Creating a media infrastructure for Digital Britain

Researchers from the PRISM project are working on a trading infrastructure for content creation and access that could change the face of broadcasting and the way people receive content on their PCs, television and mobile devices.

Key benefits

- a way for businesses and consumers to trade digital media securely and cost effectively
- more efficient ways to work for broadcasters; enables easy integration of new content creation and access mechanism
- new ways to deliver content to consumers

The BBC, like other media organisations, is migrating from tape to a digital, computer-based broadcast infrastructure. The files involved, such as broadcast quality video, films and programmes, are huge. Moving them around requires significant bandwidth and processing power.

Media organisations are also looking at new ways of distributing this content. The BBC, for example, wants to put its entire archive online.

For QinetiQ and the defence domain network, communication is fundamental to their applications. Managing online resources and creating new ways to contribute, find and exchange digital content quickly, securely and cost-effectively are major challenges.

The PRISM research project (PeRvasive Infrastructure and Services for Media) aims to find a solution to these challenges by creating a media economy that will be the backbone of media services for Digital Britain.

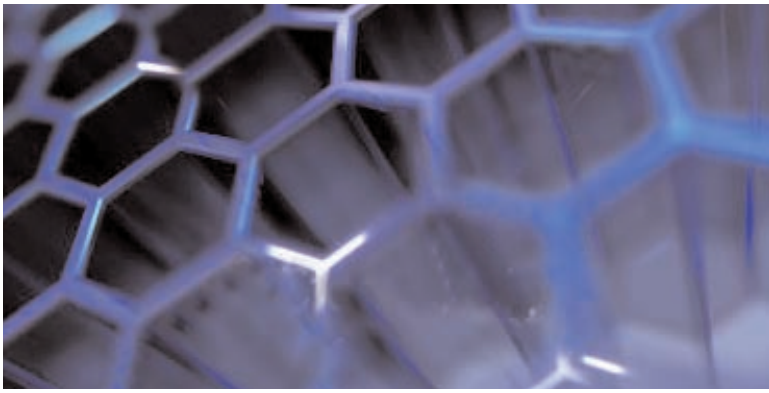
One of the core aims is to create a universal layer of services, using web and grid technologies, to manage media content distribution and enable plug-and-play access by networked devices – including PCs, set top boxes and mobile phones – to create a flexible and dynamic infrastructure. Frank Sharkey of BT says: "The main aims of the PRISM project are to deliver a next generation solution that addresses two obstacles: providing security standards for media that can be intelligently indexed, stored and searched; and secondly the intelligent and efficient storing, processing and distribution of this content.

"The solutions being produced are potentially groundbreaking; if we achieve what we have set out to do then it will be a major achievement."

Rhys Lewis of the BBC says: "Broadcasters everywhere are facing the challenge of moving their organisations away from a heavy reliance on the manipulation of tape and other physical media into fully networked businesses with material storage and transfer based on the movement of files. The PRISM initiative is an ideal opportunity for the BBC and its partners to develop new solutions for this new world."

The BBC is the lead partner in the project, which also involves the Belfast e-Science Centre, BT, GMS Ltd, and QinetiQ.

The total project cost is £2,931,866; the Technology Programme is providing £1,465,932. The project started in January 2006 and runs for three years.



Objectives

PRISM grew out of a previous project between the BBC and the Belfast e-Science Centre (BeSC) which investigated the potential for using computer grid technology for media content management and delivery.

The project will use grid technologies to create a flexible dynamic infrastructure. "Grid technologies are the next generation of web technologies that enable cost-effective dynamic infrastructures to be created" says Terry Harmer of BeSC.

Stephen Craig of BBC Northern Ireland adds: "This is about the ability to deliver content on demand in a secure manner. The BBC also wants to be able to accept content uploaded by users. And the framework we create needs to be able to support the exchange of information between different broadcasters."

PRISM will enable the BBC to support television and online service more cost-effectively by joining up production purposes and improving resource sharing.

It will also develop a media service economy that acts as a universal layer that provides a security means for online content distribution and sharing.

Solutions

The team is building a field-deployed content service infrastructure that will demonstrate distributed media content contribution and access. The BeSC is using its expertise in web and grid services to create the service infrastructure for PRISM that enables content producers and consumers to contribute, find and access content securely.

GMS need to know how they can exploit their core expertise in set-top box technology in a future of pervasive media services. BT is looking at issues concerning its network – such as where to host content, in exchanges or centrally, and the potential effect on bandwidth.

QinetiQ brings expertise in security and intrusion detection, and will be looking at issues such as how the applications can be used more widely in the media industry.

Results

PRISM is building on the initial research into gridcasting – and aims to deliver working systems that can be used in media content management and delivery.

A demonstration gridcasting system developed by Belfast e-Science is scheduled to go live early in 2007.

"PRISM is focused on the practicalities of the emerging pervasive media economy and early demonstrations of the benefits of such an infrastructure are a vital part of the project" says Terry Harmer of Belfast e-Science.

Derek Fielder of QinetiQ says: "The project has progressed very well so far. There is a strong spirit of co-operation between the parties."

A GMS spokesperson added: "We are delighted to have the opportunity to be working with such a prestigious team on a project that could have a significant impact on the future of broadcasting and media delivery."

Project contacts

Lyn Morgan
Project manager
Email: lyn@mediaconsulting.co.uk
Tel: 029 2089 0717

Stephen A Craig
BBC Northern Ireland
Stephen.craig@bbc.co.uk

Terry Harmer
Belfast e-Science Centre
Email: t.harmer@qub.ac.uk

Frank Sharkey
BT
Email: frank.sharkey@bt.com

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