

Empowering eProfessionals through Collaborative Working Environments

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Outline

eCoSpace Project Background

Atkins as a testbed

**Business Collaborator as a
systems provider**

eCoSpace architecture

Conclusions

eCoSpace Vision

2012 eProfessionals in Europe

- Collaboration across teams, organisations and communities
- Seamless, dynamic and creative collaboration
- Personalised collaborative working environment

eCoSpace Objectives

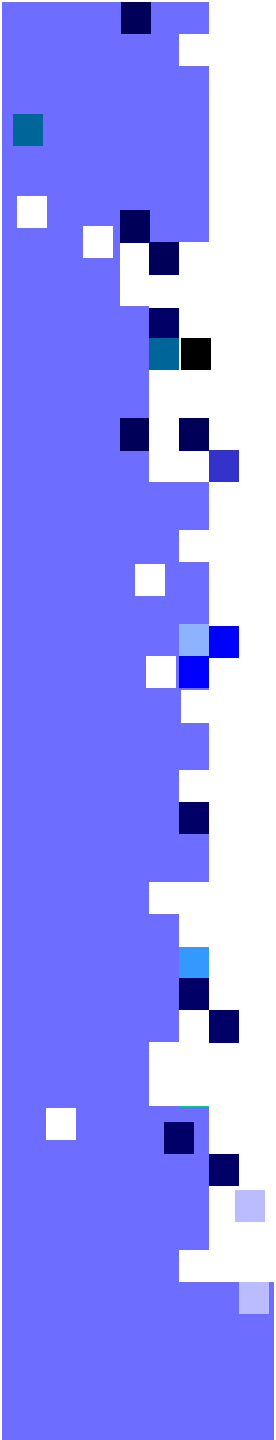
Define innovative work methods

Design and develop relevant open standards and service-oriented architectures (SOAs)

Collaboration middleware and services

Creation of tools to simplify collaboration

eCoSpace Project

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- 20+ partners
 - June 2006 - May 2009
 - Strong research component
 - Action research
 - Benefits to participants
 - Benefits to wider community



ATKINS

Construct I.T.
For Business
enabling process change

Plan Design Enable

Atkins is one of the world's leading providers of professional, technology-based consultancy and support services with a turnover of £1.4bn and more than 16,000 professional staff.

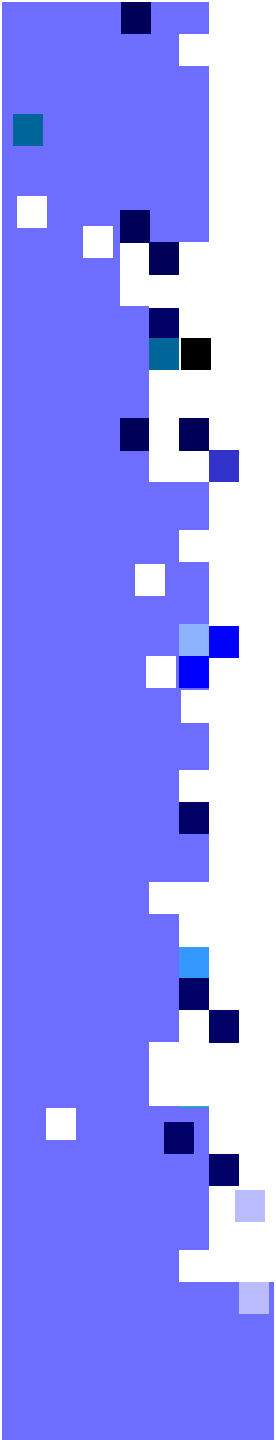
Atkins' Work...

- is focused on the efficient operation of our clients capital programmes
 - We **PLAN** all aspects of our clients' projects, conducting studies covering technical, logistical, legal, environmental and financial considerations.
 - We **DESIGN** systems, processes, building and civil structures. We develop cutting edge solutions and combine them with tried and tested technologies to achieve an optimal result.
 - We **ENABLE** complex programmes, delivering one-off projects and managing ongoing processes to reduce timescales, cost and disruption, allowing our clients to focus on their core operations.

Atkins objectives from the eCoSpace project

- Continual development and improvement of effectiveness and quality of delivery to clients
- Test bed for new approaches and ideas that may be of benefit to clients
- Opportunity to shape the agenda and future development in line with business needs
- Analysis of our work-style by external experts

Examples

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- Construct, refurbish and maintain the European retail outlets of a global company
 - Transportation system – stations and track construction and maintenance
 - Project management of a major infrastructure project





Lessons learned (1)

Knowledge Management

- Capturing lessons learned
- Culture of sharing information
- Identification of expertise

Technology

- Portals, records management, e-mail
- Videoconferencing
- Web 2.0 solutions
- Collaborative desktops

Lessons learned (2)

Processes

- Technology is an enabler

Cultural issues

- Important for international working
- Affects multi-disciplinary groups
- Experience of technology (willingness to use some tools)
- Diversity (of backgrounds and views)

Business Collaborator

– Collaborative Working Environment

- Web-based document management
 - Folders / “workspaces”
 - Collections
- Task management / Issuing
- Metadata
- Audit Trails

Example BC Projects

- Construction Projects
- Utilities
- Docklands Light Railway

Utilities AMP4 Programmes

■ United Utilities - AX4 extranet (AX4Online)



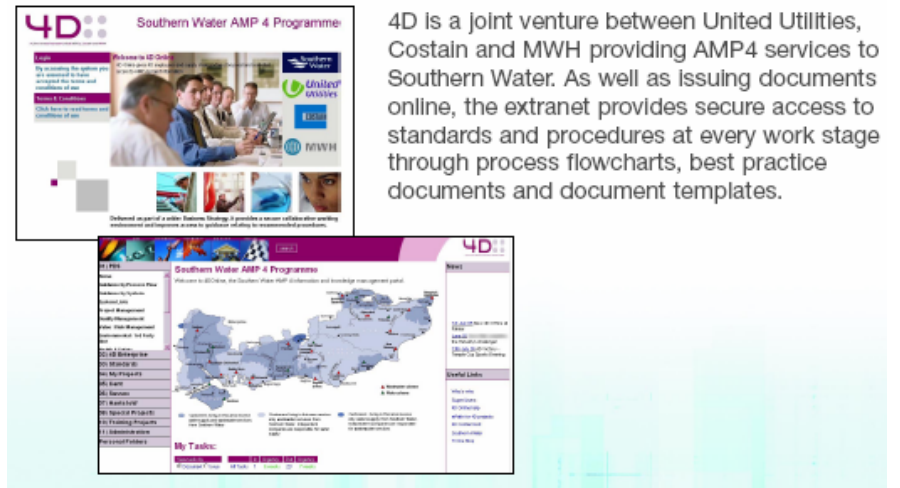
3500 users across the supply chain working on water, wastewater and electrical capital projects will be using the AX4 extranet for document management, issuing documents for markup, comments and approval, and referring to it for guidance on project delivery process via updateable flowcharts.

■ Thames Water - AMP4 extranet (TWEXnet)



1500 users across the supply chain use TWEXnet to provide a standardised way of working on all projects, workspaces and documents, accelerating the setup of large numbers of projects. The extranet has increased efficiency by providing a central resource for documents which are issued for markup and approval online.

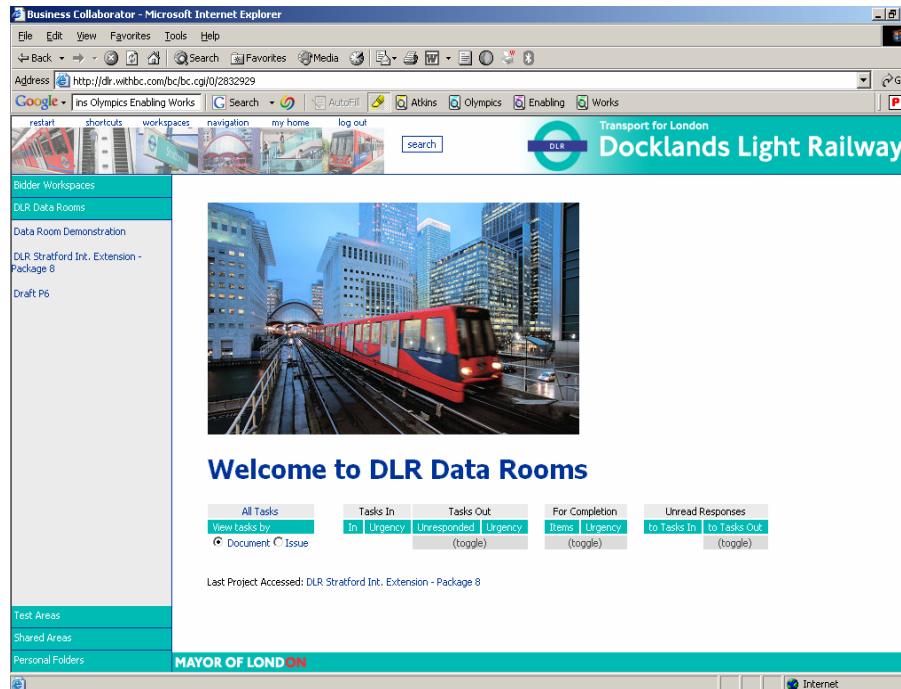
■ Southern Water - AMP4 extranet (4DOnline)



4D is a joint venture between United Utilities, Costain and MWH providing AMP4 services to Southern Water. As well as issuing documents online, the extranet provides secure access to standards and procedures at every work stage through process flowcharts, best practice documents and document templates.

5 year programmes
 £5bn + project value
 8,000 + users
 3,500 + individual projects

DLR – Data Rooms



•BC is facilitating tenders for a DLR extension from Canning Town to Stratford

•Configured to meet the Corporate Services Team workflow and processes

•Ease of use was a key requirement to eliminate the need for external user training

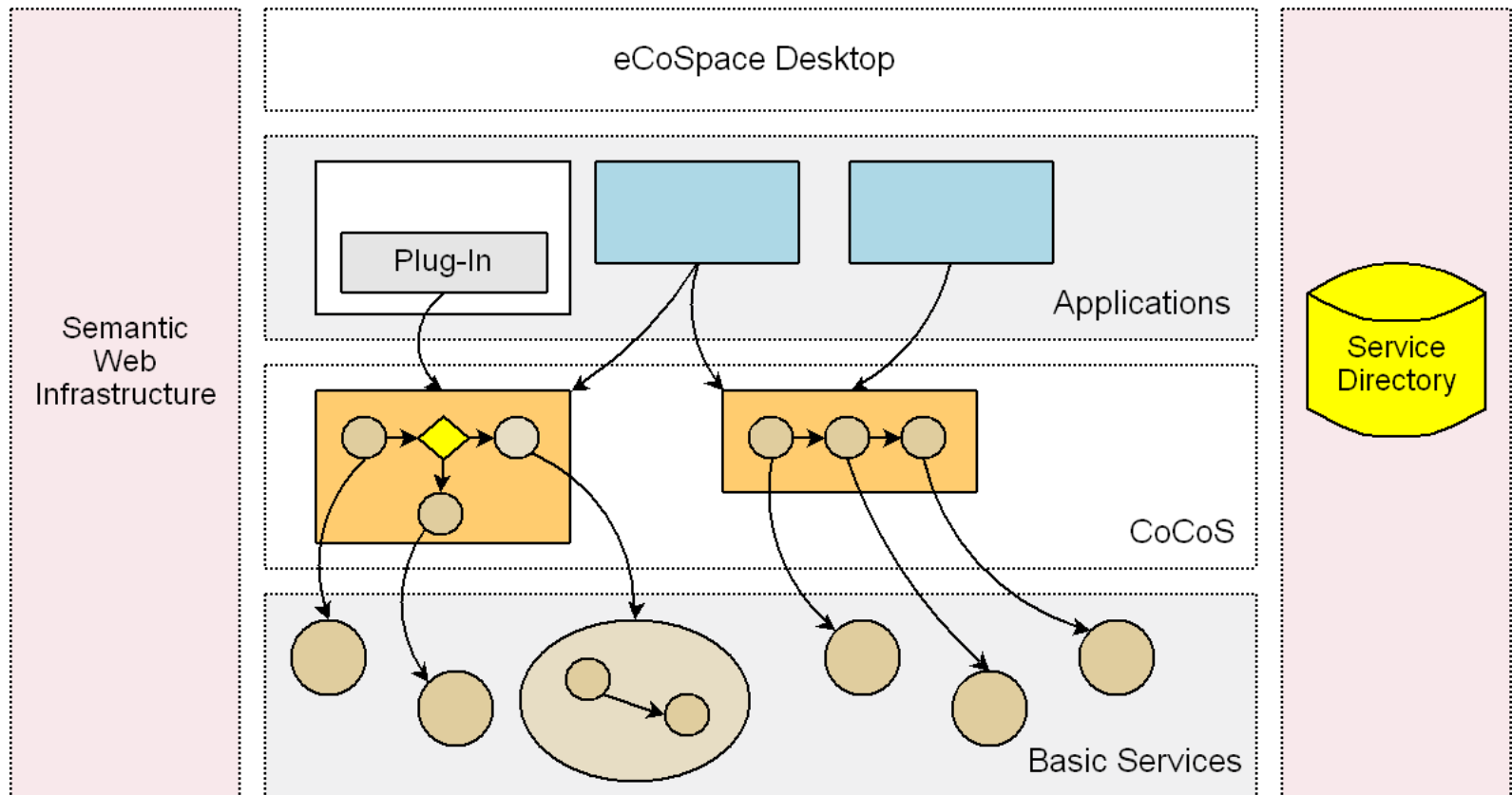
BC's Objectives

- Working with other systems
 - Inter-system collaboration
 - Metadata preservation
 - Continuation of work done for NCCTP
- Integration with other products
- Anticipating new technology
- New methods of collaboration

eCoSpace R&D

- Middleware
 - Integrating collaborative technologies (specific)
 - Chat / Instant messaging
 - Video conferencing
 - Presence
 - Document management
 - Reference Architecture (general)
 - Shared workspace synchronisation
- Dynamic environments / multiple organisations
- Tools

eCoSpace Architecture



Web Services

- Public-access APIs
- Technologies
 - XML-RPC
 - SOAP
 - WSDL
- Automation / “Mash-ups”

Co-ordination

- Combining web services
- Choreography
 - Overall interaction of web services
 - WS-CDL
- Orchestration
 - Coordination of specific processes / services
 - BPEL

Semantic Web

- Adding “meaning” to the web
- Core Technologies:
 - XML / XML Schema
 - RDF
 - OWL
 - SPARQL
- Other Projects:
 - FOAF
 - SIOC

CoCoS

- Composite Collaborative Services
- High-level description of collaboration services
- Dynamic:
 - Constructing new applications
 - Adapt to available services
 - User Profiles / Rules

Challenges

- Building an eCoSpace “environment”:
 - Service discovery
 - Authentication / identity / single sign-on
- Communication
 - Standards
 - Object and event ontologies
- Compatibility
 - Non-eCoSpace systems

Changes to BC

- BC handling more communications
- Combining multiple CWEs
 - Integration
 - Layering
- Better Import/export
- Server clusters
 - Flexible server arrangements
 - Distributed services / parallelism
- Web services / automation

Benefits to BC clients

- Closer and more pervasive collaboration
- Improved workflow
- Better communication
- Capturing more data
- Better audit trail
- Improved interoperability
 - Migration
 - Greater funding means more significant development than, e.g. NCCTP

Conclusions

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- eCoSpace has delivered insight**
 - Development of collaboration tools**
 - Service Oriented Architecture**
 - Technology is an enabler**
 - Culture of collaboration**
 - Diversity of background and thinking**

Resources

- 
- Atkins
 - <http://www.atkinglobal.com>Business Collaborator
 - <http://www.groupbc.com>
 - eCoSpace
 - <http://www.ip-ecospace.org/>
 - Semantic Web
 - <http://infomesh.net/2001/swintro/>
 - http://en.wikipedia.org/wiki/Semantic_Web
 - <http://www.w3.org/DesignIssues/Semantic.html>
 - Web Services
 - http://en.wikipedia.org/wiki/Web_service
 - <http://www.w3.org/TR/soap/>
 - <http://www.xmlrpc.com/>