
EGEE Grid Technology Market Evaluation

Alex Efimov
KITE Club Innovation Advisor
CERN UK Technology Transfer Officer

alex.efimov@qi3.co.uk
+44 (0)1223 422405

CERN
26th July 2006

Research Objectives

- **Grid Computing – Where is the Value?**
How could grid computing provide Return on Investment (ROI)?
- **Assess the Technology Readiness Level and how it should be improved.**
- **Analyse markets and routes to commercialisation of grid technologies**

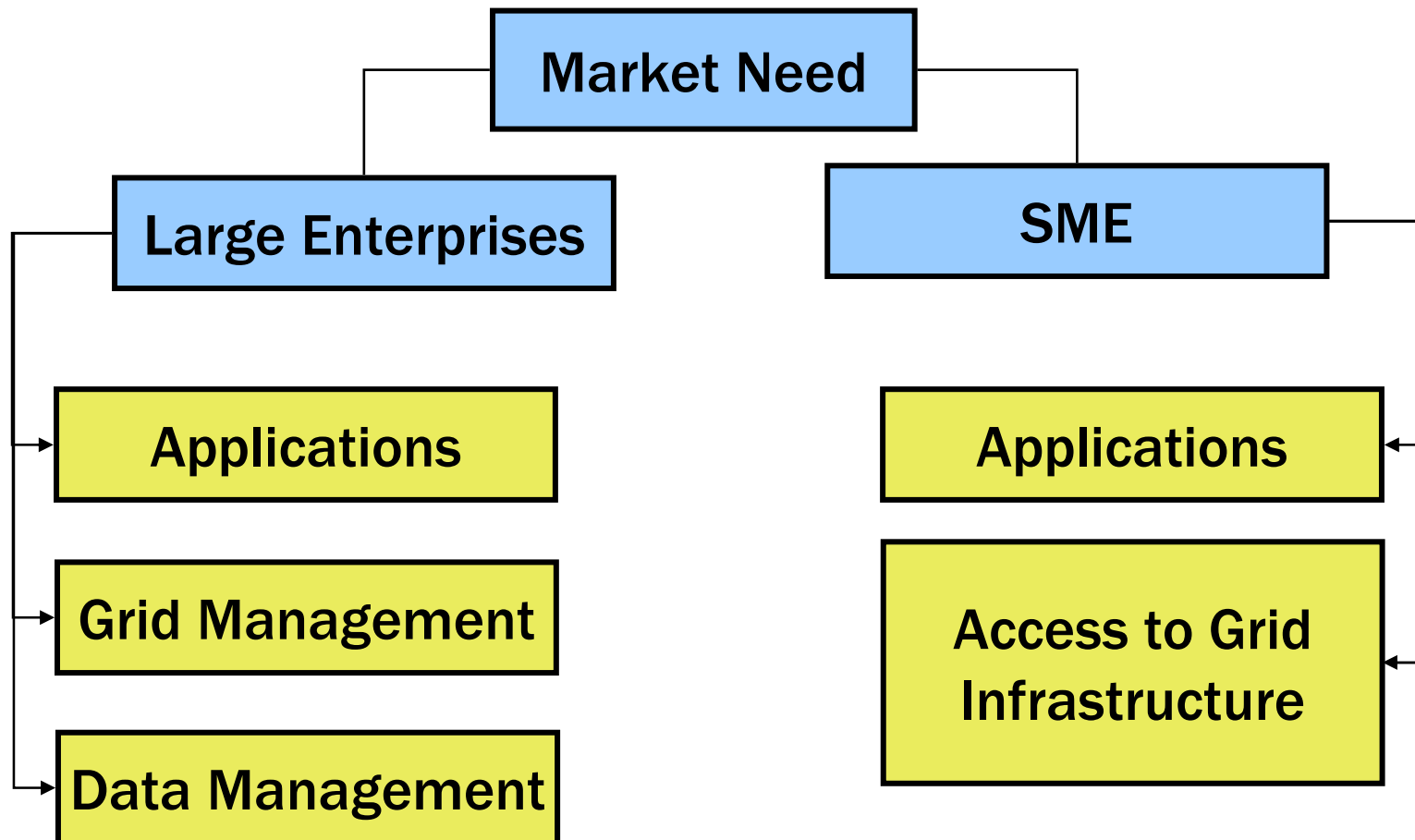
Getting Value from Grid Adoption

- **Enabling new capabilities**
 - **Project NPV**
- **Realization of cost savings**
 - **Return on Investment (ROI)**
- **Intangible benefits (better collaboration, new level of business insight)**

Grid for Industry Sectors

- **Financial Markets (Business Analytics and Enterprise Optimization Focus)**
- **Life Sciences (Analytics Acceleration and another for Information Accessibility Focus)**
- **Automotive and Aerospace (Engineering and Design Focus)**
- **Governmental Agencies**

Market Need

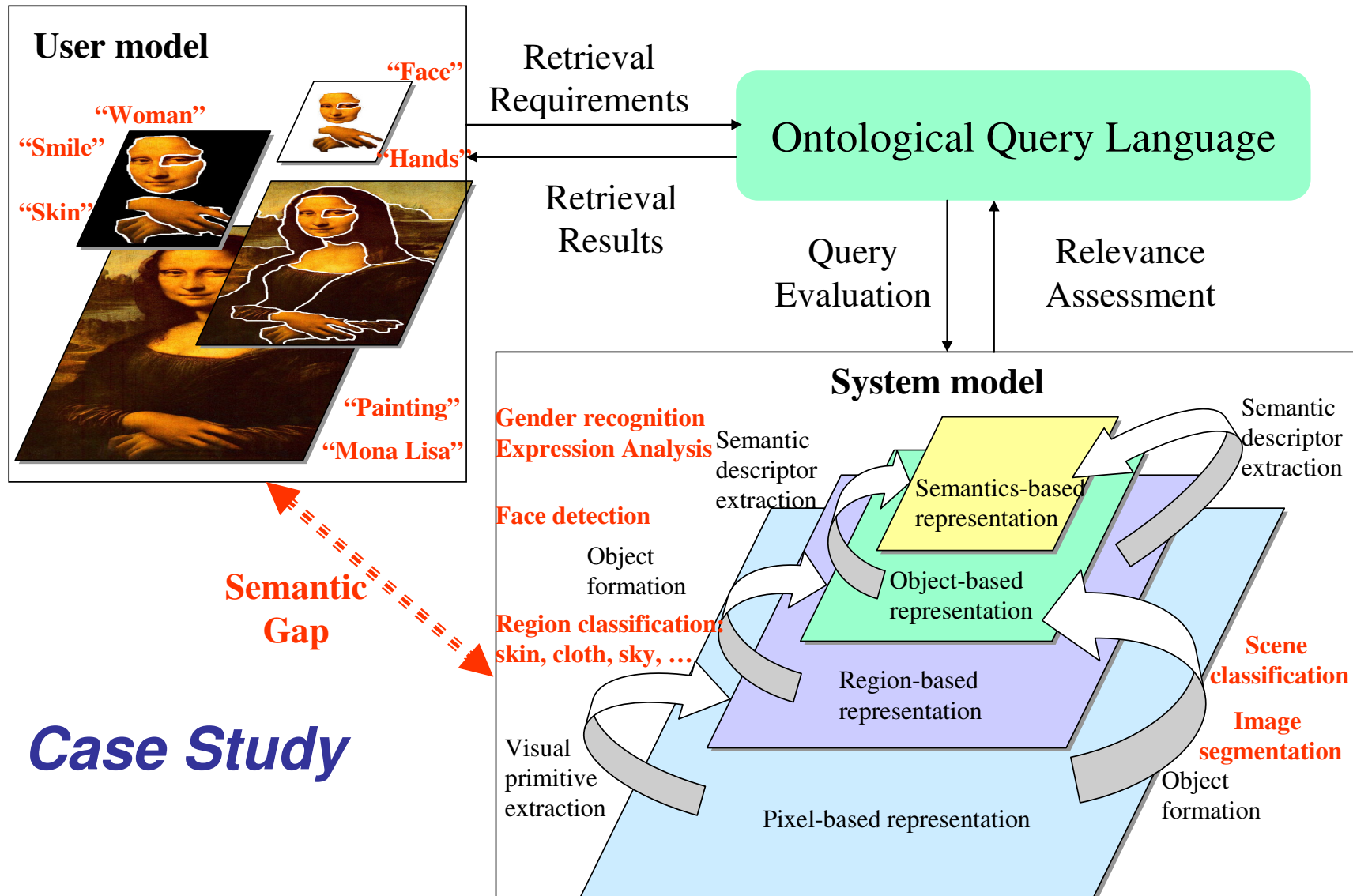


Grid and Entrepreneurship

- **Statistics on 9 recent start-up companies**
 - Geographic distribution: US-6, Canada-1, UK-1, Denmark-1
 - Technology focus: application development, optimisation and management – 6, middleware – 2, hardware – 1
- **Conclusion:** trend changes from grid infrastructure to grid applications

Starting a New Venture

- **VC Requirements**
 - Strong team
 - Global, sustainable, under-served market need
 - Defensible technological advantage
 - 60 per cent internal rate of return and exit route
 - Viable business model



Sample query: “bright red and stripy”

The screenshot displays the KITE software interface, which is used for image search and analysis. It is divided into several main sections:

- Text query specification for retrieval:** A window on the left where the query "bright red and stripy" is entered. Below the text field are buttons for "Edit text form", "Edit query", "Add node", and "Edit node".
- Abstract Syntax Tree:** A tree diagram below the query editor showing the hierarchical structure of the query. The root is "Parse Tree", which branches into "Requirement" and "Specification block". "Requirement" further branches into "as much as possible" and "Visual properties". "Visual properties" branches into "AND", which then branches into "bright red" and "stripe 1.0".
- ICON Client:** The main application window on the right, titled "ICON Client". It features a menu bar (File, Edit, View, Thumbnails, ICON Repository, Search, Tools, Options, Help) and a toolbar with icons for various functions like Display, Edit, Info, Slides, Print, Album, Annotate, Create, Scan, Recurse, Add..., Query, Text, Import, Export, and Status.
- Search Results:** A central pane showing a list of search results. Each result includes a small thumbnail image, a file name in angle brackets (e.g., "<Photo0178.jpg>"), and a rank and score (e.g., "Rank: 1, Score: 0.8247392"). The results are sorted by score in descending order.
- Image Grid:** A grid of larger thumbnail images corresponding to the search results, arranged in rows and columns. Each image is labeled with its file name and rank/score.
- Bottom Controls:** A row of buttons for "Search", "Delete", "Add", "Forms", "Sketch", "Text", "Criteria", and "Shape". Below these are checkboxes for "Local images" and "ICON repository", and a set of radio buttons for "Overall", "Fifths", "Reg. match1", "Reg. match2", "Pair match", "Pyramid", "Shape", and "Random".

Google: “bright red and stripy”(stripey)

bright red and stripy - Google Image Search - Mozilla Firefox

File Edit View Go Bookmarks Tools Help

http://images.google.co.uk/images?q=bright+red+and+stripey&hl=en&btnG=Search+Images

Sign in

Google Images

Web Images Groups News Froogle more »


bright red and stripy


Moderate SafeSearch is on


The "AND" operator is unnecessary -- we include all search terms by default. [details]


Images Showing: All image sizes

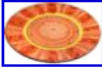
Results 1 - 7 of 7 for **bright red and stripy**. (0.22 seconds)


- 


... **Bright Bots Stripey** Leggings 0- ...
160 x 208 pixels - 22k - gif
www.twinkleontheweb.co.uk
- 

colors Color: **Fearless Red** Import
150 x 150 pixels - 21k - jpg
www.walmart.com
- 

Bright and colourful stripey napkin ...
298 x 298 pixels - 31k - jpg
www.5starsites.co.uk
- 

... **bright red** tie and horribly ...
359 x 238 pixels - 33k - jpg
www.planetcrossroads.co.uk
- 

... **Stripey** Range from Reckless ...
92 x 61 pixels - 3k - jpg
www.recklessdesigns.co.uk
- 

... **Stripey** Top - 0 3 - Red Navy
120 x 120 pixels - 2k - jpg
www.comparestoreprices.co.uk
- 

ukhomebrands.com - **Red** Bellowsleeve
372 x 81 pixels - 5k - gif
www.ukhomebrands.co.uk

bright red and stripy Search

[Search within results](#) | [Image Search Help](#)

[Google Home](#) - [Advertising Programmes](#) - [About Google](#)

Done

Project Requirements

- **Standard image size 1024x768**
- **Standard Processor P4/3GHz**
- **Standard analysis time 20 s**
- **Test archive 1m images**

- **Estimate computer power required 5555 CPU/hours**
- **Grid provides a solution**

Conclusion

Assets

- Grid infrastructure
- Middleware
- Skills

Routes to commercialisation

- Spinout company
- Collaborative development

Business models

- Consultancy (SOA + Grid = Goldmine for Consultants)
- Service Provider (Utility Computing)
- Software Vendor (Quest for a killer grid application)