Experiences with Grid Solutions for the Financial Sector

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Time Is Money
Agenda

» Financial sector experience in GRID technologies

» Challenges when deploying Grid solutions

» Roadmap to mature grid deployment
GRID on Financial Sector

- All Finance Entities on international scope use grid in **thousand-node farms**.
- Top applications: Portfolio Valuation, Risk, Actuarial analysis and Simulations.
- Most advanced entities use J2EE.
- Common Barriers:
  - Organisational
  - Cultural: from host to open architectures to parallel development methodologies for grid.
- They agree grid is not a temporary fashion, its deployment is growing.
Computing power needs increase >20% /year in wholesale banking

» Increase of volatility in Financial Markets
  » More analysis, more complex and volume of products to process.

» Portfolio Valuation require increasing speed and efficiency in computing processes.

» Not viable with current infrastructures cost.

» IT optimisation provided by grid makes it possible.

» Grid provides linear scalability of computing power

“… it is an alternative”
Common applications using GRID Technology

- Portfolio Valuation
- Derivative and fixed income risk calculations
- Equity derivative pricing and sensitivity calculations
- Derivatives, commodity pricing and intra-day risk management calculations
- Commodities valuation and risk modeling
- Mortgage applications
- Credit Risk Scoring Model
- Actuarial Analysis
- Fixed income derivatives applications
- Global Risk Management
- Acceleration of ETL flows
- Re-host of SAS from an SMP environment
- In-house developed Monte Carlo simulation
- Actuarial Modeling
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Challenges

» Development / Running architecture
  » SOA oriented
  » Module-based Processes
  » Parallelise heavy processes
  » Centralised alarm management

» Technological resource management
  » Shared resources; central management;
  » On-demand computing capacity

» Processes and application virtualisation

» Innovation for IT provisioning:
  » Improve Agility and “time to market”
  » Reduce provisioning cost: >50%

» Resiliency
  » Operation-friendly management tools
    - High availability
    - Automatic load balancing
  » Automatic process restart
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A roadmap to a mature grid deployment

Milestones

Development Architecture
Modularity / Parallelización / SOA

Architecture definition

GRID ¿to do what? ¿how?
Product selection

- Maturity
- Architecture
- Scheduling
- Data Transfer
- Performance & Availability
- Security
- Develop Support
- Programming API
- Agent Capabilities
- Platform Support
- Third-party Integration
- Product Installation
- Administration
- Monitoring & Reporting
- Product Documentation
- Globalization IT
- Cost
A roadmap to a mature grid deployment

Milestones

- Development Architecture
  Modularity / Parallelización / SOA

- Product /provider selection

- Prototype / Pilot

- What to buy or build

- GRID ¿to do what? ¿how?

- Architecture definition

- Grid deployment

GRID-ENABLED
In summary

» Leader financial entities use grid due to its high ROI

» Challenges to overcome particular FS needs.

» Roadmap to get a mature grid deployment status
  » Initial effort BUT HIGH ROI
Our formula for success

Perfect knowledge of the markets and strategic requirements

Technological Innovation at the heart of your customer services

In partnership with all relevant industrial players in the market

Your business partner in technology to increase business agility and performance
Our formula for success

Spain: 2400 people in finance sector

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Your business partner in technology
Thank you