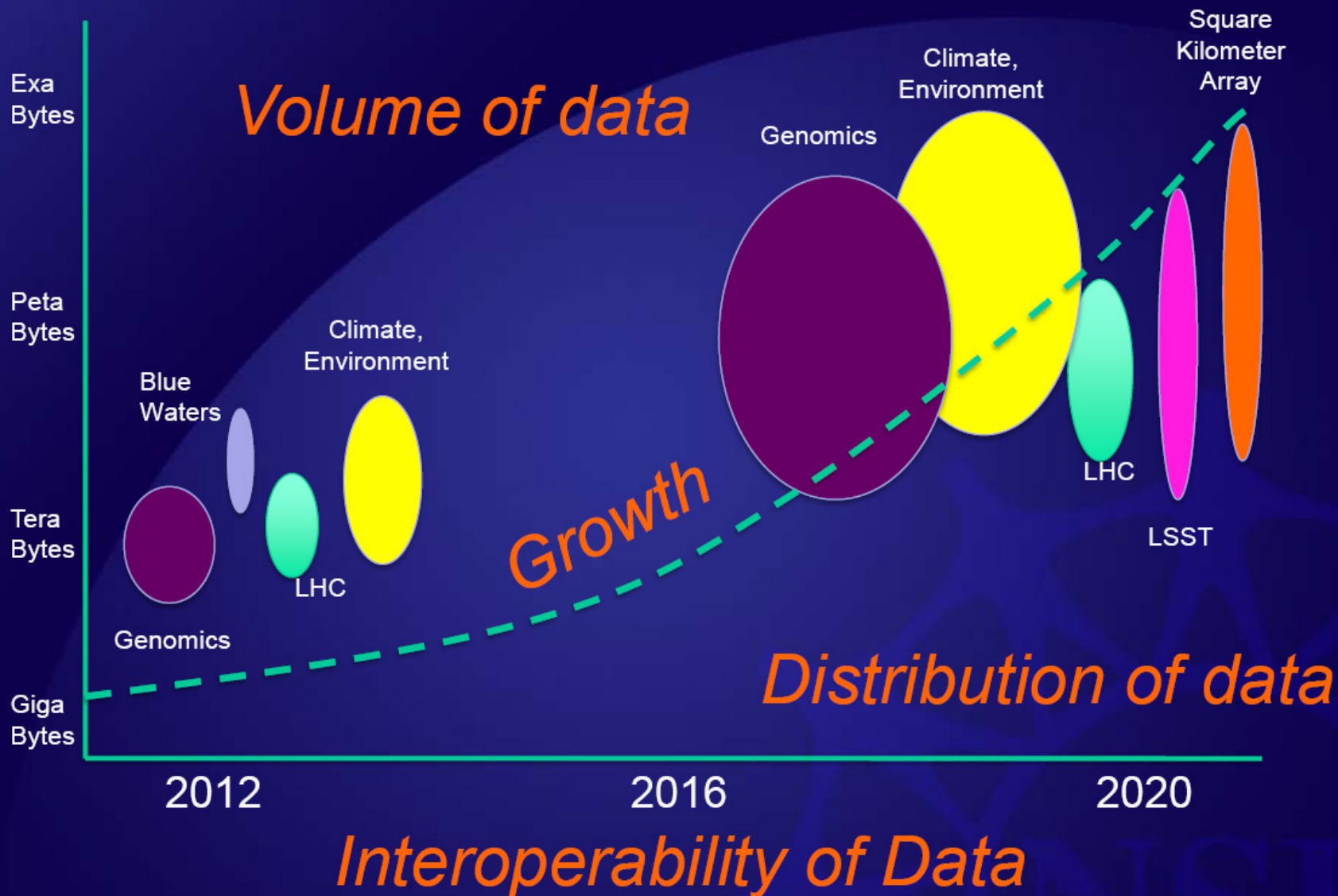
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Website: [http://bit.ly/UAB\\_IT\\_Research\\_Computing\\_Services](http://bit.ly/UAB_IT_Research_Computing_Services)

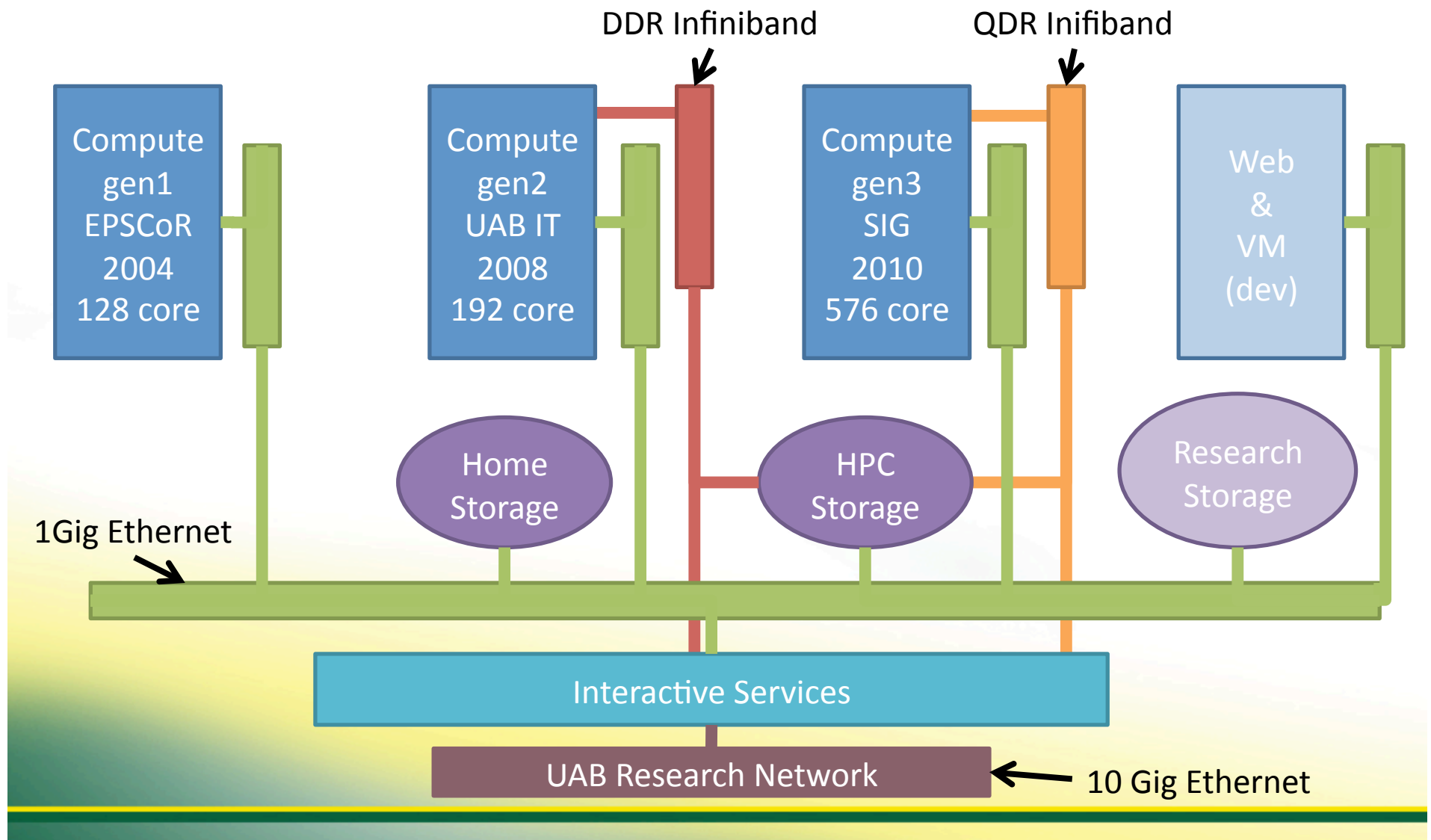
Services: Build research platforms for data analysis, data storage, and web collaboration

- **Software and Web-Services:** Access popular tools for molecular modeling, protein docking, genetics , neuro-imaging and many others on the research computing platform. Use MATLAB and the Distributed Computing Server™ package to build your own applications to run in a High Performance Computing (HPC) environment. Use wiki, code tracking, and communication tools to collaborate with peers and support your users. Work with us to build and deploy custom solutions to support research workflows for your science teams, like Galaxy a web-based genomics toolkit or ACE a patient cohort search tool.
- **Data Analysis and Modeling:** Use the campus HPC cluster, Cheaha, to efficiently analyze large data sets, model experimental systems and offload compute-intensive work from your laptop. Access national compute and data facilities via the Open Science Grid and NSF's XSEDE initiative.
- **Data Storage:** use the 200TB high-speed, parallel file system to stage large data sets on the compute cluster for analysis. Access personal storage on the research storage system to leverage an expanding collection of data services for archiving, collaboration and research application development.
- **Data Movement:** a 10 Gigabit per second research network connects data analysis and storage resources across UAB. Leverage high speed networking to desktops and instruments. Transparent connectivity to regional and national high-speed networks provide efficient data transfers to collaborators and peers via National Lambda Rail and Internet2 networks. Build custom data networks to meet specific needs of on-campus or national research initiatives .

# Data Challenges

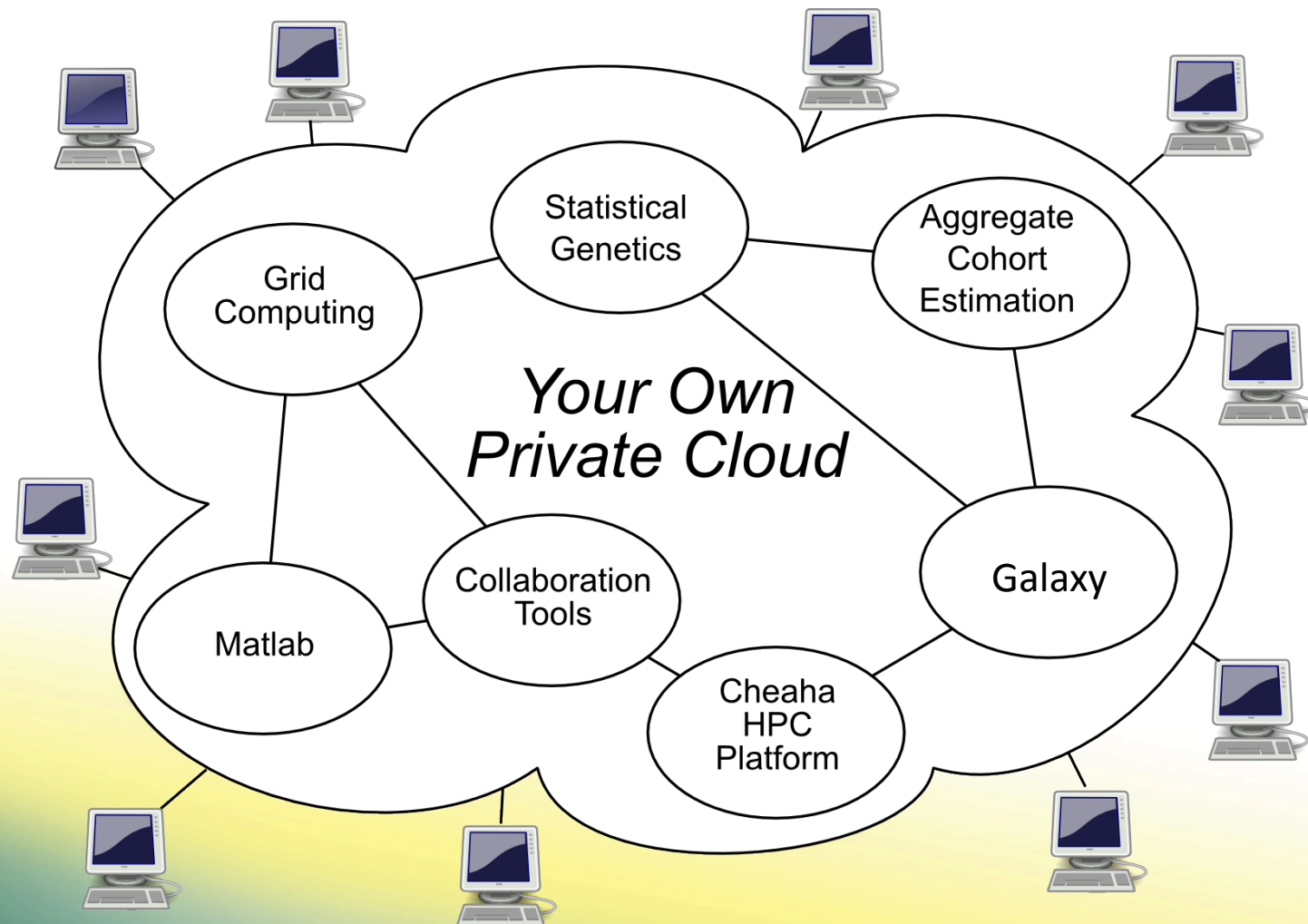


# Research Hardware Platform



# UAB Research Cloud

*platforms, computing and storage  
to power your research*



# University of Alabama System

## Regional Optical Network (RON)

- UASRON is a Privately Owned ,10-Gigabit-Ethernet, Dense Wavelength Division Multiplex (DWDM) network.
- Utilizes Leased Dark Fiber from: Level3, EarthLink, Charter Communications, and XO in Nashville.
- Connects UA System to the National LambdaRail (NLR) and Internet2 in both Atlanta and Nashville.
- Owned and Operated by the UA System.
- Utilized by UA, UAB, UAH ,NASA, Alabama Super Computer Authority, and Southern Light Rail (SLR) @GaTech.

# IT Research Computing Team



**Bob Cloud**  
Executive Director  
Infrastructure Services  
UAB IT



**David Shealy**  
Director  
Research Computing  
Physics / UAB IT



**Puri Bangalore**  
HPC Consultant to  
Research Computing  
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**John-Paul Robinson**  
System Architect  
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**Mike Hanby**  
Information Systems  
Specialist  
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**Poornima Pochana**  
Programmer/Analyst  
Research Computing  
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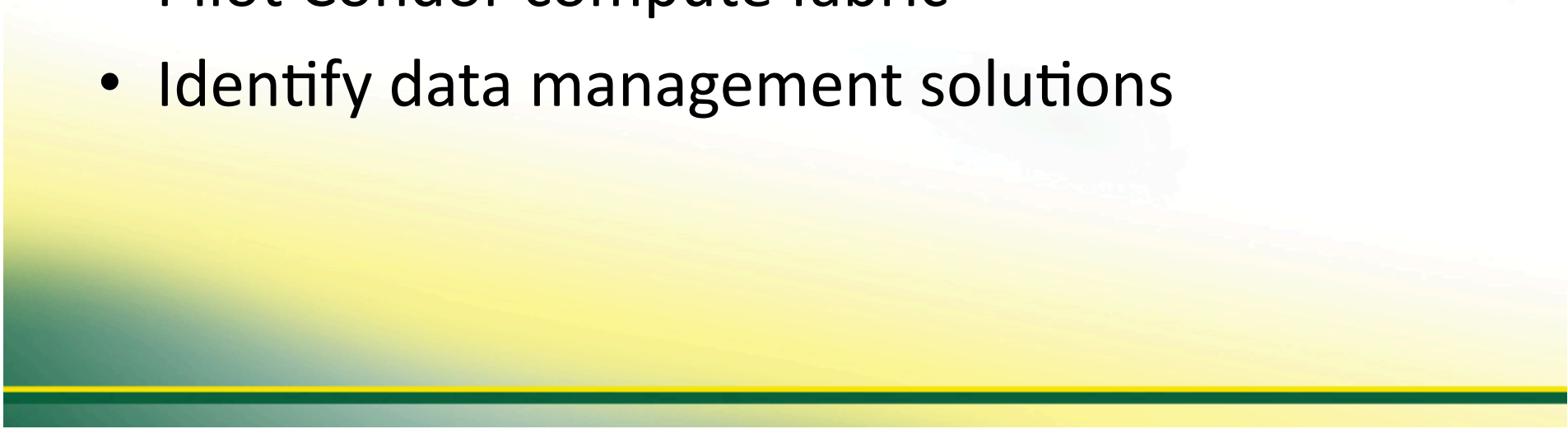
**Shantanu Pavgi**  
Programmer/Analyst  
Research Computing  
UAB IT



**Bill Bradley**  
System Programmer  
Infrastructure Services  
UAB IT

Engaged professional staff collaborate with investigators to maximize the research impact

# Current Projects

- Documentation!
  - Enhance platform features
  - Grow MATLAB use and support
  - Build out NGS tools and services
  - Pilot Condor compute fabric
  - Identify data management solutions
- 
- A decorative horizontal bar at the bottom of the slide, featuring a gradient from light yellow to light green, with a thin dark green line at the very bottom.



# **Proposed Plans**

## **UAB Research Computing Data Storage**

- Users: PI's of grants, users of HPC environment (Cheaha), and Group Access
- Target initial maximum allocation of 1TB
- Access Technologies: BlazerID authenticated; Network attached; WebDAV, Drop Box, & SFTP
- Data Retention: indefinite retention online; archive to tape or other media is available for a fee upon request.