Mid-America GIS Clearinghouse / Portal Meeting Summary
Little Rock, AR
August 22-23, 2006

Background
MAGIC states participated in a clearinghouse / portal panel discussion during the 2006 MAGIC conference. Panel members felt it would be beneficial to meet face-to-face for two days to discuss technical components and issues clearinghouses face. Issues included: data, coordination, hardware, software, and bandwidth. MAGIC supported the meeting by providing funding (not to exceed $1,988) to cover up to two hotel rooms for each participating state. Refer to *Appendix A PROPOSAL.* The proposal was accepted during the June 2006 meeting.

Participants
AR- Learon Dalby, Richie Pierce, Shelby Johnson, Vince Guillet
IA- Patrick Brown
KS- Amber Reynolds, Eileen Battles, Ken Nelson, and Nick Callaghan
MO- Mark Duewell and Nathan Mattox
OK- David Lowther and Kathryn Hines
ND- Bob Nutsch
NE- Kim Menke
SD- Stephen Daw

Agenda
Review of State Summaries
Each state was asked to complete a 15 question survey. The surveys were compiled and distributed to participants prior to the meeting. Refer to *Appendix B SURVEY SUMMARY.*

The following items were identified as common clearinghouse components:

- All states have a web portal that provides access to public-domain databases;
- All states publish metadata that is compliant with the Content Standard for Digital Geospatial Metadata (CSDGM);
- All states are a node on the National Spatial Data Infrastructure (NSDI);
- All states operate a map server;
- All states publish map services as a mechanism for distributing spatial data;
- Clearinghouses are located within state government or state universities;
- In addition to support various state initiatives, all states actively participate in MAGIC;

- Each state is either in the process or is planning to develop partnerships with local governments for database development and maintenance – road centerline, address points, administrative boundaries, parcels, critical infrastructure, etc;

- To support these types of collaborative projects, the clearinghouse will play an important role in facilitating communication and performing data integration. This will be a significant growth area for state clearinghouses.

The following were identified as common issues:

- Funding & the budget process;

- Implementing & maintaining cutting-edge technology;

- Balancing workload – custom requests vs. clearinghouse operations;

- Coordination activities;

- Retaining qualified staff.

Open Discussion

The following topics were openly discussed. A summary is provided for each .

- What's working and what's not;
    - Each state provided a summary of what they considered to be their biggest success and biggest failure. Generally states considered sustainable funding and staff to be their biggest failure and coordination activities to be their biggest success.

- Ways in which technology / application sharing can take place;
    - Though each state is using similar or (in many cases) the same software/databases, sharing specific applications was determined to be quite difficult at a technical level. However, sharing resources such as hardware was of great interest. Additionally, a number of off-line discussions indicated sharing 'ammo' to gain support for their funding could go a long way.

- Methods used for IT disaster recovery;
    - AR and KS provided a lengthy discussion detailing the current back-up solution in place for each state. The open discussion focused on the return on investment associated with a truly redundant system. The general consensus was that data back-ups were the first priority, followed by application back-ups, and finally a true fail-over hot site. Costs go up dramatically as one moves from a nightly back-up to a fail-over hot site hosting applications.

- Enterprise software licensing;
    - Participants briefly discussed activities regarding software enterprise licenses at a state level. A number of states indicated they had mass purchase agreements in place with vendors, but not enterprise licenses agreements.

- What would a shared (two states) clearinghouse model look like?
    - Ultimately it was determined that the politics involved in this would kill the idea. But many of the participants thought a shared hardware / hosting environment at a regional level would be possible. This lead to the discussion regarding a technical committee being formed to discuss the lowest common denominator requirements upon which a state might begin to build its clearinghouse, back-up or applications.

- Integrating with other national initiatives (Ramona / GOS / TNM);
    - Generally participants agreed they participate if it is easy. For example: nearly all the participants participated in GOS (even if they didn't 'agree' with all of the technical components). Several states noted they set their clearinghouse up for harvest from GOS and marked off the list. The general thought was if it was "easy"; meaning not time consuming then folks participated. A great deal of frustration with Ramona and TNM was expressed. Refer to *Action Items* section below.

- Funding sources / services provided;
    - AR was the only state that noted receiving state general revenue dollars to support staff and the clearinghouse. All other states operated the clearinghouse with soft money, volunteers, or to support an internal agency need. Generally, grants or application services were the primary means of funding. Several state clearinghouses are operated with funds obtained through cost recovery and/or charging for application development.

- Politics related to a clearinghouse;
    - Participants discussed the politics involved in managing a clearinghouse. Who gets to load what, how is the system paid for, how to make the system enterprise, etc. It was noted that a strategy used by one state was to make users aware the system would go off-line on x date if funding was not secured. Additionally, a note was provided to have users contact their legislator if they cared. While this is a risky and not necessarily advisable scenario, it did turn out well for the state that tried it.

- Open Source vs. Vendor Specific?
    - This discussion focused on the cost / benefit of open source solutions. Opinions varied and no consensus was reached. It was noted that the adoption of open source has 'pushed' the vendor community in a number of ways.

- Data Integration
    - A lengthy discussion regarding local data integration at the state level resulted in the killing of some dreams (sorry Ken). Integrating local data requires a clearinghouse that is properly prepared to ingest and serve the data timely. Additionally, locals generally provide data if it is easy (not unlike states) meaning if all they have to do is hit a button in their data creation software and that automatically sends updates to the state server for processing then they are willing to play. If the local has to reformat the columns, coordinate system and data type, put it on a CD and pay to have it mailed to the state; then they probably won't play unless they are

Rick Miller. ETL was briefly discussed. It works in ***best*** case scenarios and fails in ***most*** case scenarios primarily due to non standardization and topology issues.

Action Items

- DASC agreed to host a clearinghouse / portal list server--- **completed**

- Participants request MAGIC formally create a clearinghouse / portal committee
  - Committee would work on:
    - identifying additional ways to coordinate clearinghouse activities
    - identifying ways to work with membership and sponsorship committee to increase MAGIC Consortium possibilities
    - identifying cost effective ways to leverage single owned resources

- Request 30 minutes on the MAGIC October 2006 Strategic Planning Retreat Agenda

- Request permission to use the MAGIC conference call line for follow-up discussions

- Participants encouraged to send their concerns and recommendations regarding Ramona to Tony Spicci (NSGIC President) and Stu Davis (NSGIC President-Elect) --- **NSGIC President responded to group**

- AR agreed to send GeoStor architectural and data integration diagram to participants--- **completed**

- KS agreed to send KML 'script' to participants--- **completed**

Appendix A
PROPOSAL

Clearinghouse / Portal Summit Proposal

Date: August 22-23, 2006

Purpose: Learn, share, and empower clearinghouse and portal custodians.

Location: Little Rock, Arkansas

Organizer: Arkansas Geographic Information Office

Agenda:

1) Discuss the state summaries (submitted in advance)
2) Outline common components within each state
3) Discuss what's working and what's not
4) Outline how local government can plug into a state clearinghouse (Technical, coordination, and resources required)
5) Discuss ways in which technology / application sharing can take place
6) Methods used for IT disaster recovery
7) Enterprise software licensing
8) What would as shared (two states) clearinghouse model look like?
9) Integrating with other national initiatives (Ramona / GOS / TNM)
10) Funding sources / services provided
11) Politics related to a clearinghouse
12) Open Source vs. Vendor Specific

The Arkansas Geographic Information Office will host the meeting at their office (no fee) and cover the participant's costs of lunch for two days. Participants will be responsible for covering transportation, breakfast, dinner, and miscellaneous. It is requested that MAGIC cover the cost of two hotel rooms per state for two nights at the federal per diem rate. **$1,988.00** would be the maximum amount committed by MAGIC and would only be used if each state required two rooms. Should this proposal be accepted; Arkansas Geographic Information Office staff will work with a hotel to secure a room block and negotiate a room rate. Refer to table on page 2.

		Federal Per-Diem (2-days)				
Participants	**State**	**Food***	**Hotel**	**Travel**	MAGIC REQUEST	**AGIO Sponsorship****
Kathryn Hines	OK	$78.00	$142.00	on your own	$142.00	$30.00
----	OK	$78.00	$142.00	on your own	$142.00	$30.00
Patrick Brown	IA	$78.00	$142.00	on your own	$142.00	$30.00
----	IA	$78.00	$142.00	on your own	$142.00	$30.00
Bob Nutsch	ND	$78.00	$142.00	on your own	$142.00	$30.00
----	ND	$78.00	$142.00	on your own	$142.00	$30.00
Stephen Daw	SD	$78.00	$142.00	on your own	$142.00	$30.00
----	SD	$78.00	$142.00	on your own	$142.00	$30.00
Mark Duewell	MO	$78.00	$142.00	on your own	$142.00	$30.00
----	MO	$78.00	$142.00	on your own	$142.00	$30.00
Ken Nelson	KS	$78.00	$142.00	on your own	$142.00	$30.00
Amber Reynolds	KS	$78.00	$142.00	on your own	$142.00	$30.00
Kim Menke	NE	$78.00	$142.00	on your own	$142.00	$30.00
----	NE	$78.00	$142.00	on your own	$142.00	$30.00
Learon Dalby	AR					
Richie Pierce	AR					
Vince Guillet	AR					
TOTAL					**$1,988.00**	$420.00
		*Federal Per-Diem rate is $54.00 for Little Rock				
		** The AGIO will provide lunch and meeting space for two days if in Little Rock this is reflected in the food cost listed above.				

Appendix B
SURVEY SUMMARY

ARKANSAS	
1. Do you have a web site? If so, what is the URL?	www.geostor.arkansas.gov
2. Do you distribute data from your web site?	yes
3. Is the data you distribute public domain?	yes
4. Do you distribute restricted or sensitive information?	Not at this time
5. Do you have FGDC-compliant metadata for the data you distribute?	yes
6. Do you operate a map server?	yes
7. Do you publish map services as a mechanism for distributing data? If no, are you planning to in the future?	yes
8. Do you partner with local governments on the development and maintenance of statewide data layers such as road centerlines, parcels, address points, administrative boundaries, etc.? If yes, what layers are under development/maintenance? If no, are planning to partner with local government in the future?	Yes- Centerlines / Parcels
9. What state, regional, and national organizations and initiatives do you participate in or support? Things like MAGIC, NSGIC, GOS, RAMONA, etc.	MAGIC, NSGIC, GOS, RAMONA
10. What are the toughest issues that you face in your daily operation? (ie- Funding, coordination, technology, customer service, balancing work-load, finding and keeping qualified staff, etc.	Coordination- data integration
11. What type of Operating System do you use (clearinghouse)?	Microsoft Server
12. List the software you use (clearinghouse)?	ArcSDE, ArcIMS, PTK, Spatial Direct, GeoCortex, Oracle 10g,
13. Do you have any formal means of recovery (disaster recovery)?	Fail over server and tapes are available, but hot site at a separate physical location has not been implemented
14. How do you promote your clearinghouse?	Publications, list serve, meetings
15. Who are the primary users of your clearinghouse (city, county, state, feds, private sector)?	City, County, State, Federal, Private, and Education

IOWA	
1. Do you have a web site? If so, what is the URL?	www.iowagis.org
2. Do you distribute data from your web site?	Some
3. Is the data you distribute public domain?	Some
4. Do you distribute restricted or sensitive information?	No
5. Do you have FGDC-compliant metadata for the data you distribute?	Yes
6. Do you operate a map server?	Yes
7. Do you publish map services as a mechanism for distributing data? If no, are you planning to in the future?	Yes
8. Do you partner with local governments on the development and maintenance of statewide data layers such as road centerlines, parcels, address points, administrative boundaries, etc.? If yes, what layers are under development/maintenance? If no, are planning to partner with local government in the future?	Not currently, planned/
9. What state, regional, and national organizations and initiatives do you participate in or support? Things like MAGIC, NSGIC, GOS, RAMONA, etc.	MAGIC, NSGIC, GOS, some participation in RAMONA
10. What are the toughest issues that you face in your daily operation? (ie- Funding, coordination, technology, customer service, balancing work-load, finding and keeping qualified staff, etc.	Funding Participation by non-State agencies
11. What type of Operating System do you use (clearinghouse)?	Windows 2003 Server
12. List the software you use (clearinghouse)?	SQL Server, ArcSDE, ArcIMS, MapServer
13. Do you have any formal means of recovery (disaster recovery)?	Yes, database backups on site, proposed off-site redundancy with a state agency
14. How do you promote your clearinghouse?	Providing metadata workshops, conference and meeting presentations, guilt them into participating, anything that works. Forming partnerships with local and state organizations
15. Who are the primary users of your clearinghouse (city, county, state, feds, private sector)?	County and state agencies

KANSAS	
1. Do you have a web site? If so, what is the URL?	www.kansasgis.org
2. Do you distribute data from your web site?	Yes
3. Is the data you distribute public domain?	Yes
4. Do you distribute restricted or sensitive information?	Yes
5. Do you have FGDC-compliant metadata for the data you distribute?	Yes
6. Do you operate a map server?	Yes
7. Do you publish map services as a mechanism for distributing data? If no, are you planning to in the future?	Yes. We publish map services in ArcIMS image and feature service formats, as well as OGC WMS format
8. Do you partner with local governments on the development and maintenance of statewide data layers such as road centerlines, parcels, address points, administrative boundaries, etc.? If yes, what layers are under development/maintenance? If no, are planning to partner with local government in the future?	We are currently working on developing state/local partnerships for the development and maintenance of statewide layers for road centerlines, address points, and administrative boundaries.
9. What state, regional, and national organizations and initiatives do you participate in or support? Things like MAGIC, NSGIC, GOS, RAMONA, etc.	MAGIC, NSGIC, GOS, NSDI, Kansas Association of Mappers (KAM).
10. What are the toughest issues that you face in your daily operation? (ie- Funding, coordination, technology, customer service, balancing work-load, finding and keeping qualified staff, etc.	Coordination - getting more people at both the state and local level to play ball. The technology seems to get cheaper and easier to implement, however the coordination is still the toughest issue.
11. What type of Operating System do you use (clearinghouse)?	Our portal web site and ArcIMS applications run on Windows 2003 Servers. Our ArcSDE/Oracle instance runs on a Sun Solaris platform.
12. List the software you use (clearinghouse)?	GIS software - ArcGIS, ArcIMS, ArcSDE, Data Interoperability Extension, MrSID GeoExpress; Database software - Oracle Standard Edition; Web server software - Apache HTTP Server, Tomcat Servlet Engine, ColdFusion MX 7 Application Server; Application development environments - ColdFusion, Java, Flash.
13. Do you have any formal means of recovery (disaster recovery)?	We employ a variety of data backup practices. Nightly backups are done for all systems (desktops and servers) and stored on a series of DLT tapes. We use Connected Data Protector for desktop systems and Windows backup or Backup Exec for

	servers. We also operate a backup Oracle system that is housed at the Arkansas Geographic Information Office (AGIO) in Little Rock, AR. We use a process called log-shipping to migrate changes to the database to the backup system. The Oracle redo log files are copied to the backup system on a regular interval and applied nightly.
14. How do you promote your clearinghouse?	We regularly attend GIS-related conference and events throughout the state. We participate in the Kansas Association of Mappers (KAM), Kansas Association of Counties (KAC), Kansas Counties Officials Association (KCOA) annual conferences. We also participate in the MAGIC symposium. Over the past year we worked with the KAC to host a series of GIS outreach workshop that were targeted towards local government. We also host web sites and listservs for GIS-related organizations.
15. Who are the primary users of your clearinghouse (city, county, state, feds, private sector)?	State, private sector, county, city, fed.

MISSOURI	
1. Do you have a web site? If so, what is the URL?	http://msdisweb.missouri.edu
2. Do you distribute data from your web site?	YES
3. Is the data you distribute public domain?	Almost entirely
4. Do you distribute restricted or sensitive information?	We have in the past – but are not currently doing so – we do maintain data that is not in the public domain (e.g. schools data layer) – this data can be had by contacting the data set custodian.
5. Do you have FGDC-compliant metadata for the data you distribute?	YES
6. Do you operate a map server?	YES
7. Do you publish map services as a mechanism for distributing data? If no, are you planning to in the future?	YES
8. Do you partner with local governments on the development and maintenance of statewide data layers such as road centerlines, parcels, address points, administrative boundaries, etc.? If yes, what layers are under development/maintenance? If no, are planning to partner with local government in the future?	Yes – we have MOU agreements with all 19 RPCs to provide data and maintenance as they create data – we are encouraging them to collect the NSDI infrastructure and we are talking with individual counties as the opportunity presents itself.
9. What state, regional, and national organizations and initiatives do you participate in or support? Things like MAGIC, NSGIC, GOS, RAMONA, etc.	All of the above – MGISAC and a long list of regional user groups – KCCGG, KCMetro, KCArcInfo, St Louis ArcInfo, MMGUG, Tri-Lakes etc.
10. What are the toughest issues that you face in your daily operation? (ie- Funding, coordination, technology, customer service, balancing work-load, finding and keeping qualified staff, etc.	Tempted to say 'funding belittles all else' – but apathy towards sharing one's own data still rates right up there.
11. What type of Operating System do you use (clearinghouse)?	We're essentially an ESRI/Windows based operation. But we do still maintain others
12. List the software you use (clearinghouse)?	ESRI SDE, IMS, Apache, SQL Server
13. Do you have any formal means of recovery (disaster recovery)?	**No formal plan…** Waiting on funding of large amounts of chewing gum, rolls of baling wire and carpet tape for the informal plan
14. How do you promote your clearinghouse?	A wide range of outreach activities – conferences, presentations, trainings, workshops, publications, list servers and grant writing.

15. Who are the primary users of your clearinghouse (city, county, state, feds, private sector)?	All of the above – but increasingly city and local government.

NEBRASKA	
1. Do you have a web site? If so, what is the URL?	www.dnr.ne.gov
2. Do you distribute data from your web site?	YES
3. Is the data you distribute public domain?	YES
4. Do you distribute restricted or sensitive information?	Yes, but very little
5. Do you have FGDC-compliant metadata for the data you distribute?	YES
6. Do you operate a map server?	YES
7. Do you publish map services as a mechanism for distributing data? If no, are you planning to in the future?	yes - but most of our data is retrieved versus ftp or DNRs batch processing site (a text base interface)
8. Do you partner with local governments on the development and maintenance of statewide data layers such as road centerlines, parcels, address points, administrative boundaries, etc.? If yes, what layers are under development/maintenance? If no, are planning to partner with local government in the future?	DNR helps out when necessary. There is a partnership going on currently with DOR and other state agencies for the road centerlines. There is also a bill trying to get pushed through to fund development of parcels.
9. What state, regional, and national organizations and initiatives do you participate in or support? Things like MAGIC, NSGIC, GOS, RAMONA, etc.	RAMONA, USGS National Map initiative
10. What are the toughest issues that you face in your daily operation? (ie- Funding, coordination, technology, customer service, balancing work-load, finding and keeping qualified staff, etc.	Funding, keeping and finding qualified staff, balancing work load
11. What type of Operating System do you use (clearinghouse)?	NT Windows 2003 server
12. List the software you use (clearinghouse)?	ArcIMS 9.1, ArcSDE, Apache Tomcat, some custom software developed in .NET.
13. Do you have any formal means of recovery (disaster recovery)?	Offsite backup, web server and database server already setup at offsite location.
14. How do you promote your clearinghouse?	Presentations at conferences.
15. Who are the primary users of your clearinghouse (city, county, state, feds, private sector)?	Unknown

NORTH DAKOTA	
1. Do you have a web site? If so, what is the URL?	www.nd.gov/gis
2. Do you distribute data from your web site?	Yes
3. Is the data you distribute public domain?	Yes
4. Do you distribute restricted or sensitive information?	Only via internal websites
5. Do you have FGDC-compliant metadata for the data you distribute?	Yes
6. Do you operate a map server?	Yes
7. Do you publish map services as a mechanism for distributing data? If no, are you planning to in the future?	Yes
8. Do you partner with local governments on the development and maintenance of statewide data layers such as road centerlines, parcels, address points, administrative boundaries, etc.? If yes, what layers are under development/maintenance? If no, are planning to partner with local government in the future?	Some partnerships, much more needs to be done. Roads, administrative boundaries, and aerial imagery. More partnering is planned.
9. What state, regional, and national organizations and initiatives do you participate in or support? Things like MAGIC, NSGIC, GOS, RAMONA, etc.	MAGIC, NSGIC, GOS. Haven't started with RAMONA yet.
10. What are the toughest issues that you face in your daily operation? (ie- Funding, coordination, technology, customer service, balancing work-load, finding and keeping qualified staff, etc.	Although funding is always a concern, we've been successful so far. Our current issues are streamlining of coordination, balancing workload through additional development resources, and cost of hosting data and applications.
11. What type of Operating System do you use (clearinghouse)?	A really good one. Really though, Solaris, Red Hat, Windows
12. List the software you use (clearinghouse)?	Oracle, ArcSDE, ArcIMS, FME/Spatial Direct, Geocortex Statistics
13. Do you have any formal means of recovery (disaster recovery)?	Limited, on-going discussions. Tape backup at a second data center. Eventually turn up a server at the second data center.
14. How do you promote your clearinghouse?	Monthly parties. :-) Actually, publications, presentations, listserv, training opportunities, brochures, users conference.
15. Who are the primary users of your clearinghouse (city, county, state, feds, private sector)?	Private sector, local government, state, federal

OKLAHOMA	
1. Do you have a web site? If so, what is the URL?	www.geo.ou.edu
2. Do you distribute data from your web site?	Distribution includes download and WMS.
3. Is the data you distribute public domain?	yes
4. Do you distribute restricted or sensitive information?	no
5. Do you have FGDC-compliant metadata for the data you distribute?	yes
6. Do you operate a map server?	yes
7. Do you publish map services as a mechanism for distributing data? If no, are you planning to in the future?	many data sets are available via WMS
8. Do you partner with local governments on the development and maintenance of statewide data layers such as road centerlines, parcels, address points, administrative boundaries, etc.? If yes, what layers are under development/maintenance? If no, are planning to partner with local government in the future?	Working on road centerlines. Voting precincts, school districts, career tech districts, municipal boundaries, county commissioner districts –are developed and in maintenance mode
9. What state, regional, and national organizations and initiatives do you participate in or support? Things like MAGIC, NSGIC, GOS, RAMONA, etc.	MAGIC, NSGIC, OK State GIS Council, National Map
10. What are the toughest issues that you face in your daily operation? (ie- Funding, coordination, technology, customer service, balancing work-load, finding and keeping qualified staff, etc.	funding, finding and keeping qualified staff
11. What type of Operating System do you use (clearinghouse)?	Windows 2000 Server
12. List the software you use (clearinghouse)?	Mapserver, early implementation of the OpenGIS Simple Feature Specification in MS SQL Server, z39.50 server for metadata
13. Do you have any formal means of recovery (disaster recovery)?	All that I know of is our regular backup. If I find out anything different, Learon, I will send it tomorrow. My network administrator has left for the day.
14. How do you promote your clearinghouse?	Clearinghouse is coupled with the OKGIS listserv. Most newcomers to the OKGIS community find their way to the listserv, ask a question, and receive reply that the data is at the clearinghouse. Also, State GIS Council website links to the clearinghouse.
15. Who are the primary users of your clearinghouse (city, county, state, feds, private sector)?	state, federal, private

SOUTH DAKOTA	
1. Do you have a web site? If so, what is the URL?	http://internetdev.state.sd.us/sdwebinfo/gis/index.asp
2. Do you distribute data from your web site?	Not yet
3. Is the data you distribute public domain?	Will be and more.
4. Do you distribute restricted or sensitive information?	We plan on having a public domain area and a password/restricted area.
5. Do you have FGDC-compliant metadata for the data you distribute?	We plan on having appropriate metadata for the data we create. Federal data will come as we got it.
6. Do you operate a map server?	Yes
7. Do you publish map services as a mechanism for distributing data? If no, are you planning to in the future?	Sort of, in a pinch we have made the services available but not really part of the plan. If no, are you planning to in the future? We want to put WMS services out there first.
8. Do you partner with local governments on the development and maintenance of statewide data layers such as road centerlines, parcels, address points, administrative boundaries, etc.? If yes, what layers are under development/maintenance? If no, are planning to partner with local government in the future?	We partner right now with the regional planning districts on the maintenance of the road centerline. We are working with the Counties to begin a partnership on parcels and administrative boundaries.
9. What state, regional, and national organizations and initiatives do you participate in or support? Things like MAGIC, NSGIC, GOS, RAMONA, etc.	All of the above. Statewide support of MAGIC is not where I would like it to be. Many folks feel too far removed from Kansas City and the goings on of states south of Nebraska. I am working to change this. Also, support of the NSGIC organization consists entirely of me, though I do use NSGIC efforts to help push things through at lower levels.
10. What are the toughest issues that you face in your daily operation? (ie- Funding, coordination, technology, customer service, balancing work-load, finding and keeping qualified staff, etc.	I think for us the toughest issue is the lack of communication and coordination. Obviously I am working to change that but turf wars still seem to rise up over the sharing of data and project information.
11. What type of Operating System do you use (clearinghouse)?	We will use Windows Server 2003 as it is the state standard and the only one available to us.
12. List the software you use (clearinghouse)?	As we don't have a clearinghouse yet, we don't have

	software for that part yet. We use ArcSDE, ArcIMS, and SQL Server. Not sure what clearinghouse software we will use.
13. Do you have any formal means of recovery (disaster recovery)?	Working on one. We intend to locate servers and SAN in the Emergency Operations Center where it will be protected from all but internal problems. This will be the backbone of our recovery efforts.
14. How do you promote your clearinghouse?	Talking it up at user group meetings and any other opportunity I get.
15. Who are the primary users of your clearinghouse (city, county, state, feds, private sector)?	Based on data requests we anticipate the local governments to be our primary users then the private sector.