SUBNET - Department Level Distributed GIS Network

WR

WR

UGS

SL&F

P&R

DEPARTMENT
OF
NATURAL
RESOURCES

WR

OG&M

EO

56 K

DEPARTMENT
OF
AGRICULTURE

56 K

SGID

56 K

DEPARTMENT
OF
TRANSPORTATION
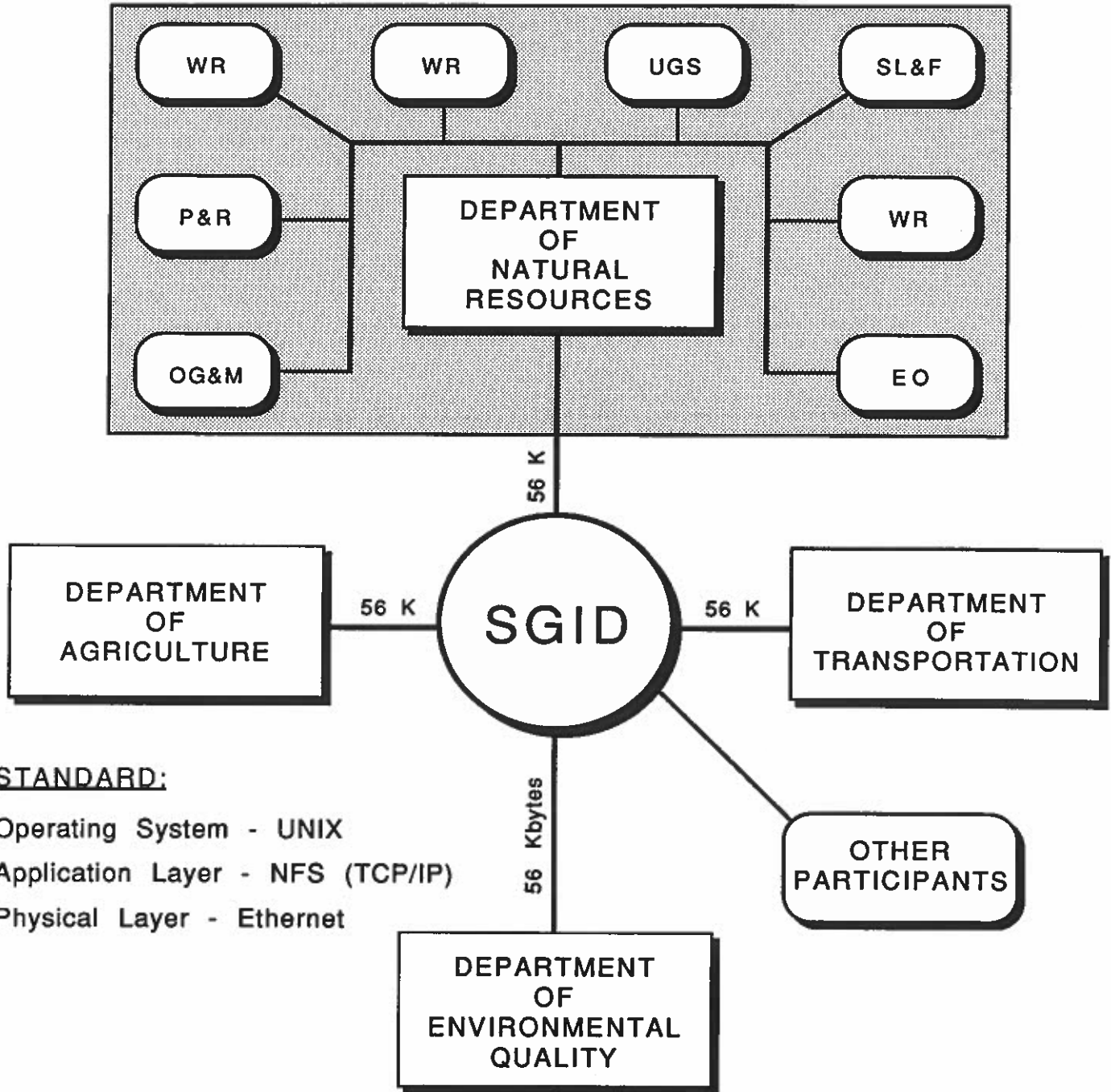
STANDARD:

Operating System - UNIX

Application Layer - NFS (TCP/IP)

Physical Layer - Ethernet

56 Kbytes

OTHER
PARTICIPANTS

DEPARTMENT
OF
ENVIRONMENTAL
QUALITY

Recommended GIS Wide Area Network

State GIS Coordinator
August 1991

State Geographic Information Database
October 2, 1991

*Need... to get information, know where to get it,
and know what it is after it's found.*

OVERALL OBJECTIVE
Overall objective of the State Geographic Information Database (SGID) is to furnish Utah's decision- and policy-makers with comprehensive and organized information that is uniform, accurate and reliable.

I. **Vision of GIS technology in state government.**
   A. State-wide GIS Distributed Network.
   B. State agencies managing and maintaining primary data.
   C. On-the-fly access to GIS data.
   D. Select from a library of GIS modeling scenarios.
   E. Interagency cooperative projects.

II. **The Automated Geographic Reference Center's (AGRC) role as SGID manager.**
   A. State GIS Information Resource Management Center.
      1. Repository of supplemental GIS data.
      2. Clearing-house — including Remote Sensing and Global Positioning Systems data.
      3. State's GIS Locator and information needs system.
      4. Multiparticipant project control center.
   B. Manager of the SGID.
      1. SGID Users Guide.
      2. Representative for the state's existing GIS policies, standards and procedures, and helps to fashion their formation.
   C. Manager of the State Geographic Information Model library (GIML).
      1. GIML Users Guide and Reference.
      2. Research and Development.
   D. GIS Network Administrator.
      1. Serve as the nucleus of the state's GIS Wide Area Network for interagency data transmissions and applications sharing.
   E. GIS Information Distribution Center

III. **The State GIS Coordinator's role.**
   A. GIS Information Coordinator.
   B. Develop GIS policies, standards and procedures.
   C. Approve or disapprove GIS appropriations.
   D. Chair the State GIS Advisory Committee.
   E. Develop, coordinate, and fund GIS projects for SGID development.

State Geographic Information Database
October 2, 1991

PROPOSED PROJECTS FOR SGID DEVELOPMENT

I. <u>BUREAU OF CENSUS "TIGER" FILE ENHANCEMENT</u>   <u>$30,000</u>
Address Matching File — It is estimated that up to ninety percent of all information collected by government agencies can be associated to a geographic location. As an example, tax assessment data compiled by county governments are related to a street address, which then can be located on a street map. With GIS technology, address matching is an application which allows a given street address to be identified to an X and Y coordinate located on the earth's surface. This technique provides a common link for transferring traditional tabular data into a GIS format. Providing the means to integrate diverse databases would benefit many state and local government entities. Plus, using an existing address file, such as the U.S. West's address file, would also help to establish a standard for state-wide naming conventions.

II. <u>GIS NETWORK ADMINISTRATION</u>   <u>$1,500</u>
Administer GIS site network address numbers — As more GIS Unix-based sites become operational, provisions must be made for network connectivity. Such a provision will be assigning the GIS site with an identifiable address. A legitimate "Internet Protocol" (IP) numbering system is already available for international networks (internet). A designated state agency to administer the designated numbering system "domain" would be necessary. This agency would register and assign a unique site identification number for each GIS address. The manager of the SGID would be the likely administrators for such address identification.

III. <u>STATE GIS RESOURCES CATALOGUE</u>   <u>$5,000</u>
   A. **State government's "primary data" resources inventory** $2,500
Utah's Information Resource Management Master Plan designates state departments and their divisions with the responsibility of maintaining their own information. This "<u>primary data</u>" is a resource used to help an agency accomplish its objectives or mission. To further the effective use of GIS in state government, the identification of state agencies that maintain primary data and the nature of their data is necessary.

   B. **Determine supplemental data needs for GIS analysis** $2,500
State agencies will need to access many other layers of GIS data for analysis. Connecting to a Wide Area Network (WAN) will allow them to access other agency's primary data. But, not all GIS data that may be required for analysis will be primary data. These agencies that produce and maintain primary data need to also identify their supplemental data requirements.

IV. <u>STATE GEOGRAPHIC INFORMATION MODELS LIBRARY (GIML)</u>   <u>$10,000</u>
GIS provides the ability to communicate very complex, sometimes abstract, concepts and relationships in a visual manner and, more importantly, it can demonstrate how to accomplish proposed enterprises. But, the real strength of GIS technology is its capability to analyze dissimilar data sets in a predefined manner. This predefined manner is commonly referred to as a GIS "<u>model</u>." For state agencies to benefit from the potential use of GIS technology for spatial analyses, they will need to: (1) have access to available GIS information; and (2) Use a suitable model for analysis.

As more state government agencies become involved in GIS technology, not only will more information be required, but also a proven method for analyzing the data. Convenient access to established "models" would be a tremendous benefit to participating state agencies. Other governments would also gain from this kind of service. The **Geographic Information Models Library (GIML)** would be an addition to the SGID and serve as a:
1. Catalogue of applied models that have been professionally applied;
2. Listing of data sets required to apply the model;
3. Guide furnishing descriptive information for its application; and
4. Reference listing of the model's author and previous users.

IV. <u>STATE PLANNERS PROJECT GUIDE</u>   <u>$7,500</u>
Almost everyone in the state would benefit from knowing about proposed state-funded projects for an upcoming year. Compilation of federal, state, and county project proposals for an upcoming year would be a hefty task, but an important information product. A map product that symbolizes government funded projects could be a cost-effective way of planning, coordinating, managing, and budgeting the tax-payers money. Structuring the database to provide generated reports of specific inquiry would be of high demand. This type of map product and report generator would also help the state's public relations.

V. <u>SUPPLEMENTAL DATA LAYERS</u>   <u>$110,000</u>
   A. Digital Elevation Modules (annual purchase). $10,000
   B. Digital Orthophoto image (90 quadrangles - cost-share). $40,000
   C. Land use (90 quadrangles - Thematic Mapper data). $20,000
   D. Repository for GPS data (X,Y, & Z). $2,500
   E. Climatology information (State Climatologist, USU). $7,500
   F. Land Ownership Map(1:100,000-scale) $10,000
   G. Energy Resource Map (1:500,000-scale) $10,000