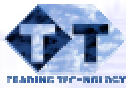


Architectures for Disparate Derivative Trading and Settlement

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AGENDA

- Introductions
- Business drivers affecting derivative trading
- Challenges faced by IT
- Service orientated architecture
- Case studies
- Summary & Questions



Trading Technology



www.tradingtechnology.com

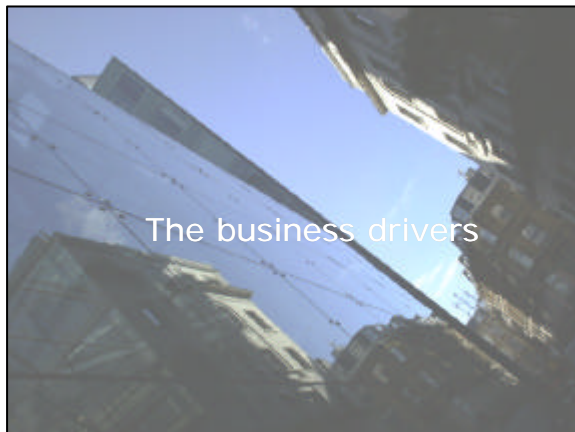
- Note – Not Trading Technologies!!!
- Specialists in Trading Systems
- Consultancy, not development
 - People are the challenge, not the technology
- Business analysis
- Program and Project Management
- IT Marketing and Research

BJSS Ltd.



www.BJSS.com

- The highest quality software engineers
- Bespoke development only
- Financial services – especially trading environments
- Messaging and high-availability transactional environments
- Significant clients including the London Stock Exchange, LIFFE, CREST, Reuters, BP



Business Drivers


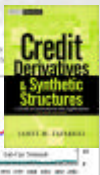
- Recent survey of Stock Exchange Technology
- Through FOW
- Conclusions
 - "cash" trading high-volume low value
 - "Traders Market"
 - Expansion into derivative instruments
 - IP-based technology enabler



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Business Drivers

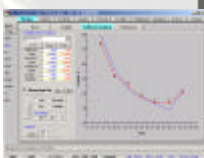

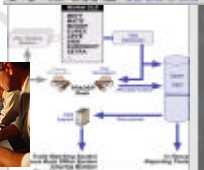
- Derivative business lines
 - FX and Money derivatives
 - Credit Derivatives
 - OTC Derivatives
 - Spread betting
 - Commodities
 - Energy
 - Weather....

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Demands on systems

- Derivative traders are only as good as their IT!
- Programmer/Mathematician/ Derivative trader hybrid
- Many small-point systems
- Developed by traders
 - Excel
 - Access
 - Visual Basic

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Demands on systems

<ul style="list-style-type: none"> • Demands of traders <ul style="list-style-type: none"> ⊕ Time to market ⊕ Profit window ⊕ Uncertain Revenues ⊕ Need for secrecy 	<ul style="list-style-type: none"> • Demands of IT <ul style="list-style-type: none"> ○ Planning ○ Budget ○ Resourcing ○ Shared knowledge ○ Infrastructure ○ Need for control ○ Supportability ○ Centralisation
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Business Drivers – The Problem


The problem is either:



Paranoid Anarchy

Or:


STATE CONTROLLED CENTRALISATION



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Business Drivers – The Problem

The best of each world is:



Paranoid Anarchy

Or:

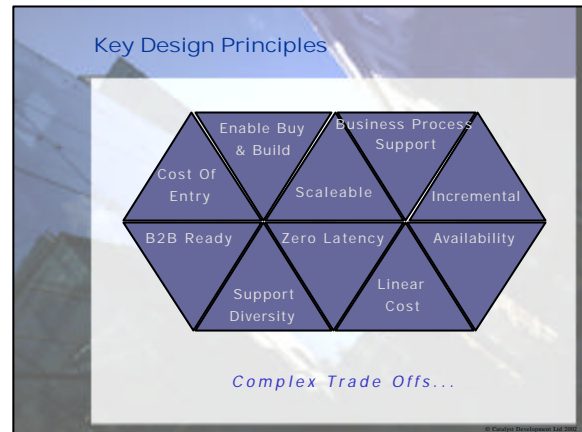
STATE CONTROLLED CENTRALISATION

<ul style="list-style-type: none"> ✓ Flexibility ✓ Speed of development ✓ Low cost ✓ RAD approach ✓ Disposable systems? 	<ul style="list-style-type: none"> ✓ Ability to plan ✓ Clear agreed requirements ✓ Budgets ✓ Maintainability ✓ Supportability ✓ Fits in with other systems ✓ Common development techniques
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Service Orientated Architecture

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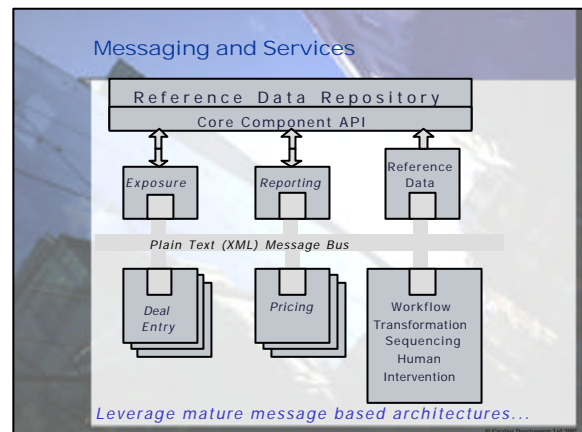
Service Orientated Architecture

...SOA is a software architecture that starts with an interface definition and builds the entire application topology as a topology of interfaces, interface implementations and interface calls...

[Natis, Gartner 2003]

- Abstract Interfaces to Business Processes.
- Leverage Existing Systems.
- Ease integration of large systems (e.g. SAP).
- Heterogeneous environments.
- XML, simple protocols.
- SOA is not web services, SOA is a design philosophy.

Services are not just Web Services...



Messaging Options

- Bus or Hub/Spoke.
- Federated.
- Point-to-point or Publish & Subscribe.
- Asynchronous or Request/Response.
- Variable QoS.

... or combinations and variations of ...

Transaction Options

Transaction

Transaction

Transaction

Transaction

Other Considerations

- Security
 - ▣ Control Costs With Threat Model
 - ▣ Authentication
 - ▣ Integrity
 - ▣ Privacy
- Business Continuity
 - ▣ Availability
 - ▣ Disaster Recovery

Ontologies

Top Level

Business Unit

Core Java Apps

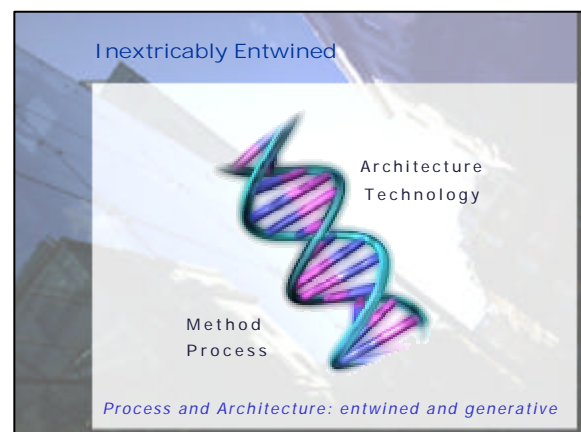
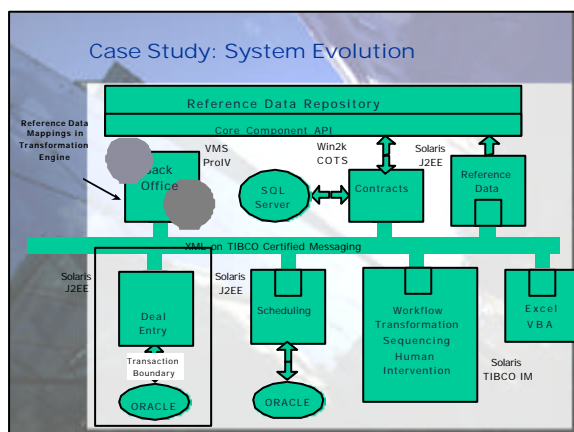
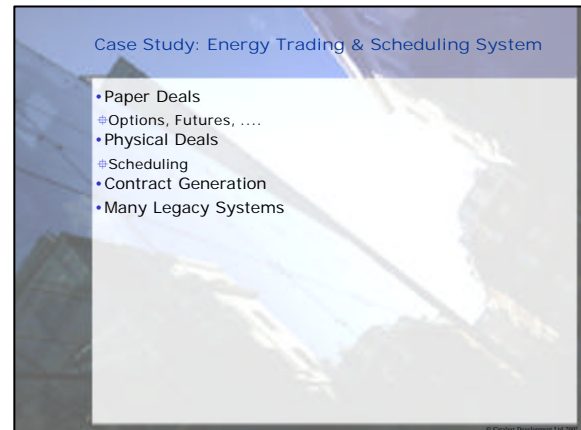
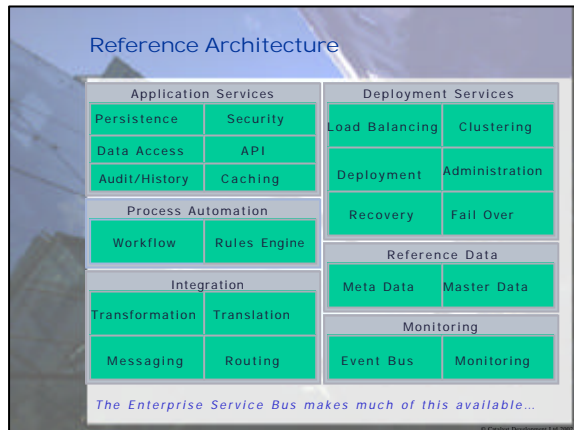
Communication Medium

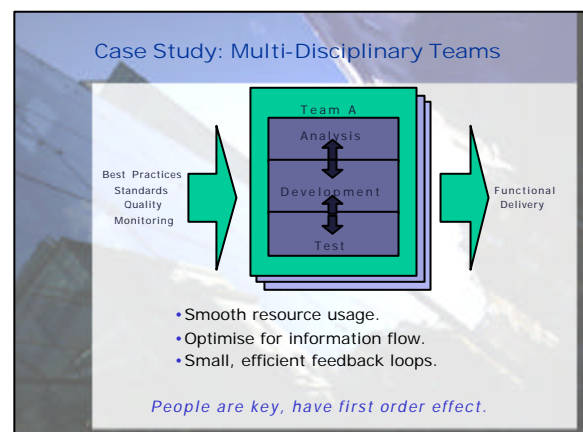
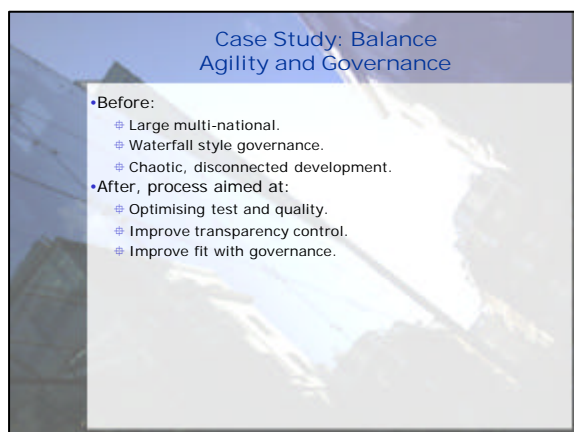
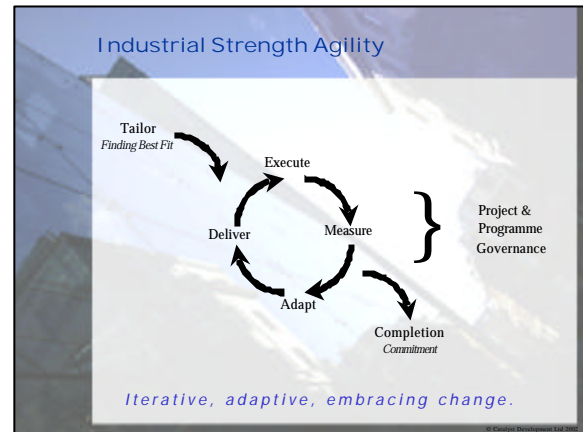
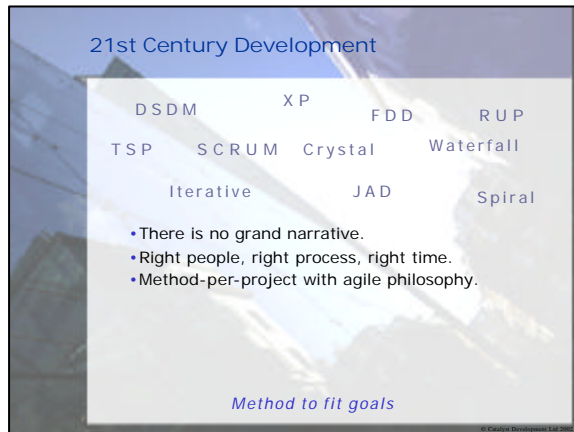
SAP Instance

Communication Medium

Communication Medium

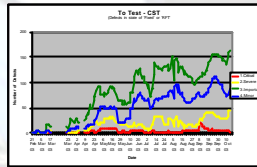
Define globally, adapt locally





Case Study: Transparency

- Daily Defects - component based.
 - ⊕ Graphs to programme team and on wall.
 - ⊕ Monitored trends to ensure closure.
- Defect State of Nation.
 - ⊕ Planned, actuals EVA, variance and velocity.
- Progress
 - ⊕ Agreed iteration exit criteria.



Transparency = Trust, Benchmarking, Clear Progress

Case Study: Automate, automate...

Test Phase	Tool Support	Check-In Build	Cruise Control	Nightly	End of iteration test.	Responsible
Unit Tests	xUnit Robot					Dev
Link Tests	xUnit Robot					Dev
Tech Tests	Load Runner					Dev/Tech Test
System Tests	Robot People					Test Team
Integration tests	xUnit Robot People					Test Team

Continual integration and test build quality

Case Study: Necessary & Sufficient

- Design and Analysis is both an activity and communication.
- Documentation is not an end in itself.
- Focus on:
 - ⊕ Necessary: Has a clear purpose.
 - ⊕ Sufficient: Good enough for the purpose. Right level of detail.



Necessary and sufficient - minimum needed...

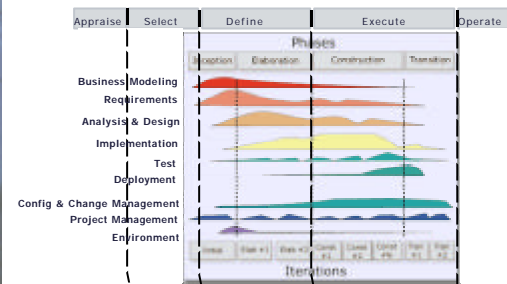
Case Study: Adapt

- Iteration reviews.
- Project Teams are Self Optimising.
- Holistic Analysis - Entire process chain.
- Adapt to functional change.
- Multi skilled teams maximise flexibility.



Improved Throughput with Skilled Self Optimising Teams

Case Study: Governance on top



Agile Underneath

The Death Of Technology Led Solutions

- SOA and Enterprise strength agile - Business Orientated.
- No longer technology orientated.
- Heterogenous methods and systems enabling each other.
- Incremental, Scaleable, Manageable.
- Team Orientated.



Links and resources: <http://www.bjss.co.uk/fow>

Summary & Questions

Summary

- Derivatives increasingly important and profitable
- Increasingly disparate
- Business needs force flexibility
- Balance between federal and centralized control
- Requires common development methods
- Needs strong accreditation throughout the organization
- Part of your core competence
- Not to be outsourced!

Questions

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