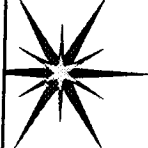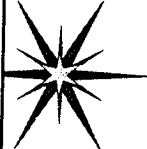# OhioView: Distribution of Remote Sensing Data Across Geographically Distributed Environments

June 2, 1998

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LeRC Project Lead

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Background

USGS
EROS Data Center
Sioux Falls, SD

NASA Research and Education Network
(NREN)

Bowling Green State University

Kent State University

NASA Lewis Research Center
Cleveland, OH

Miami University

Ohio State University

University of Cincinnati

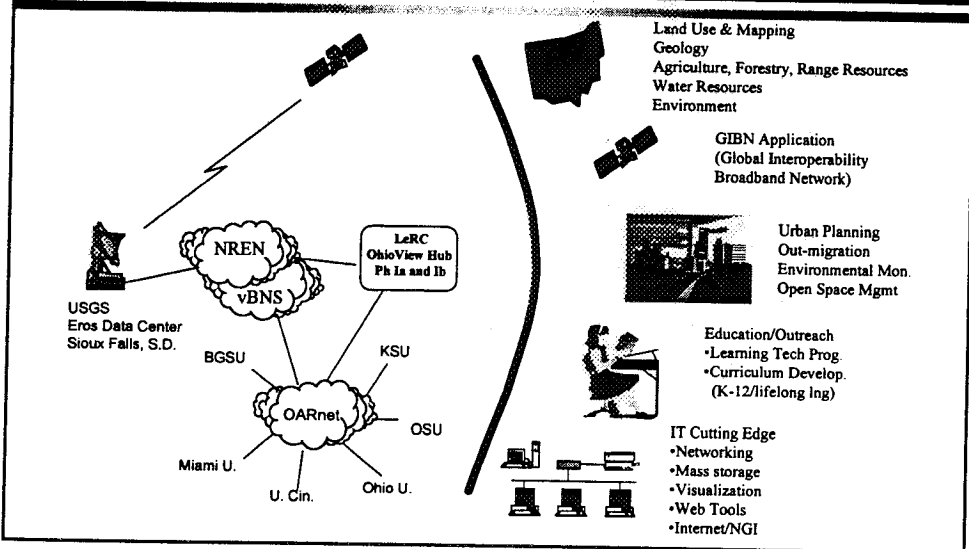Ohio University

Drivers
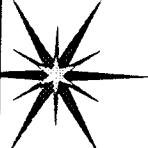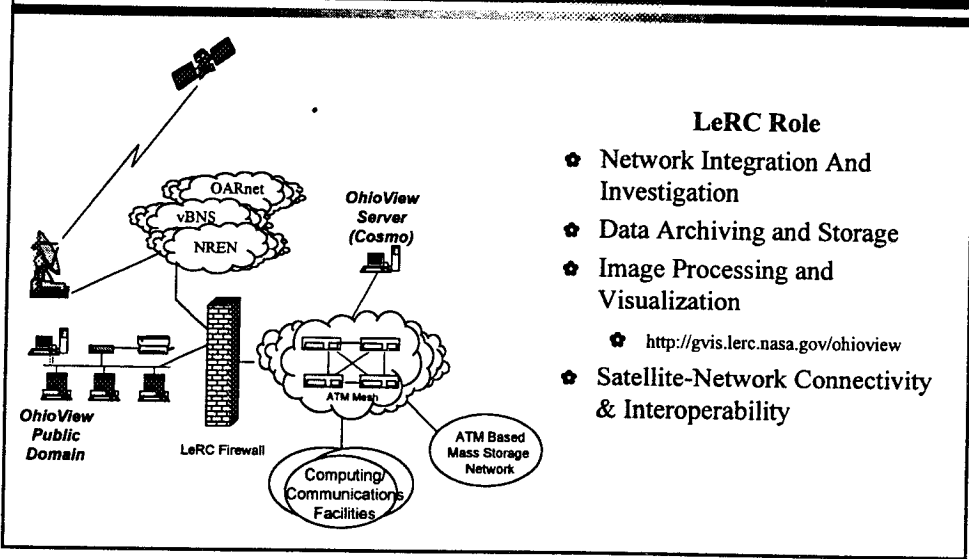
- Access to earth science products and information

- Application of the next generation of satellite data
  - EOS Am-1 and LandSat 7

- Unique partnership between the science and library communities in the State of Ohio

High Level Architecture, Technologies & Applications

Land Use & Mapping
Geology
Agriculture, Forestry, Range Resources
Water Resources
Environment

GIBN Application
(Global Interoperability
Broadband Network)

NREN

vBNS

LeRC
OhioView Hub
Ph Ia and Ib

USGS
Eros Data Center
Sioux Falls, S.D.

BGSU

KSU

OARnet

OSU

Miami U.

U. Cin.

Ohio U.

Urban Planning
Out-migration
Environmental Mon.
Open Space Mgmt

Education/Outreach
•Learning Tech Prog.
•Curriculum Develop.
(K-12/lifelong lng)

IT Cutting Edge
•Networking
•Mass storage
•Visualization
•Web Tools
•Internet/NGI

LeRC Internal Architecture & Role

OARnet

vBNS

NREN

OhioView
Server
(Cosmo)

ATM Mesh

OhioView
Public
Domain

LeRC Firewall

Computing/
Communications
Facilities

ATM Based
Mass Storage
Network

LeRC Role

❂ Network Integration And
Investigation

❂ Data Archiving and Storage

❂ Image Processing and
Visualization

   ❂ http://gvis.lerc.nasa.gov/ohioview

❂ Satellite-Network Connectivity
& Interoperability
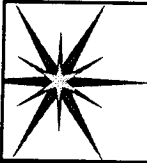
Potential GIBN Interconnect

- GIBN Experiment Augmentation
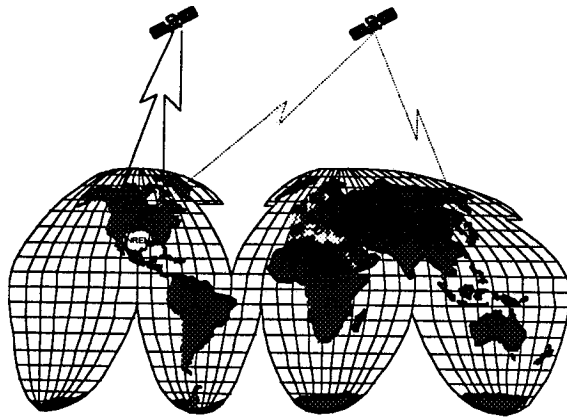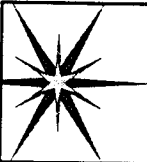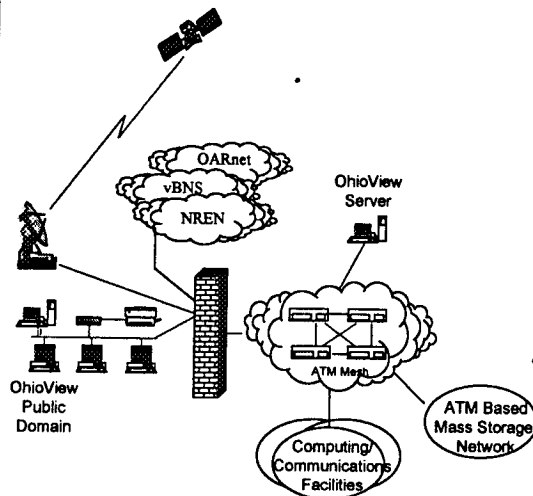- Processing of ASTER Data
- Address hybrid interoperability issues

Potential Areas of Network Investigation & Research

- Wide Area Multicasting
  - Terrestrial
  - Satellite
- Security
  - Mitigate LeRC Risks
  - Data Owner Protection
  - Emerging Products/Schema
  - Security Policies
- Quality of Service
  - Background experiment
  - Potential Vendor Collaboration

OARnet
vBNS
NREN

OhioView Server

OhioView Public Domain

ATM Mesh

ATM Based Mass Storage Network

Computing/Communications Facilities

Draft of OhioView Data Model

NASA

OhioView Public Network Model

Direct download

Web Interface

Users

NASA Visualization Server

Data

Miami Clearinghouse

metadata

N R E N

1. Users initiate a seacrh of the Miami Clearinghouse
2. Retrieved metadata records point to data location
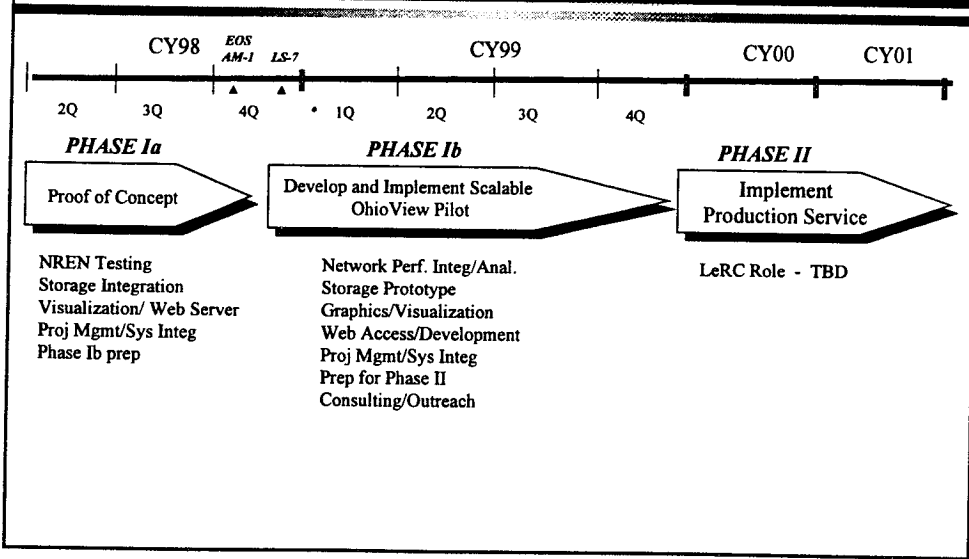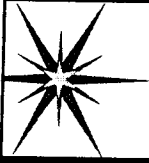3. User can then choose to download full dataset or manipulate the data set with the visualization server.

EDC Data Delivery

OhioView Consoritum

Web Interface

Data

Users

Orders and Standing Orders

GLIS

metadata

LeRC Strategy/Roadmap

NASA

| CY98 | EOS AM-1 | LS-7 | CY99 | | | CY00 | CY01 |

2Q   3Q   4Q   1Q   2Q   3Q   4Q

PHASE Ia

Proof of Concept

PHASE Ib

Develop and Implement Scalable OhioView Pilot

PHASE II

Implement Production Service

NREN Testing
Storage Integration
Visualization/ Web Server
Proj Mgmt/Sys Integ
Phase Ib prep

Network Perf. Integ/Anal.
Storage Prototype
Graphics/Visualization
Web Access/Development
Proj Mgmt/Sys Integ
Prep for Phase II
Consulting/Outreach

LeRC Role - TBD

Summary

- LeRC playing a key role
- OhioView - a potential national model
- Complex - both technically and politically
- Great value to broad community
- Wide application of the next generation of satellite data
- Unique partnership between the science, library, and state/federal communities in the State of Ohio