

GIS and Public Sector Reform

Local Government Perspective

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24th November 2006

Public Services

- Services provided by public bodies have a wide sphere of influence
- If you have...
 - registered with/visited a doctor or been to hospital
 - travelled on a ferry or plane to one of the Scottish islands
 - children in nursery, been to school, taken a higher/further education course
 - had your refuse collected
 - received Council Tax benefits
 - borrowed a library book
 - visited museums or galleries
 - used water or sewerage services
 - walked in the countryside or on the hills
 - been to a swimming pool or leisure facility
 - used careers advice services
 - used legal aid
 - had a student loan.....
- Public bodies contribute in all these areas and many more
- Delivered by Central Government, Local Government, Voluntary and Community Organisations and wide/varying partnerships



Central Government

- The Scottish Executive is the devolved government for Scotland
- The Scottish Executive is responsible for 77 national and 64 local Public Bodies:
 - 31 Executive Non-departmental Public Bodies
 - 45 Advisory Non-departmental Public bodies (including 32 Justice of the Peace Advisory Committees)
 - 39 Tribunals (including 32 Children's Panels)
 - 2 nationalised industries
 - 1 public corporation
 - 23 NHS bodies
- Employs c.249,000 staff
- Administers an annual budget of c.£30 billion
- Distributed through public bodies (c. £21bn) and local authorities (c.£9bn)



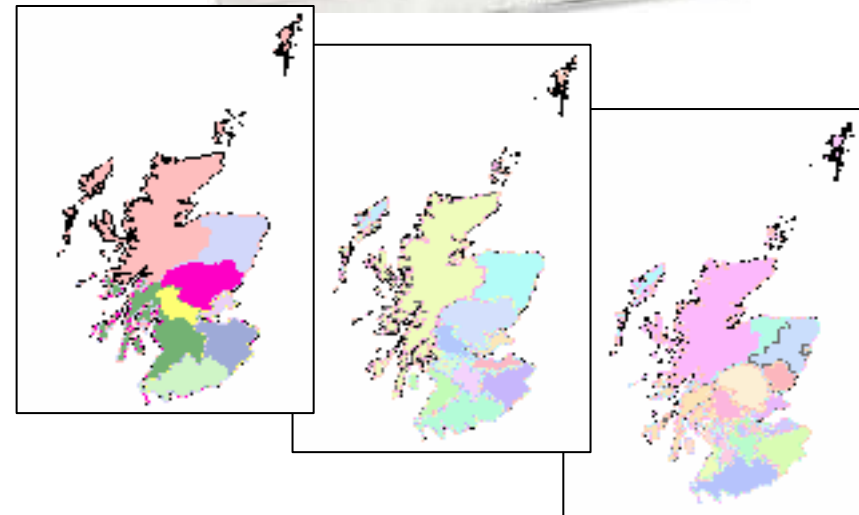
Local Government

- 32 Local Authorities
- 8 Police Authorities
- 8 Fire and Rescue Services
- 14 Health Boards
- 14 Valuation Joint Boards
- 8 Local Enterprise Companies
- 38 Community Health Partnerships
- 32 Community Planning Partnerships
- Local authorities employ c. 323,000 staff
- Annual budget of c. £9bn



Tensions

- Multilevel, distributed mix of public service organisations
- Central 'v' regional 'v' local
- Partnership 'v' organisation
- Customer 'v' community
- Community 'v' region
- Public 'v' private
- Scotland 'v' UK 'v' Europe
- Mixed geographies



Drivers for Change

- More diverse and individualistic society
- Higher expectations of service quality
- Services tailored to needs
- Global issues – climate change, sustainable development
- Increasing globalisation
- Increasing competition from India, Eastern Europe, China etc.
- Significant technology changes
- New ways of working and delivering services
- Demographic change – increasing elderly population
 - shrinking workforce
 - increased pressure on health, care, transport services etc.
- Reducing engagement in democratic processes
- Social disadvantage and exclusion



Drivers for Change

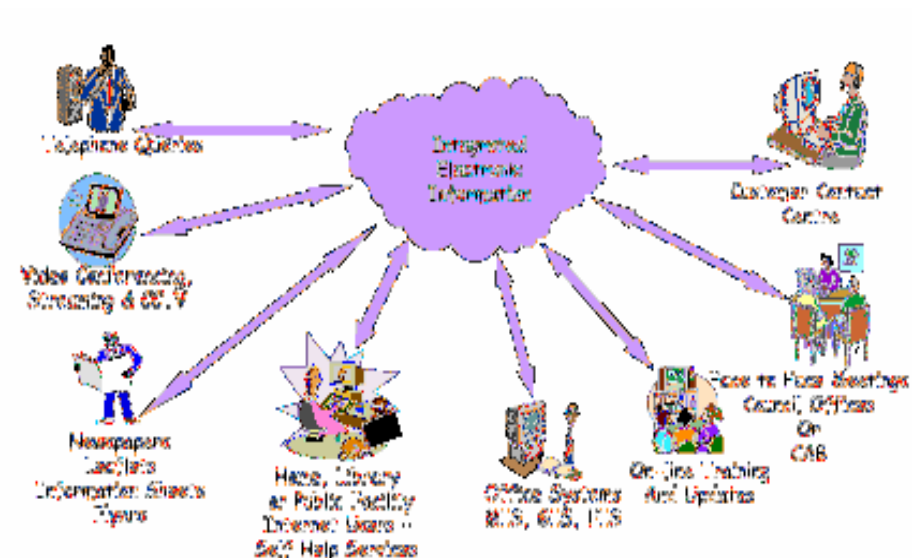
- Transforming Government
Public services must :
 - Be user-focused and personalised
 - Drive up quality and encourage innovation
 - Improve efficiency and productivity
 - Join up services and minimise separation
 - Strengthen accountability
- Efficient Government
 - Modernising Government Fund
 - Integrated service delivery
 - Collaboration and shared working
 - Investing in technology
 - Investing in the workforce
 - £1.2bn cash efficiencies by 2010
- Shared Services
 - Corporate support functions
 - Service improvements
 - Efficiency savings



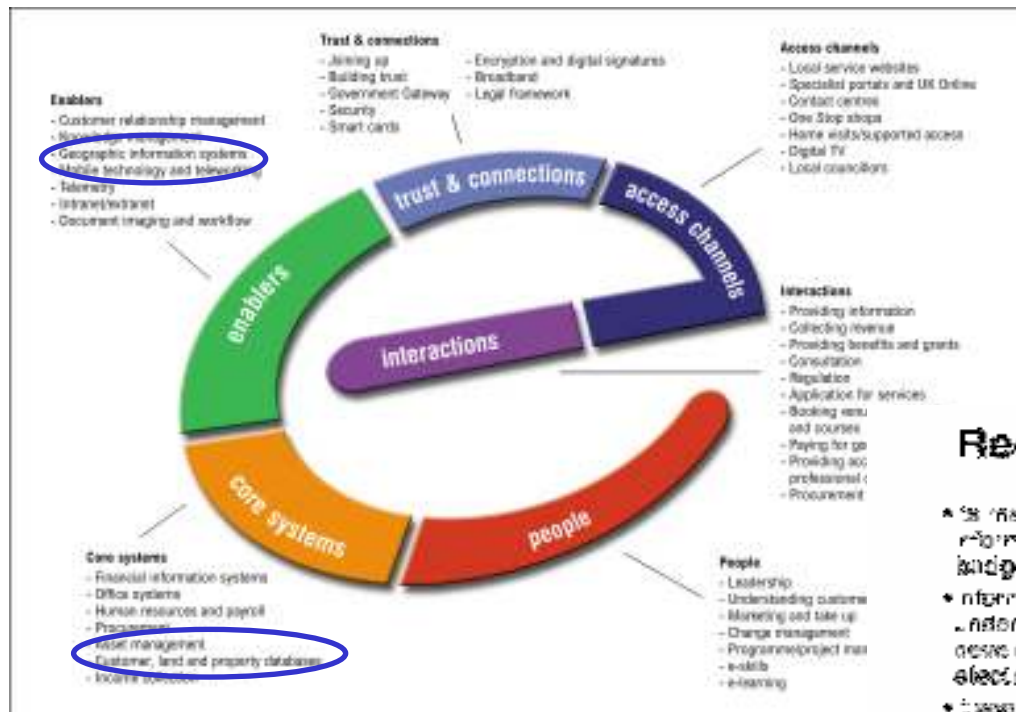
Public Service Reform

- Central and Local services become
 - More accessible
 - More responsive
 - More convenient
 - More consistent
 - More transparent
 - More cost effective
 - More inclusive

- Central and Local Service providers...
 - Improve resource management
 - Improve information management
 - Collect once use many times
 - Data sharing and data exchange
 - Improve business processes
 - Improve accountability
 - Improve decision making
 - Improve operating efficiency
 - Improve partnership working



- Enabled by new technology and improved use of information



Recognising well-informed authority

- Is managers really do have the information to manage their budgets
- Information management underpins its strategy for doing things new channels for electronic services delivery
- Does information management as a core feature of its local value review
- Does information management as an important feature of its management development programme
- Is manager its website as a credible resource that must not go out of date

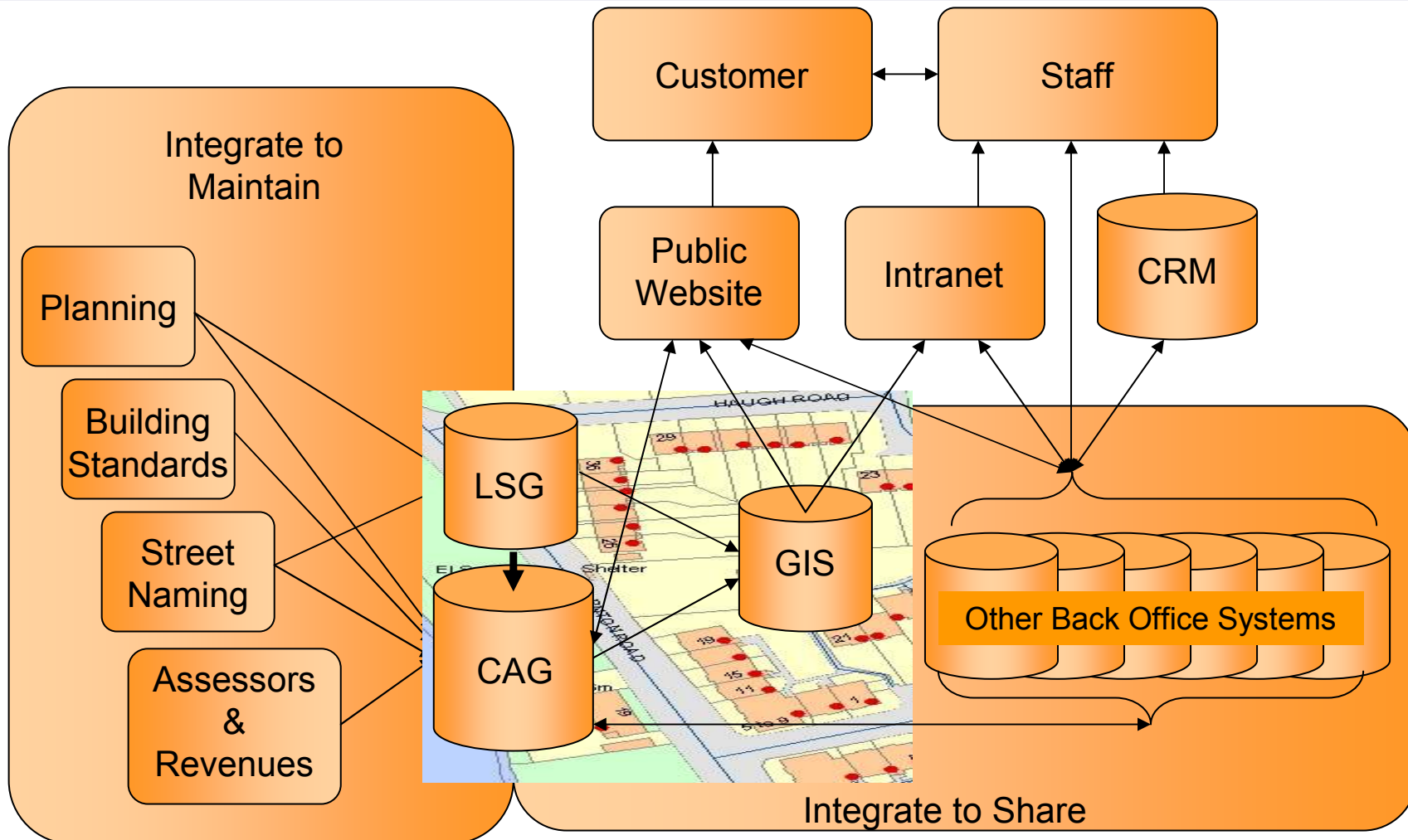
- Is Intranet is used universally as the main source of information
- It already has a truly integrated approach to geographical information
- It has a single web-based data database about itself
- It has an up-to-date records management policy owned by the organisation
- It knows what its information assets are
- It is accessible, or soon will be, to B2B/2B0

Customer First

- Scottish Executive funded programme
- Now managed by the Improvement Service
- Aims to :
 - Deliver more convenient and responsive public services.
 - Encourage take up of online (self-service) access to services.
 - Ensure that at least 75% of core service requests can be dealt with at the first point of contact.
- 4 key sub programmes
 - National infrastructure/Citizen Account
 - National voluntary entitlement card
 - CRM/Customer Services
 - Definitive National Address for Scotland (DNAS)
- DNAS sub programme
 - Definitive address dataset
 - Standards based (BS7666)
 - Unique identifiers, accurate georeferencing
 - Linked to Local Street Gazetteer
 - Linked to other address datasets



Within a Council.....



National Address Gazetteer

Shared Services (possible examples being considered)

Revenue
Collection

e-Planning

Land Terrier

Asset
Management

Community
Planning

Other Council Systems

X 32

CAG
(BS7666)

SN&N

DNA
Gazetteer
(BS7666)

Royal
Mail

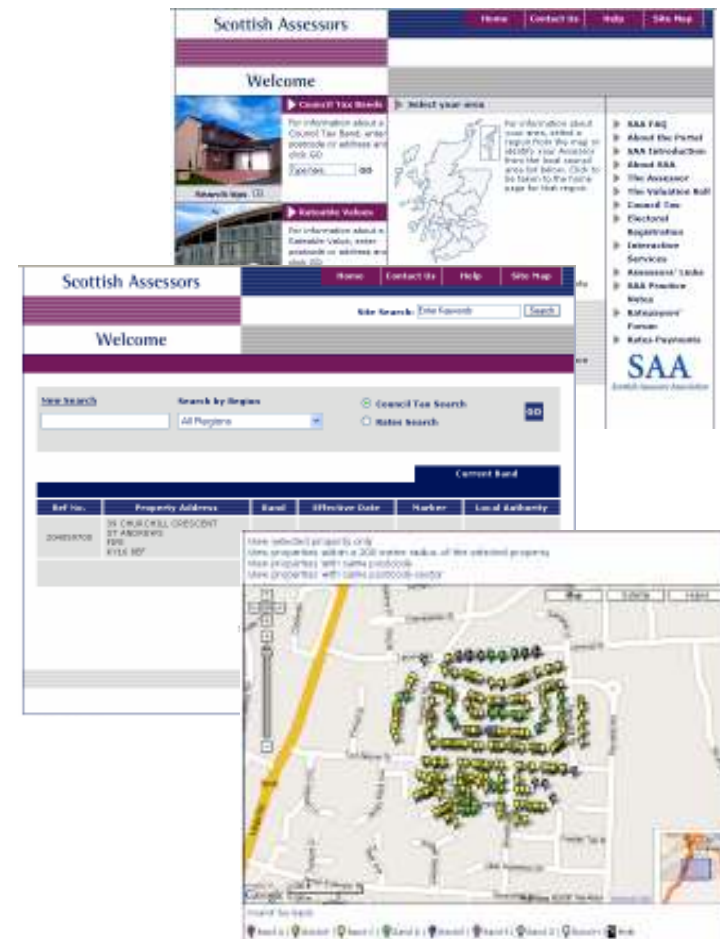
Assessor

OS

ROS

Assessor's Portal

- Single-point access to business rate and council tax banding details for all properties in Scotland (www.saa.gov.uk)
- Part of the CustomerFirst/DNA-Scotland programme
- Two 'views' are available
 - public access
 - government access
- Operational since Summer 2004 with use high – more than 120,000 'page views' per week on the public site alone

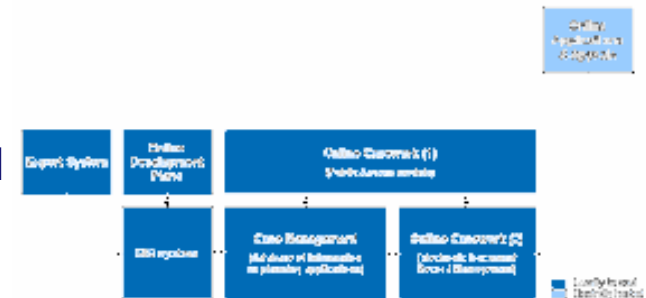


E-Planning

- Efficient Government Funded Programme
- c.£12m investment – opportunity to release c.£27m-£44m savings
- Led by Scottish Executive, involves 32 local authorities, 2 National Parks, SEPA, SNH, Historic Scotland, Scottish Water and Transport Scotland
- 5 workstreams
 - Online applications and appeals
 - Online planning information systems
 - Expert systems
 - eConsultations
 - Online Local Plans
- Shared services, joint procurement, best practice and modernisation of the planning system
- Integration of GIS, Address Gazetteers and business systems to support the planning processes



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Local Government Services

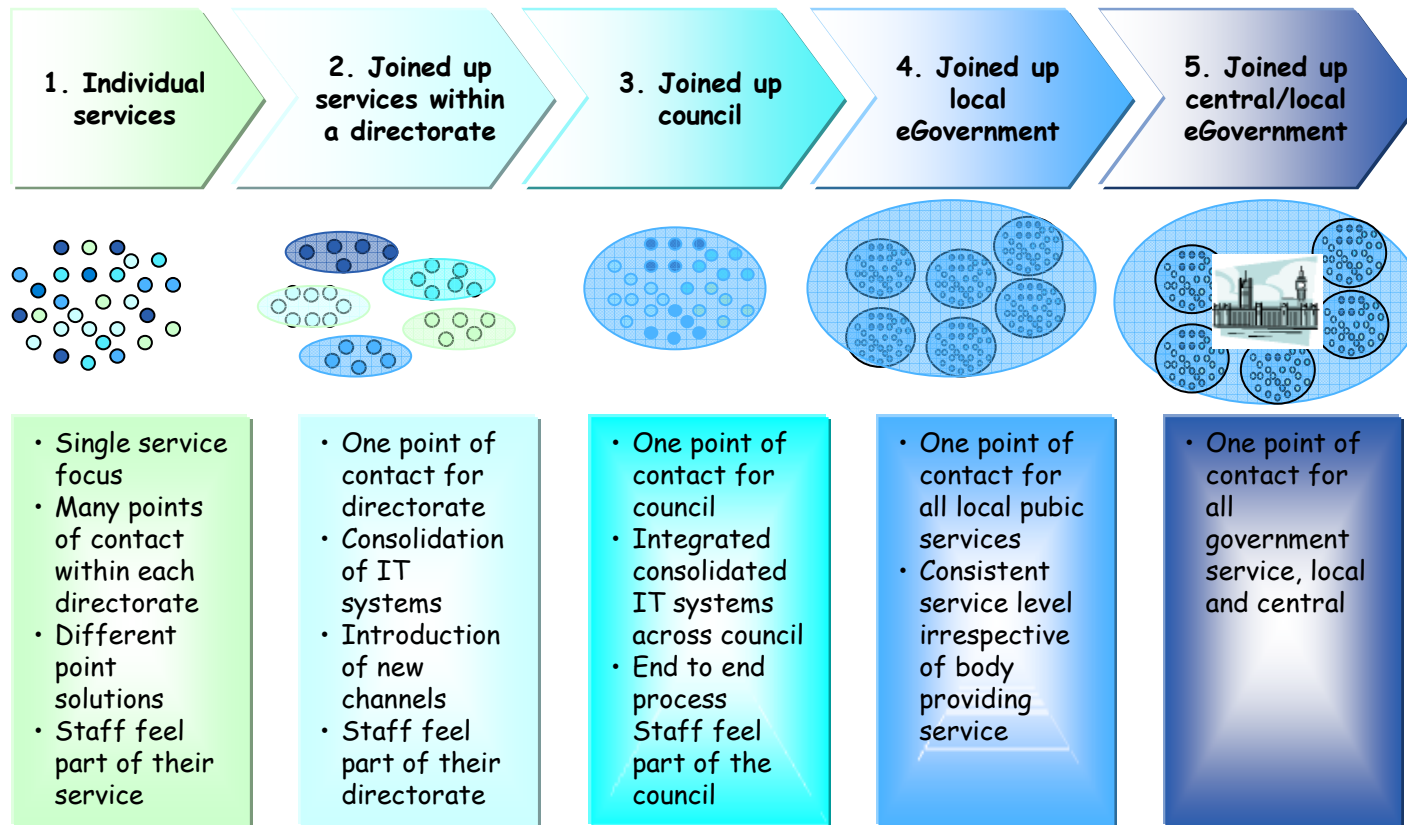


- Some are obvious – planning, roads, schools, social work, refuse.....
- But, how many different services are provided by local authorities?
 - 10?, 50?, 100?
- Glasgow Council lists c.485 services.....

Abandoned Vehicles	Agenda 21	Air Quality	Allotments	Alcohol Related Problems
Asbestos	Advocacy	Access Guides	Accident Prevention	Addiction Services
Adopted Roads	Active Glasgow	Adoption and Fostering	Attendance Allowance	
Adults with Incapacity	Anti-Fraud and Anti-Corruption	Archaeology	Anti-Poverty	
Anti-Social Behaviour	Archives and Special Collections	Asylum Seekers	ASBOs	
Animals - Fouling	Assessors/ERO	Art Galleries and Museums		
Arts Development	Animals – Dangerous/Wild	Access Centre		

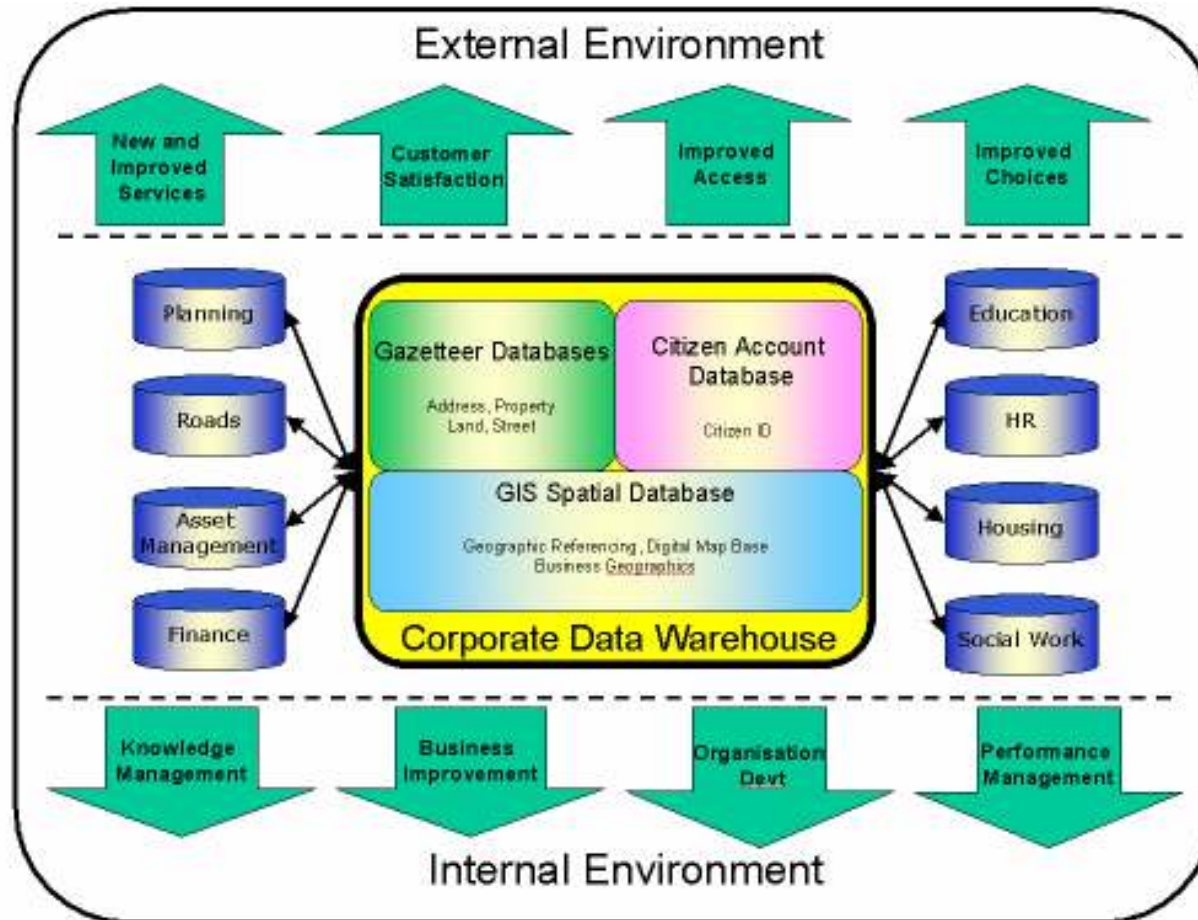
- Local government facing immense pressure to innovate, change and improve service delivery....
- Creates a framework for change in local government use of GIS and corporate information resources

Joined up Services



- Councils need to move from services working independently to working in a joined up way across services, directorates and other public service agencies.

Corporate Information Management

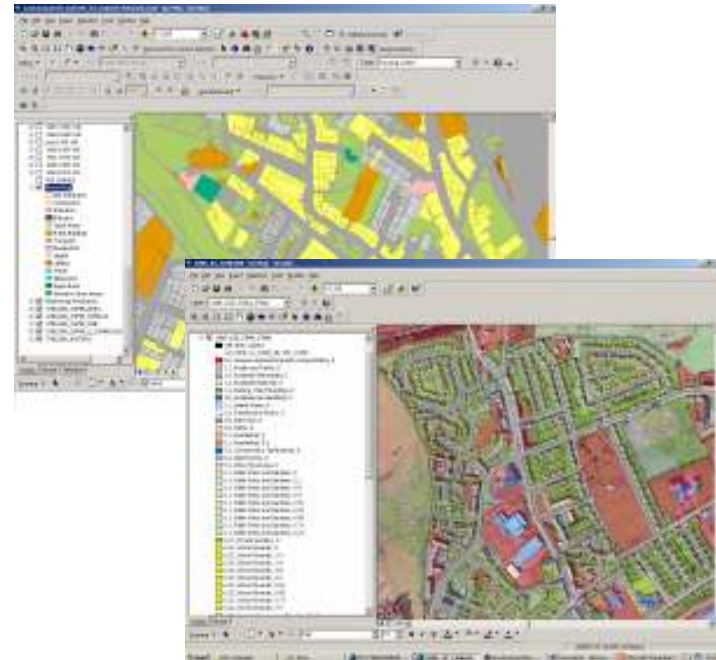


- Increasing convergence of core enterprise systems e.g.
 - CRM
 - GIS
 - Workflow
 - EDRMS
 - Asset Mngt
 - Finance
- Increased need for improved systems and data integration
- Increased requirement for business driven, process-based approach
- Increased requirement for robust information management practices

Forth Valley GIS Case Study

Tri-Council GIS Services

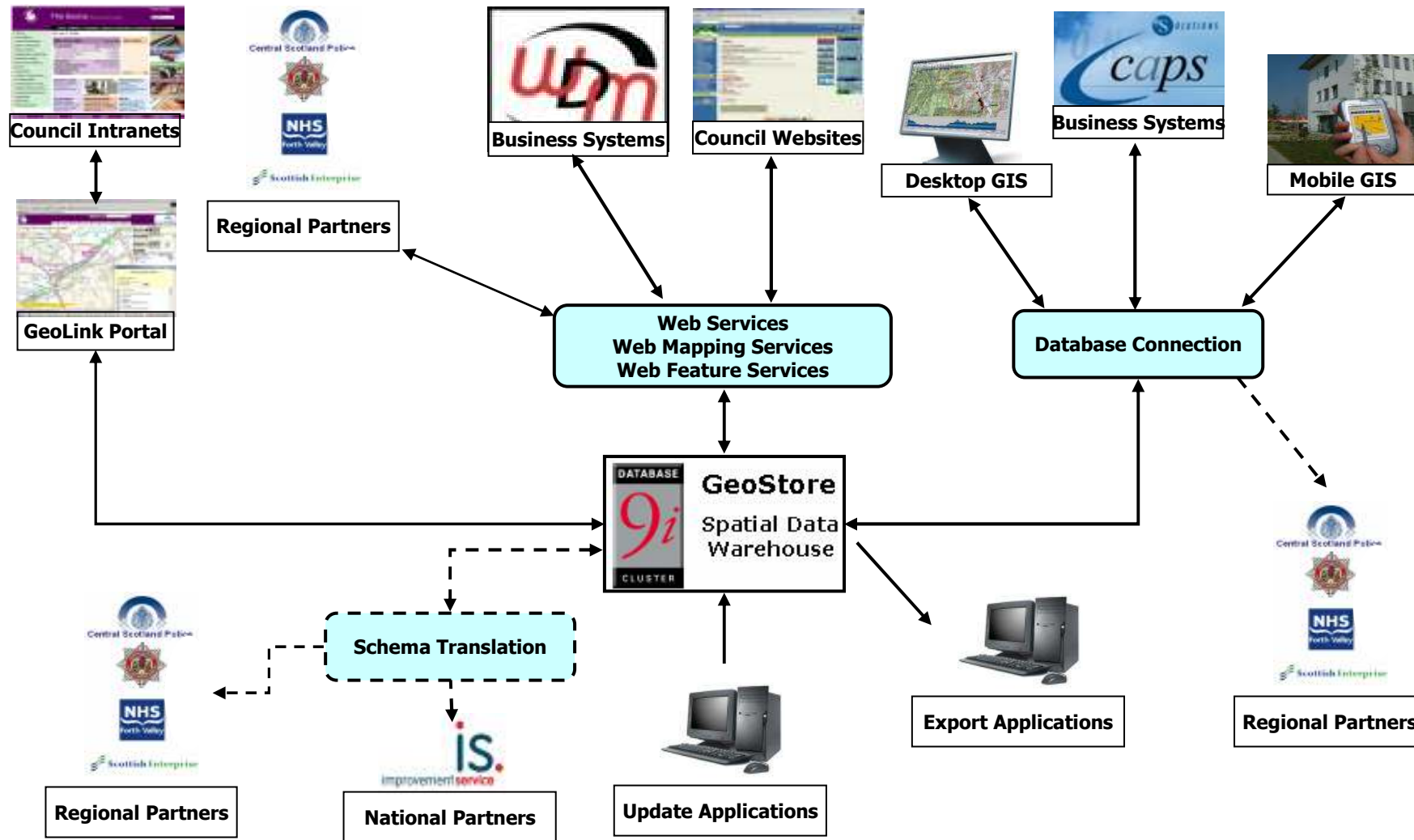
- Core services
 - Data Management
 - Application Development
 - Training
 - Support/Helpdesk
 - Bureau Services
- Corporate development projects
 - Corporate Address Gazetteer (CAG)
 - GIS/CAG and Business systems integration
 - Web and Desktop GIS solutions
 - Data sharing projects
- Service projects/Specialised consultancy
 - Local plans
 - Gritting Routes
 - Contaminated Land Management
 - Open Space Management
 - Woodlands In and Around Towns
 - School Transport Enquiries
 - Waste Collection/Disposal
 - Asset Management
 - and more.....



External Consultancy Services



Forth Valley GIS Infrastructure



Intranet/Internet Applications

Flash



Web Services



Web Components



SVG



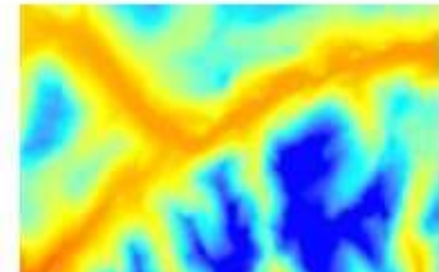
Google



JavaScript



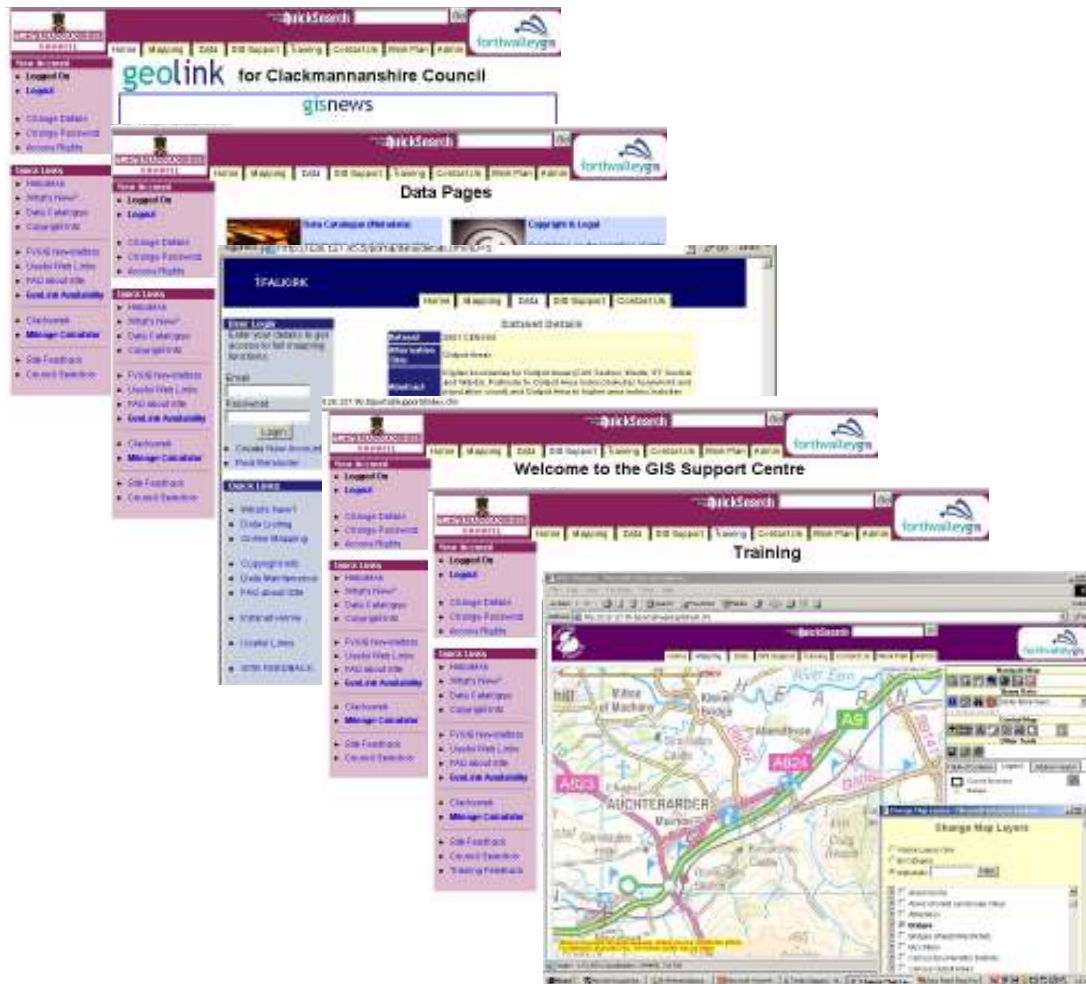
GeoStore – the Spatial Warehouse



- Centralised, regional spatial database
- Oracle 9i with supporting productivity tools (GO Loader, Cadcorp SIS, ESRI)
- Contains over 400 geographic datasets with c. 80 third party products
- OS MasterMap migration
- PAI data management
- Corporate address gazetteers
- Integrated with web/desktop GIS clients, enterprise applications

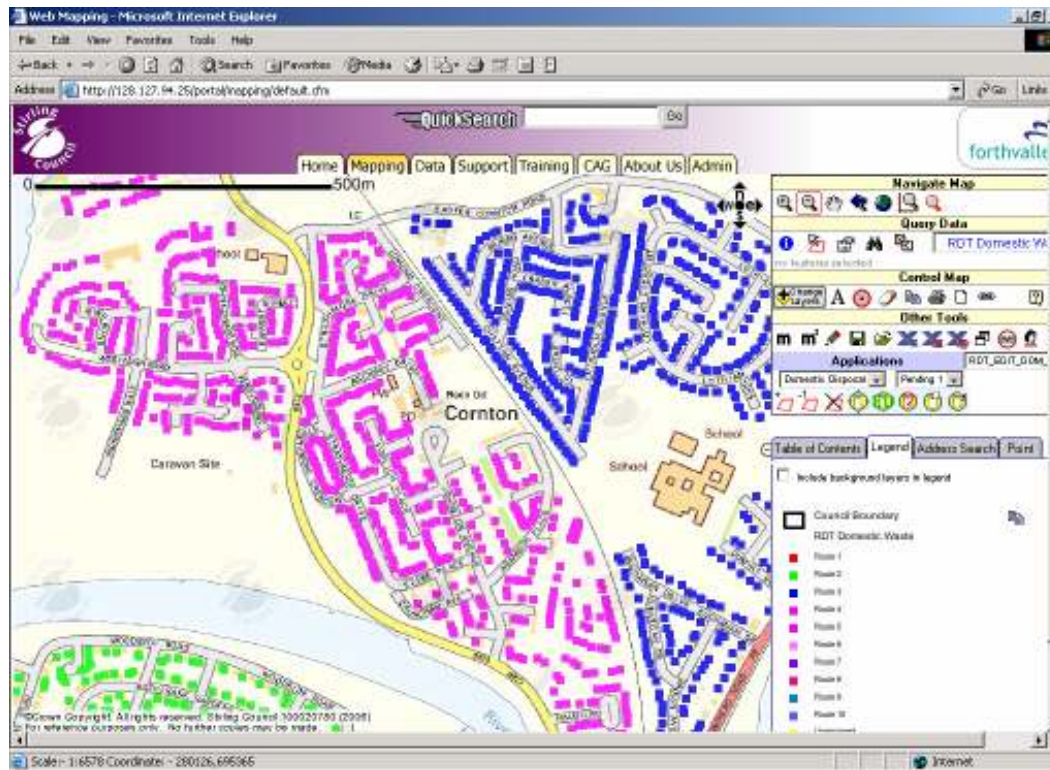


GeoLink – the Web Portal



- Available to over 12000 staff
- Over 2m page hits last year
- Features
 - Web mapping
 - Query, analysis and reporting functions
 - Data extraction tools
 - Data catalogue
 - Fully integrated metadata
 - FAQ and Support resources
 - Training
 - Online helpdesk
 - Knowledge base
 - Web services integration

Waste Route Design Tool (RDT) Modular Intranet-based system



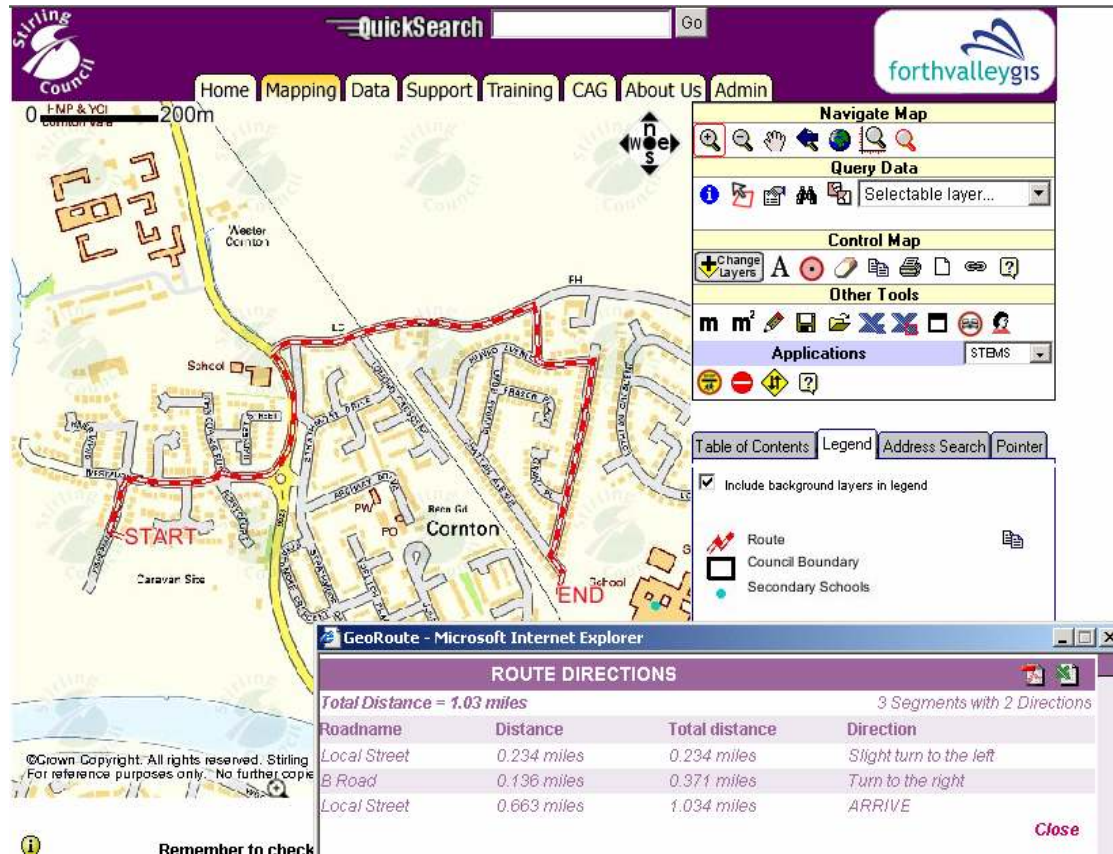
Provides controlled access to:

- Route design;
- Route reporting;
- Route browsing;
- Performance information.

Integrates with:

- CAG
- Commercial Waste Contract Management System
- Call Centre Work Flow Management System (EWORK)

School Placements



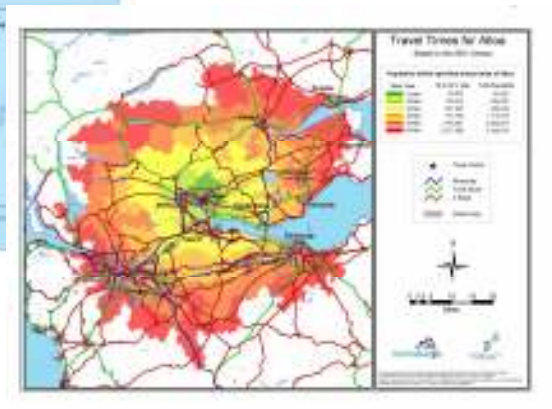
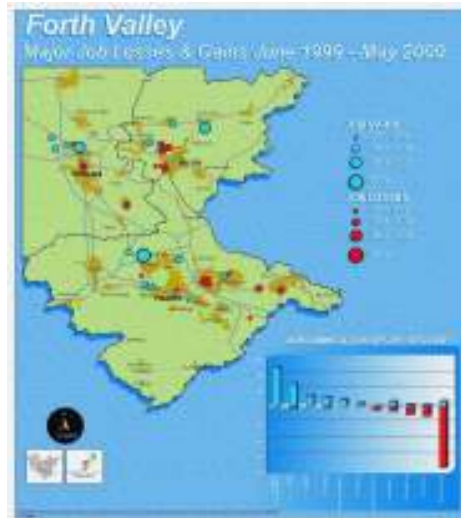
The screenshot shows the Stirling Council GIS interface. The map displays a red route starting at a 'START' point and ending at an 'END' point, passing through Cornton. A 'ROUTE DIRECTIONS' window is open, showing the following data:

Roadname	Distance	Total distance	Direction
Local Street	0.234 miles	0.234 miles	Slight turn to the left
B Road	0.136 miles	0.371 miles	Turn to the right
Local Street	0.663 miles	1.034 miles	ARRIVE

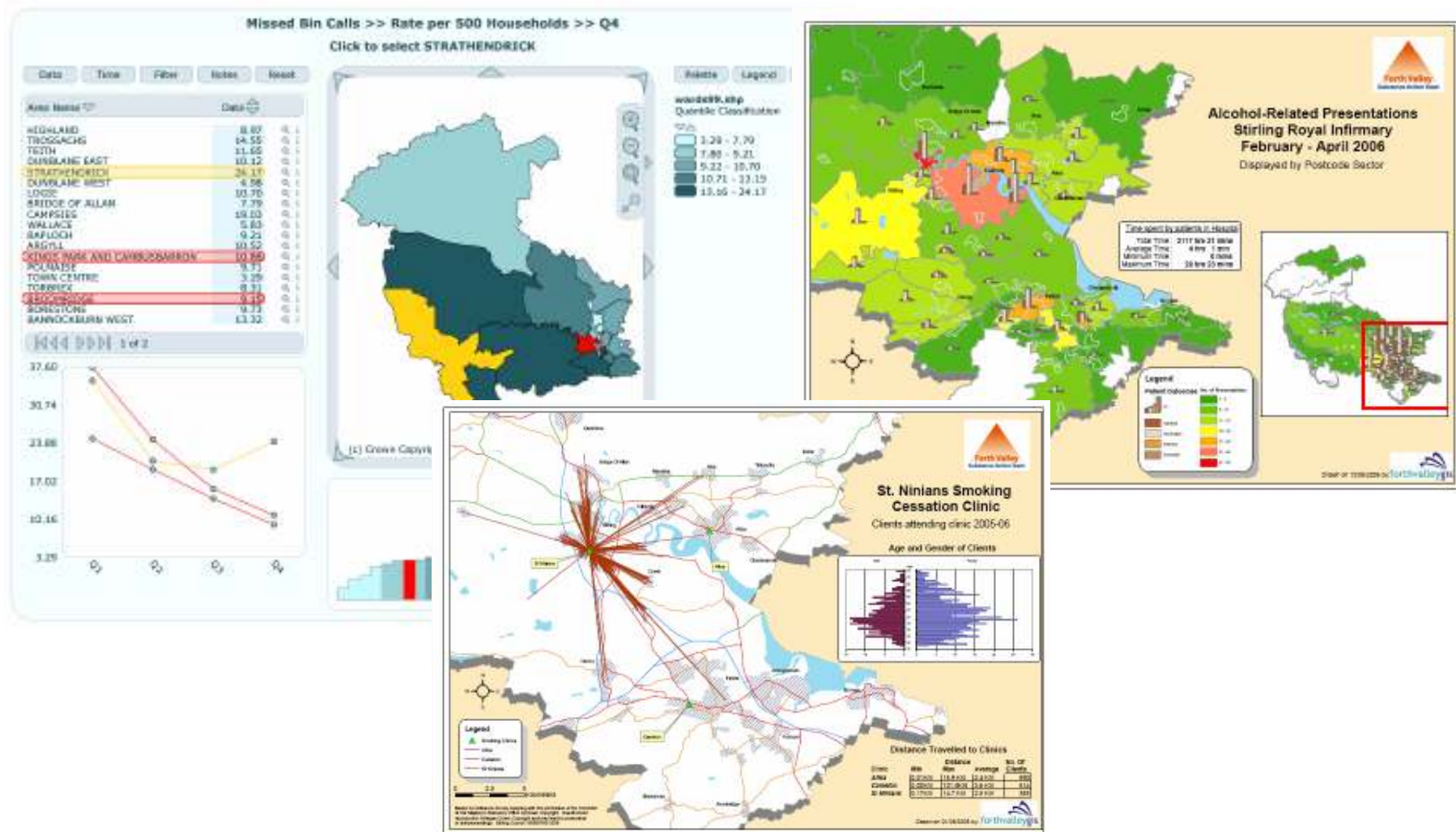
The total distance is 1.03 miles, consisting of 3 segments with 2 directions. The interface also includes a 'QuickSearch' bar, navigation tools, and a legend.

- School catchment analysis
- School placement requests
- Determining safe routes for pupils
- Calculate and assess eligibility for free transport
- Evaluate transport contracts
- Route optimisation
- Assess access to transport

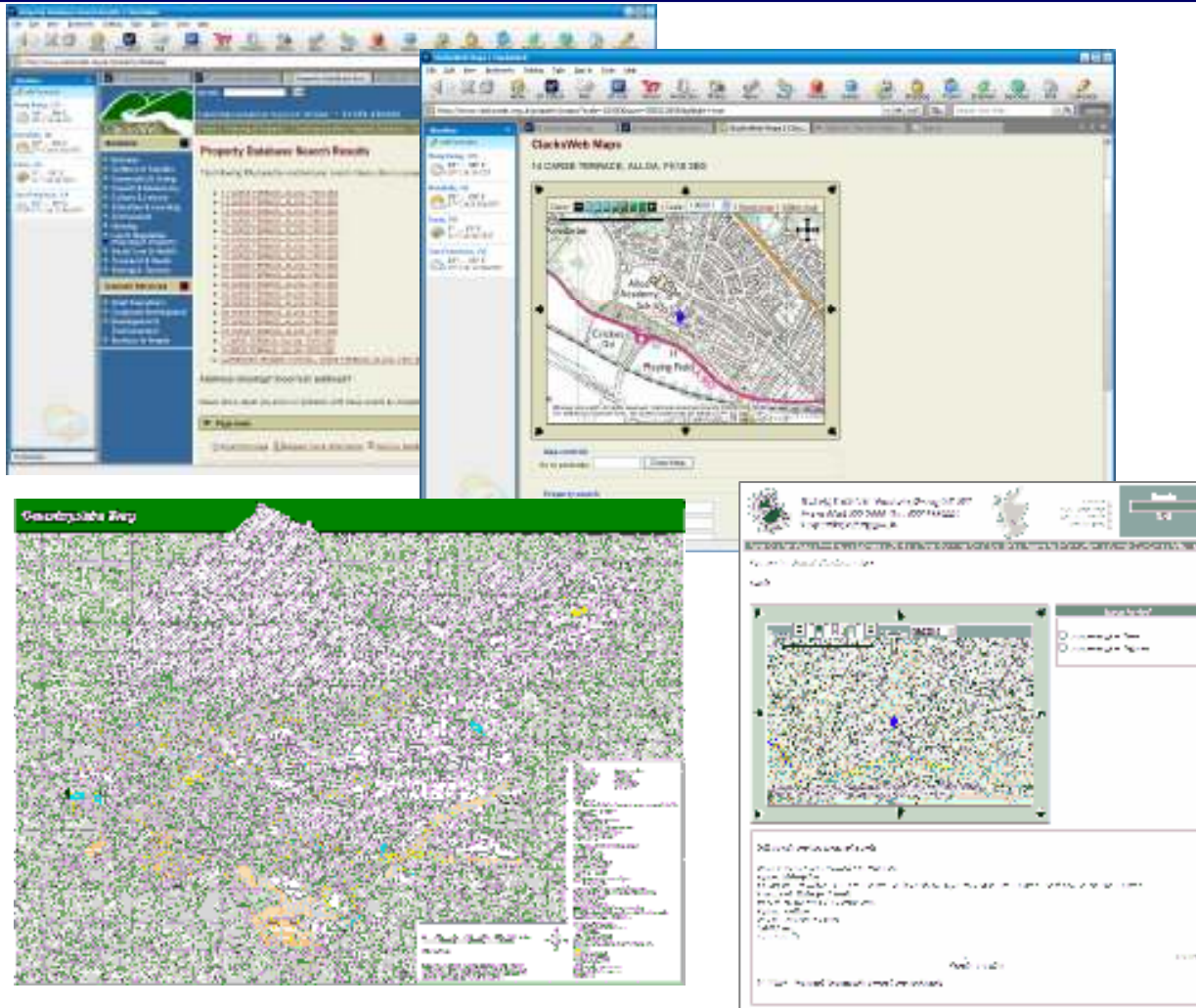
Spatial Analysis



Performance Reporting



Internet GIS



- Address and Postcode search
- Where's my nearest...?
- Online planning
- Paths/Rights of Way
- Development Plan
- Local Plans
- Archaeology
- Council Service information

Data Sharing

Community Planning

- Community Planning is *"... a process ... whereby public services in the area of the local authority are planned and provided after consultation and (on-going) co-operation ... among all public bodies ... and with community bodies..."*.
- Local Government in Scotland Act (2003) gave Community Planning a statutory basis
- Aims are to :
 - make sure people and communities are engaged in the decisions made on public services which affect them
 - commit organisations to work together, not apart, in providing better public services
 - provide an over-arching framework that helps to co-ordinate and rationalise other initiatives and partnerships
 - improve the joining up between national priorities and those at regional, local or community levels
- Core partners include Local Authorities, NHS, Police, Fire and Enterprise Networks



Partnership Working

- Greater need than ever to :
 - adopt citizen and community-centric focus
 - take cross-sectoral, inter-agency approach
 - improve and integrate planning, management and delivery of services
 - seek best value in service delivery
 - target services and resources
- By :
 - combining resources
 - combining skills and expertise
 - sharing services
 - integrating processes
 - exploiting use of technology
 - sharing information



Information Sharing

“Information Sharing is essential to success of Community Planning and better joint working between agencies for the benefit of customers and citizens”

LGIS Act 2003, Advice Note 8



Data Sharing Partnerships

- New governance structure
 - Scottish Executive Data Sharing and Standards Division
 - Senior Officials Steering Group (Efficient Govt/Public Reform)
 - National Data Sharing Forum
 - 14 Regional, multi-agency Data Sharing Partnerships
 - Regional Chairs
 - Data Sharing Manager/support resources
 - 3 year funding up to c.£150k per annum
- National Priorities
 - Community Care/eCare
 - Child Protection
- Local/Regional Priorities
 - ASB
 - Emergency Planning
 - Others...



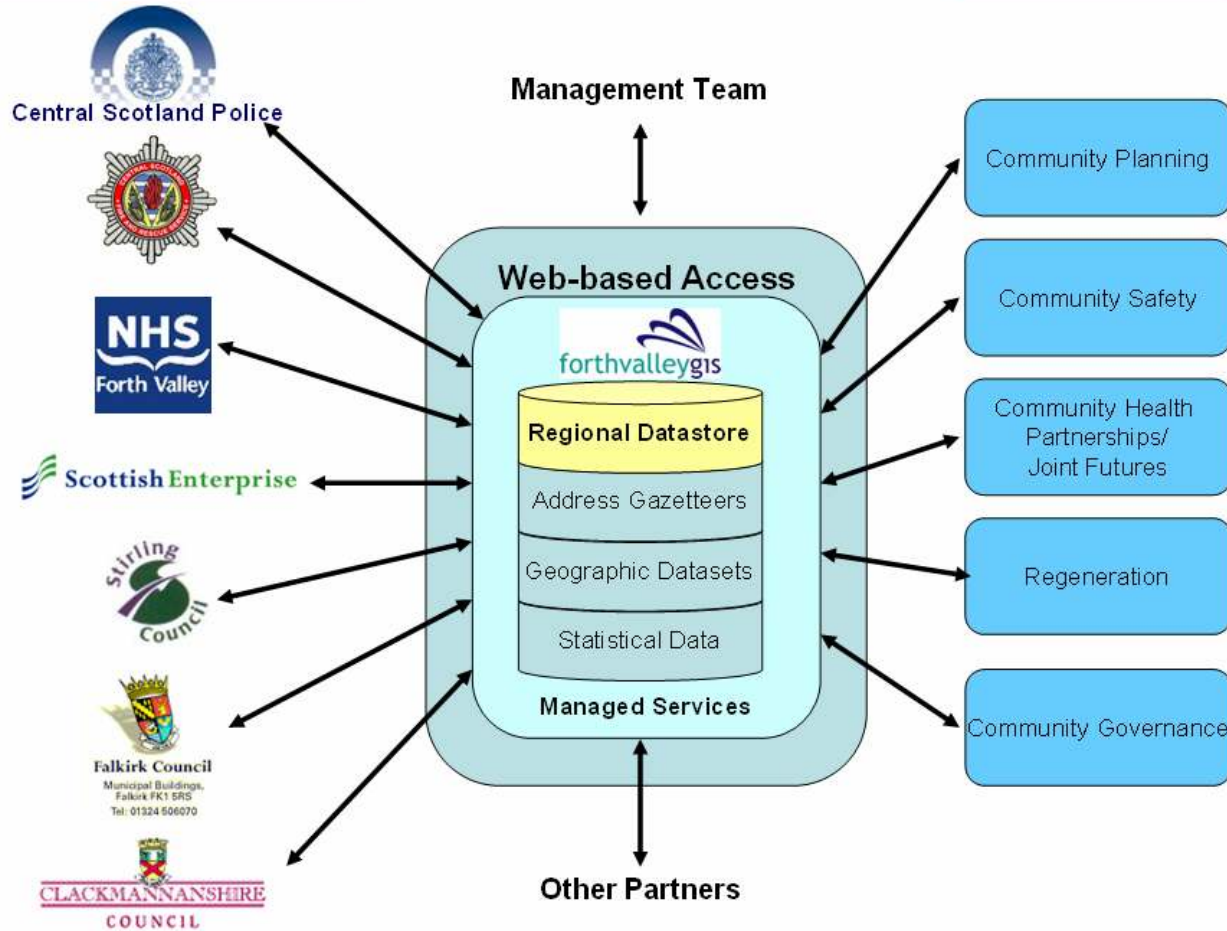
GIS Opportunities



Information Sharing

Individual Objectives

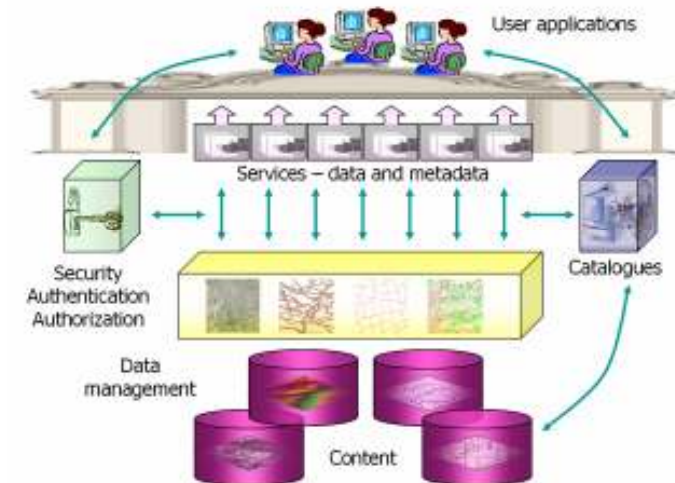
Joint Objectives



Spatial Data Infrastructure(s)

Spatial Data Infrastructure

- Spatial Data Infrastructure (SDI) – a framework where spatial data sharing and integration can take place over the internet
- SDI's are characterised by
 - Shared technical infrastructure
 - Sharing of data, metadata and access services
 - Interoperation of standardised web services
 - Open geospatial and web standards
 - Governance, business processes and policies
 - Shared resources
- SDI evolution
 - shifting from access to find, view and exchange spatially distributed data to.....
 - infrastructure of services, translating requests into workflow, finding, comparing and linking services
 -a Service-Oriented Infrastructure



*(From "International standards in support of interoperable SDI
– a Norwegian example")*

Industry Developments



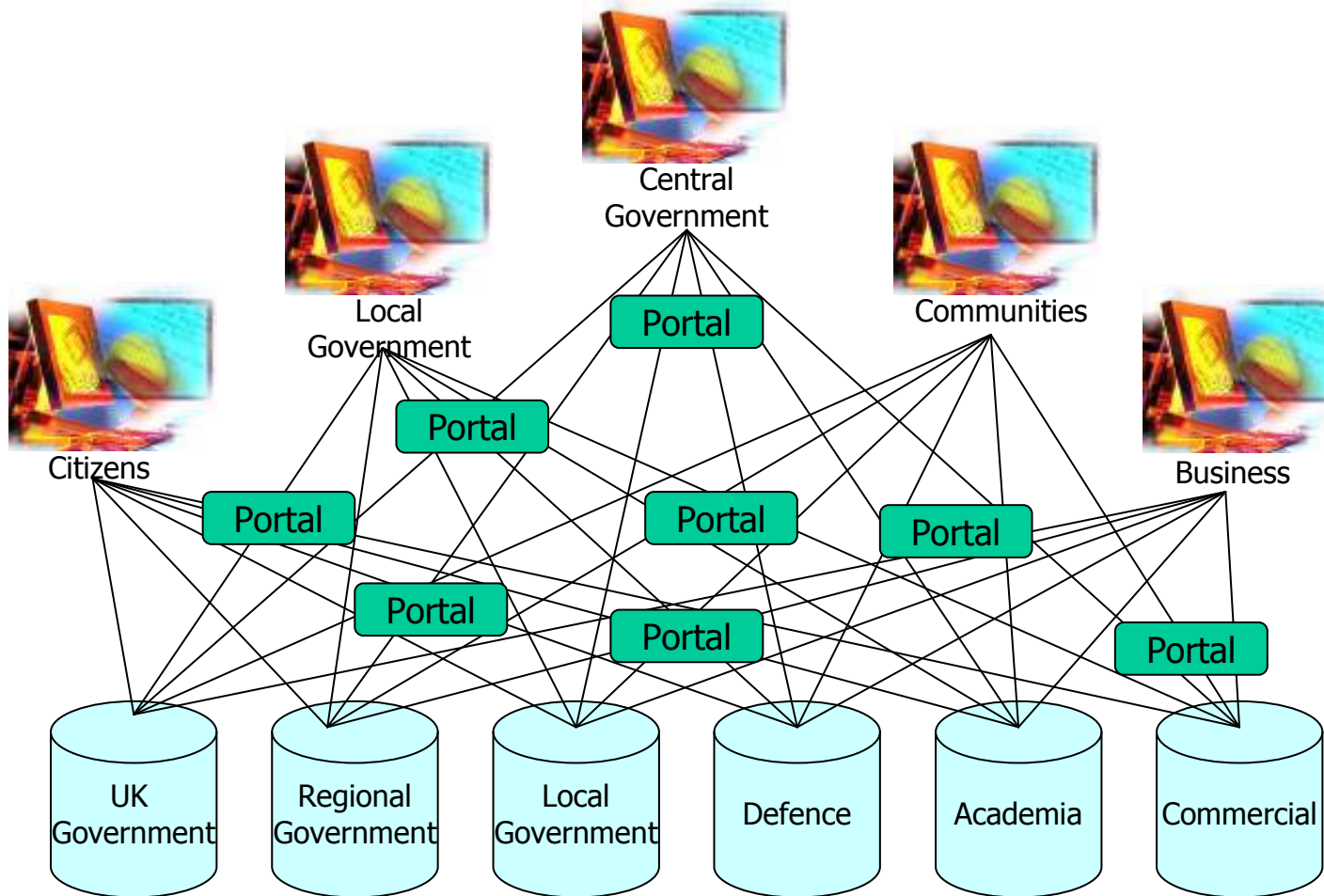
- Established open standards/specifications
 - ISO191xx
 - OGC (WMS, WFS, WCS etc.)
- Internationally active standards development community
- Established common spatial data transfer and metadata standards
- Increasing adoption and compliance by system and data suppliers
- Intelligent data products and commercially enhanced data
- Spatial data support in commercial RDBMS
- GIS functions in standard software development tools
- GIS functionality embedded in mainstream business applications
- Growing Open Source GIS community and industry movement

Changing Face of GIS

- Advent of the web has vitalised opportunities for GI publishing, sharing and development of new business solutions
- Role of GIS is still fundamentally to capture, manage, analyse data and communicate information, but emphasis is shifting...

From	To
• Data	• Information Services
• Data Capture and Mapping	• Analysis and Decision Support
• Publishing	• Transactional
• 2D	• 3D, 4D
• Past and Present	• Real-time and Future
• Static	• Dynamic
• Local and Regional	• National, European and Global
• General content	• Custom/location-centric content
• Closed	• Interoperable
• Few specialist users	• Many general users

Lots of SDI's.....



Some characteristics

- Often focussed on individual policy or political imperatives
- Ring fenced funding
- Predicated on government interoperability frameworks (OSIAF, e-GIF) but limited regulation
 - **and limited recognition of GI/GIS**
- Limited overall co-ordination to ensure maximum efficiency and shared resources
 - Risk of developing infrastructure silos
 - Limited interoperability across or between infrastructures
 - Inconsistent application of standards
 - Duplication of data, content, technology, resources
 - Limited data sharing
 - Competition v complementing



Need for better interoperability

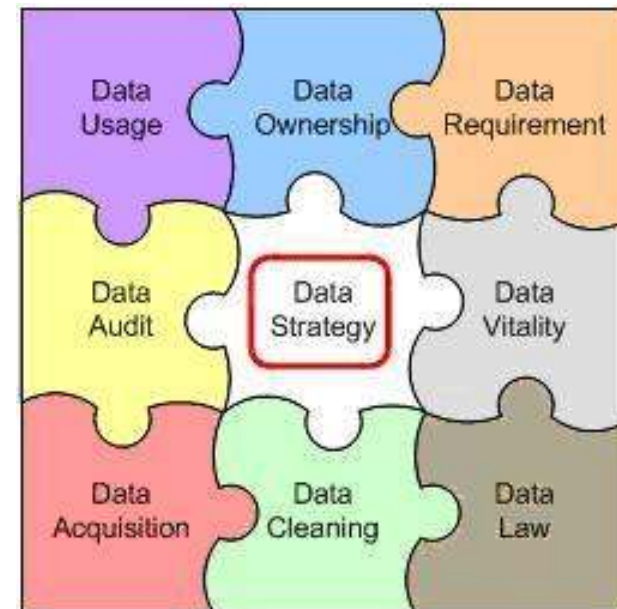
- Technical interoperability is already achievable
- Need to agree a common reference framework of GIS data, metadata, web and service standards
- Organisations to work from multi-level distributed data and services
- Rationalisation of common information resources
- Integrated collection of spatial databases
- Interoperability driven by business needs to combine and share resources
- Develop new GI web services/OGC specifications
 - image processing, sensor web enablement
- But.....more complex policy issues e.g. brokerage, distribution, pricing, legal/IP, access controls, information security



Need for better information management

We still need :

- Defined policy context for public data
 - Governance and co-ordination
 - Core geographies
 - Access, sharing, custodianship, archiving
 - Funding
 - Licensing and Charging
 - Information privacy and security
- Data Management
 - Organisational commitment
 - Still a low priority
 - Quality gaps
 - Stewardship for trusted data sources
- Data Sharing
 - Still in a state of cultural “unreadiness”
 - Overheads of data hoarding
 - Separation of data collection, management and brokerage functions



GI Strategies

- Organisational
 - Lots of them!
- Regional – Scotland
 - One Scotland One Geography
 - AGI impetus, now led by Scottish Executive
 - Published November 2005
 - Ministerial Support
 - Geography Steering Group
 - Implementation Planning – reference framework
 - Aligning GI, Customer First, e-Planning
 - Now part of Efficient Government & Public Sector Reform
- UK wide
 - UK GI Strategy
 - GI Panel established April 2005
 - Provide high-level advice to Government on GI issues of national importance
 - Commissioned development of UK GI Strategy
 - April 06-December 06
 - Work in progress



www.scotland.gov.uk/topics/government/openscotland



www.gipanel.org.uk

Challenges across all levels....

- Business Case
- Leadership
- Governance
- Information
- Business Processes
- Technical Infrastructure
- Partnership Working
- Interoperability
- Capacity Building
- Communication
- Sustainable Funding
- Benefits Realisation

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"Everything's just fine. Honest!
Why do you ask?"

GI Benefits

- Improvements in the use of public resources
 - better informed and more effectively deployed staff
 - more informed, evidence-based decision making
 - improved planning, targeting and performance management of resources
 - a more strategic management of land and property assets
 - better use, improved quality and integration of information resources that already exist
 - improved means of visualising and communicating easily understood and appropriate geographically based performance information
- Improved understanding of citizen/community needs and expectations
 - now and how this may change due to demographic, economic and environmental factors
 - improved levels of customer service and greater customer satisfaction
- An information sharing culture and framework
 - that will facilitate and encourage joint working between services and with partner agencies
 - leading to better services and strategic advantage for public services



But there are limits.....

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