



Geospatial Architecture Workgroup

A subgroup of the
MetroGIS Technical Leadership Workgroup

Agenda

Monday, August 11, 2008

1:30 to 3:30 p.m.

Metropolitan Council

Room LLB

390 Robert St. North, St. Paul

(Map Attached)

1. **Welcome, Introductions, Note Taker**
2. **Approve Agenda** all
3. **Workgroup Charge from MetroGIS and GCGI Involvement** Kotz
4. **Appoint a Workgroup Chair** all
5. **Broker** all
 - a) **Background** Slaats
 - * GCGI GIS Enterprise Conceptual Architecture Design Overview
 - * Summary of Existing Sites (DataFinder, DataDeli, Geodata Clearinghouse, etc.
 - * Existing Products that Might Meet our Needs
 - b) **Discussion of the Broker Concept and MetroGIS & State Direction**..... all
 - c) **Next Steps** all
6. **Issues Associated with Relying on Other Organization's Web Services** all
 - a) **Background** McGuire
 - * What "trust" issues we know about
 - * Possible solutions
 - b) **Discussion of issues and solutions (what are we missing)?** All
 - c) **Next Steps** All
7. **Next Meeting(s). One or two groups? Meeting frequency? Meeting length?** all
8. **Other Issues** all
9. **Adjourn**

Directions to the Metropolitan Council:

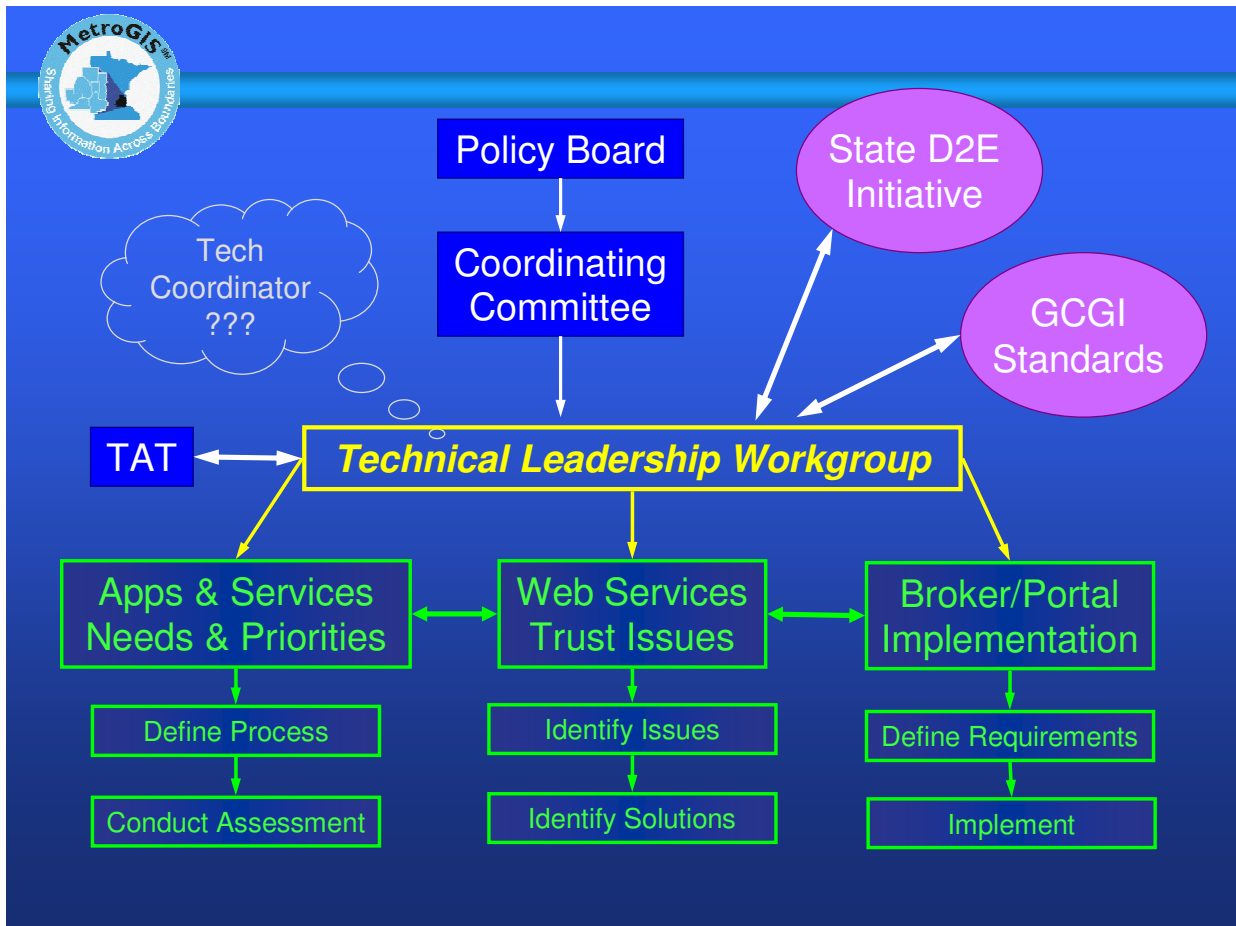
A map and directions are available here

<http://www.metrocouncil.org/about/LocationDirectionsMap.htm>

Enter the building and check in at the guard desk. The meeting is in the Lower Level, Room B. This is in the unsecured part of the building, so you will not need an escort. Take the elevator down 1 floor and curl around to your right to room LLB.



3. Workgroup Charge from MetroGIS



Technical Leadership Workgroup Charge

1. To define a process to identify and prioritize commonly needed geospatial web services and applications
2. To identify issues and solutions related to trusting and using web services
3. To define a more fully fledged mechanism – a broker – to discover and acquire or use geospatial data, web services, applications and other resources.

Additional Tasks

4. Encourage the development of rapid prototypes and examples.
5. Inventory existing services and applications (populate Geoservices Finder)
6. Promote and champion the concept of shared web services and applications.

6. Issues Associated with Relying on Other Organization's Web Services

Trust Issues:

1. How can I know how reliable a web service is?
2. What if the provider changes the parameters?
3. How can I know they won't just stop the service someday?

Trust strategies for web services networks:

- 1) Optimistic: Trust everybody until they give you a reason not to.
- 2) Pessimistic: Trust no one until you have a reason to trust them.
- 3) Centralized: Central authority certifies service providers
- 4) Investigative: Each service provider investigates other service providers and shares results. This is like a Peer 2 peer file sharing service.
- 5) Transitive: Trust Friends, trust Friend-of-a-friend less, etc...

Each strategy has pros and cons and really depends on the network environment – the relationships between the service providers and the consumers.

What type of network are we?

The Enterprise GIS Architecture Design describes a centralized trust strategy with elements of investigation. The central authority defines and measures trustworthy behavior and shares the information with the network. Individual agents can then decide if they trust the certification of the central authority -

The Architecture document addresses some trust issues by assigning roles and responsibilities. In this architecture, most of the responsibility of establishing and maintaining trust falls on the Enterprise Broker (EB) and the Broker Administrator (BA). The Enterprise Service Provider (ESP) and the ESP Administrator also have a role to play as well.

1. Enterprise Broker/Broker Administrator roles
 - a. Authentication
 - b. Ensures compliance with enterprise standards
 - c. Monitors services for reliability
 - d. Provides access information
 - e. Serves documentation
 - f. Sponsors and helps implement enterprise standards
 - g. Maintains system security
 - h. Responds to support inquiries
2. Enterprise Service Provider/ Provider Administrator roles
 - a. Publish and Maintain services using compliant protocols
 - b. Publishes service metadata
 - c. Provides current service availability and access information to EB
 - d. Works with BA to resolve technical difficulties

Quality of Service

Trust in Web Services is built on these Quality-of-Service indicators:

1. Reliability
 - a. Does the provider's service go down often?
 - b. How do we establish and meet expectations of uptime?
2. Performance
 - a. Are there performance measures or statistics?
 - b. Are there ways to document expected performance?
3. Support
 - a. Do they have 24/7 support?
 - b. Is there documentation
 - c. Is it rapid support or not?
4. Availability
 - a. Is the service available from multiple sources?
 - b. Are there redundant servers?
5. Integrity
 - a. Is the data accurate/correct?
 - b. Will parameters or access methods change?
 - c. How will a change to the service affect my business? Are there ways to mitigate this?
6. Interoperability
 - a. Can I easily use the service in my development environment?
 - b. Will the service play well with other data and services?
 - c. Does the service meet well known existing standards?
 - d. Who establishes the standards that should be used?
7. Accessibility
 - a. How do I access the service?
 - b. Who gets to use the service I'm providing?
8. Commitment
 - a. How committed are they to this service?
 - b. Do they need it for their own business needs?
9. Security
 - a. Who will authenticate users?
 - b. Who will authorize users?
 - c. How do I obtain authorization?

Tactics

If we have chosen a strategy as described in the Architecture document, what are the tactics that we will employ to support this strategy? How can we determine and convey accurate Quality-of-Service expectations?

1. Reputation – Google, Yahoo, and others offer webservices. They have no quality of service guarantees. They are widely used based on reputation alone. These are largely used for non-critical and/or non business applications.
2. Commercial – Many web services are offered for a fee. Amazon, ArcWeb Services, and StrikeIron.
3. Service Metadata – Broker can publish the Service Metadata including Quality of Service indicators
4. Service Level Agreements (SLA)
 - a. Documented service level expectations for QoS indicators between the Broker and the Service Provider
 - b. Monitoring of the service by the Broker Administrator with periodic reviews against SLAs.
5. Machine Readable SLAs – Computers understand the Service Level Agreement, Monitor the Service, and report on compliance. Broker certifies (or revokes certification) of services that meet (or do not meet) SLAs.