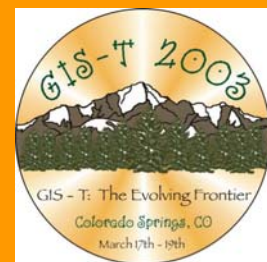
Taking the G out of GIS-T

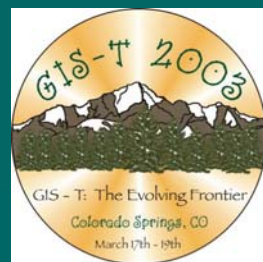
Paper 5.1.2

Graham Stickler
Exor Corporation

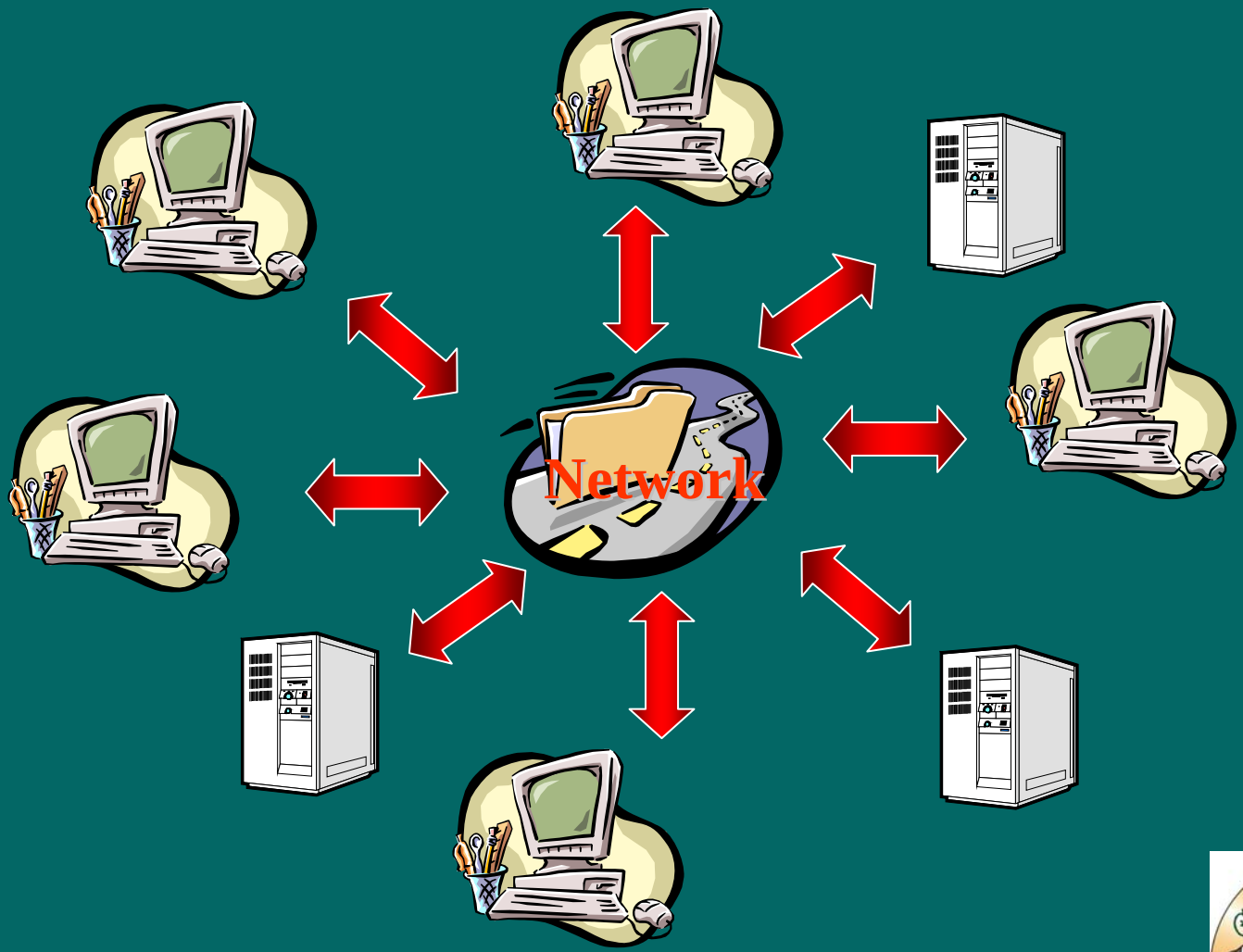


Contents

- IS Architectures
- GIS-T Community Needs
- Spatial LRS role
- Delivery



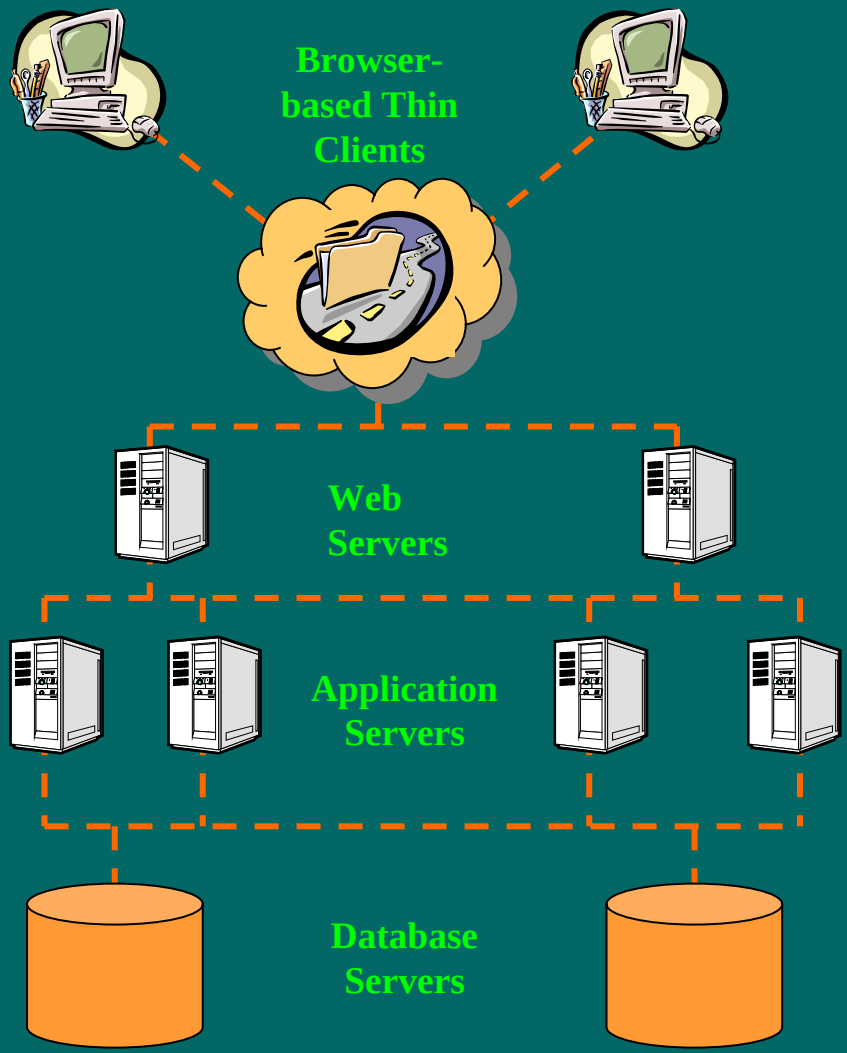
The network is becoming the computer



In the future

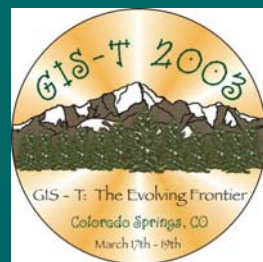
- For most users the network will be an intranet or internet
- Most GIS-T users will access the system using a web-browser
- Highways data will be required to be accessible to many more ‘customers’
- The GIS-T system architecture will therefore need to be centred on Web-technologies

N-tier architectures

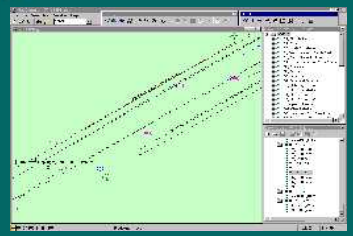


Why?

- Security
- Web browsers
- Performance
- Data sharing
- Client independence

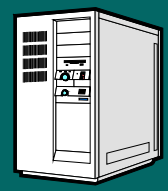


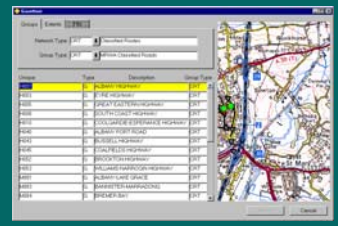
Enterprise Information System



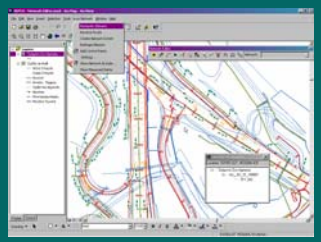
Field Users

Non-GIS users



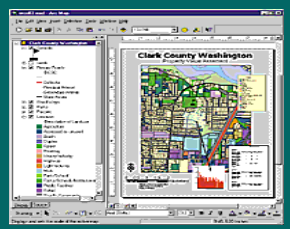


Asset Managers

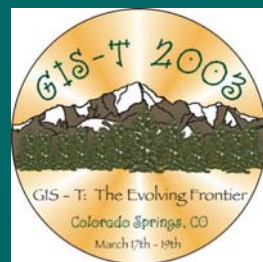


Network Editors

Browsers



Cartographers



The problem

We want:

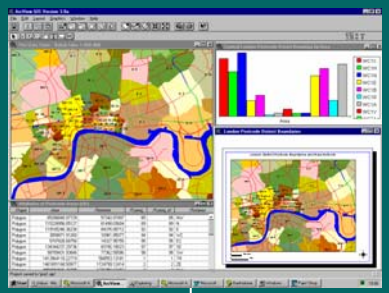
- Integration of very large databases
- Across multiple network types and referencing methods (LRS)
- With access across intranet and internet
- With all data to be spatially based

Oh dear!

GIS has changed

GIS-Centric Applications

GIS



Digital Maps

Text Data

Spatially Aware Applications

exor app

Desktop GIS

Browser

Spatial/LRS Processing

Spatially Enabled Database

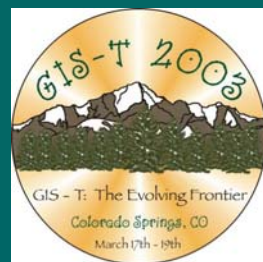
GIS-T 2003
GIS - T: The Evolving Frontier
Colorado Springs, CO
March 17th - 19th

How do we get GIS-T there?

- Create a spatial LRS server engine
  - Re-architect spatial
- Introduce internet architecture
- Open up the databases
- Introduce LRS to all
- Phased evolution
- Migrate

Spatial LRS Server

- Object based and ‘speaks’ XML
- Embedded within the Oracle engine for fast performance
- References ‘foreign’ data
- Supporting a published API
- Supports an unlimited range of thin clients, including browser based
- Using Oracle Spatial as part of the server process
- An evolution based on existing stable, extensively used COTS product

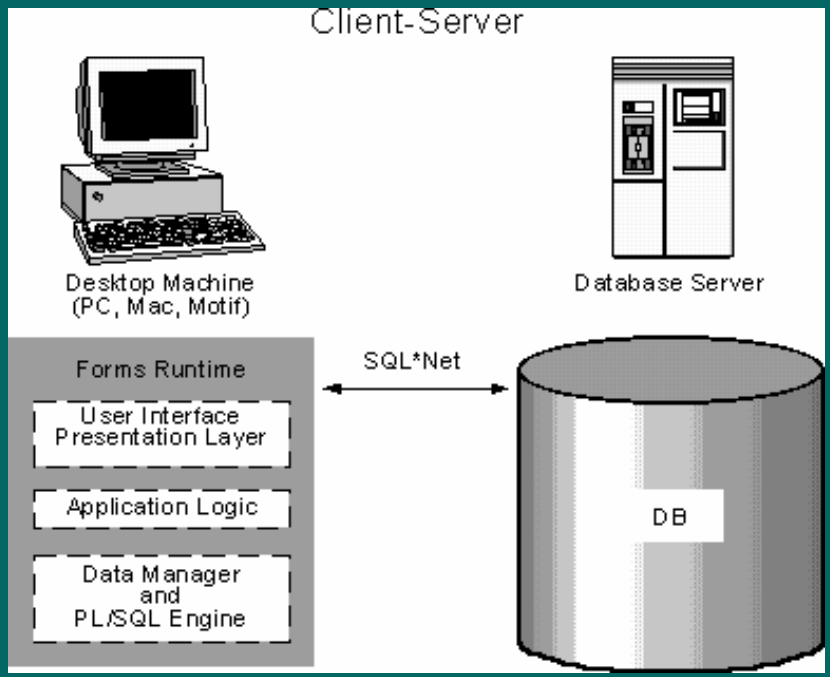


Key Technology Components

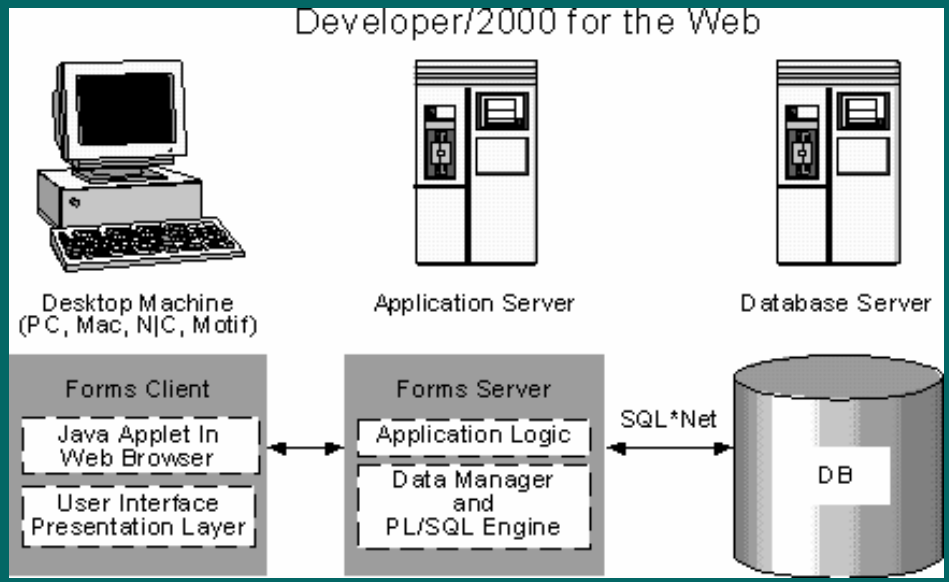
- Oracle 9i Release 2 Database Server
  - Oracle Spatial
  - LRS Objects Extension
- Exor LRS Engine
- Oracle 9iAS

Oracle Forms Server

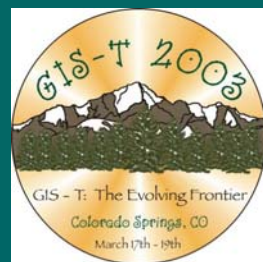
Oracle Forms Server is a technology for serving up Oracle Forms applications via the Internet.



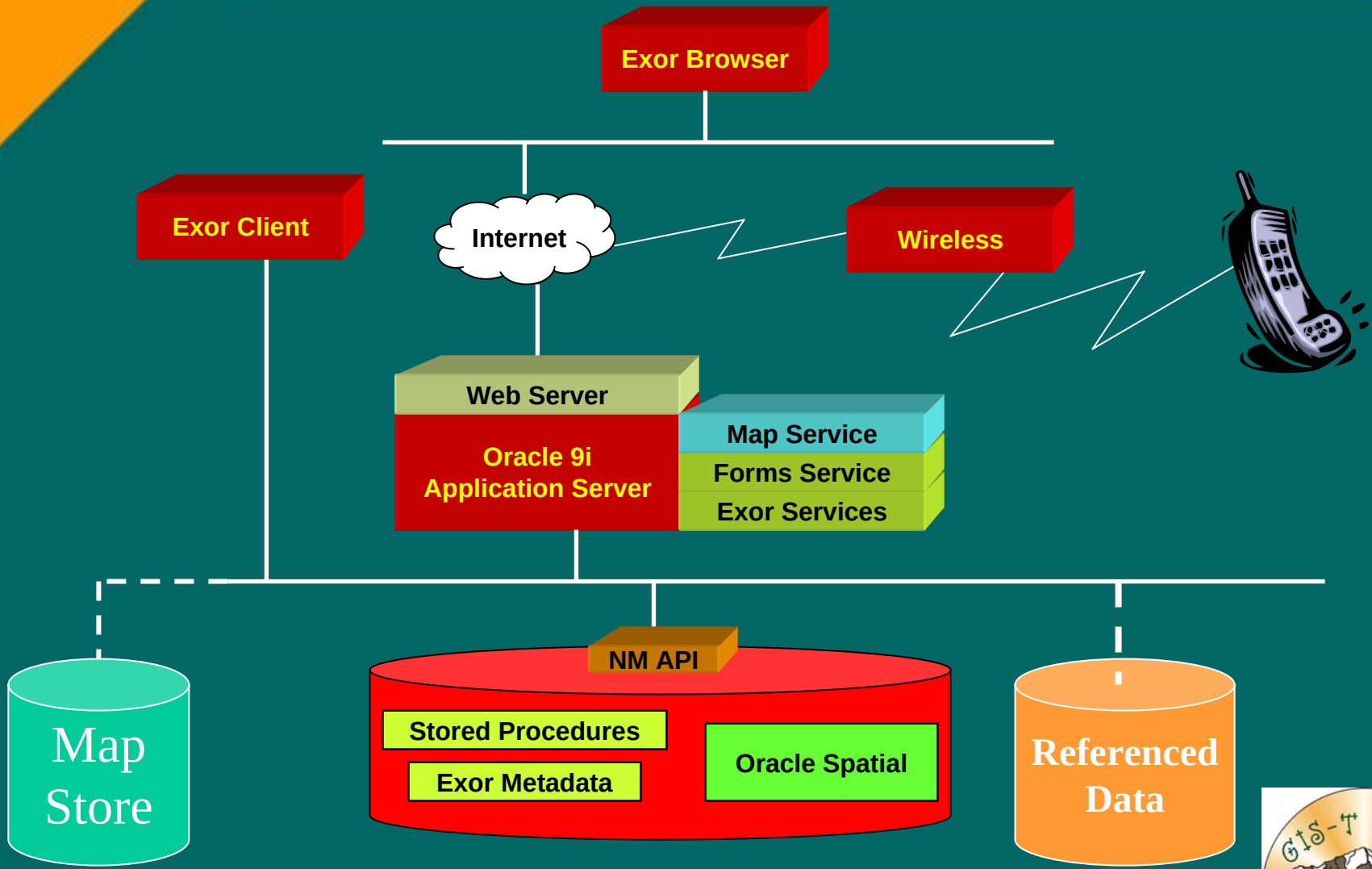
Traditional Client/Server Architecture



Web Deployment Architecture



Architecture Based On Oracle 9iAS



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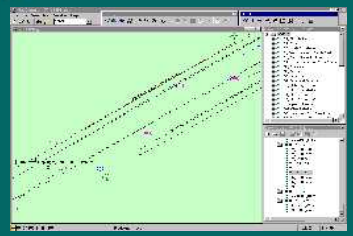

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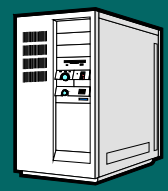

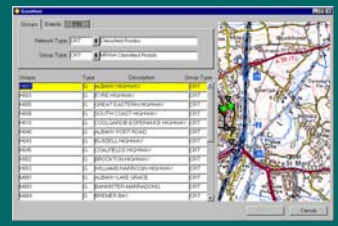

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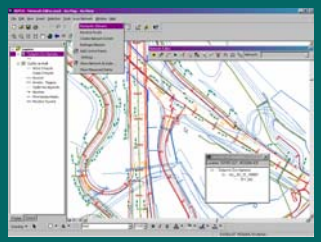

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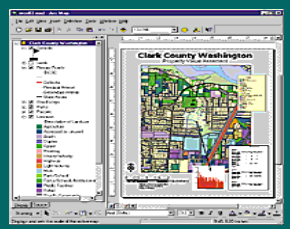

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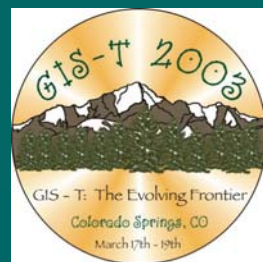


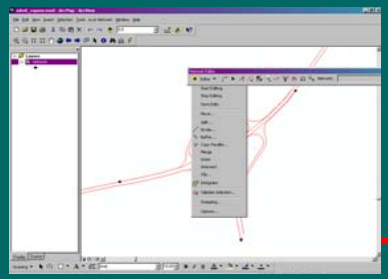
First Phase

Internet

e-Spatial/Info Man

ArcGIS

ArcIMS



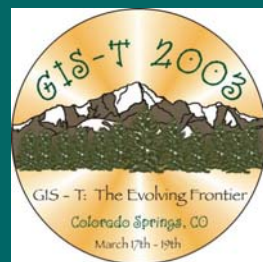
NM3 API

A.N. Other GIS Editor

Oracle 8i

Oracle Spatial LRS

ArcSDE

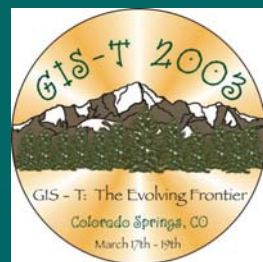


Where next?

- Oracle 9iAS Portal
  - delivery of apps
  - simple viewing
- Wireless/SMS
- PDA
- ‘Standalone’ web pages and apps (ArcIMS)

Summary

- A move to Internet/intranet architectures is both desirable and inevitable
- GIS-T is special and requires an open spatial LRS to achieve this
- Many users will be GIS users but many more will simply be IS users
- It is possible, now. Just.



More detail?

Paper 6.4.2.
Moving Dynamic Segmentation to the Server: Linear Referencing for Web-Based Applications

Wednesday 8:00 AM

Or: Stop by the Booth

Thank you

gstickler@exorcorp.com