The
“Internal Offshore” Experience at Reuters
Paul Iredale
Topics

• Reuters Overview
• Staff Recruitment
• Product Transition
• Process Management
• Offshore Development
• Future
Reuters Group

- Supplies the world’s financial markets and news media with information, news and technology solutions
Global Business

- Reuters serves 151 countries
- 558,000 professionals in 50,600 locations use Reuters information and news
- Data provided on 940,000+ financial instruments
- Financial information sources from 263 exchanges or OTC markets
- 5,036 clients contribute prices, opinions and analysis
- 73+ million unique visitors per month on 1,400+ websites access Reuters content - almost 20% of Internet users
- 2,157 journalists, photographers and camera operators in 190 bureaux
- News provided in 24 languages
- About 12,000 Reuters headlines and two million words produced daily
- A £4.00 billion business
Global Development

- 15+ Development groups
- 12 Countries (France, Germany, Hong Kong, Japan, UK, USA, Thailand)
- Group size from 5 - 500
- Overall about 1500 software developers

- Real Time feeds
- Database systems
- Administration systems
- Client site systems
- Graphical User interfaces
- WEB Server and Browser developments
Challenges

• A global business requiring global IT services and support 24/7
• Software applications are vital for the business to achieving competitive advantage
• A rapidly changing business environment with complex financial products and services as the norm.
• Financial impact of software defects enormous
• Rapid software development is necessary to allow the business to exploit financial opportunities
• Complex highly interconnected architecture
SPI History

- 1996 - first SPI initiative HP approach
- 1996 - CMM adopted at the corporate level
- 1997 - First CMM Level 2 assessment
- 1998 - 14 Formal assessments performed
- 1999 - Thailand Development achieves CMM Level 2
- 1999 - First CMM Level 3 assessment
- 2000 - 3 more groups achieve CMM Level 3
- 2001 - Decision to open a Software Center in Bangkok
- 2002 - Reuters opens Software Center
- 2004 - Reuters first CMMI level 5 group
Bangkok Concept

- High Productivity
- Low Cost
- Software Development Centralised
- Maximize Reuse
- Operates at high maturity (Implies high quality)
- Greater control over core development
Bangkok Goals

- Hire 600 staff by end 2005
- Transition 150+ products from other development centers
- Attain CMMI Level 5
- Build a culture of continuous improvement (Six Sigma)
- Create an OFFSHORE development group to be used for strategic software development in Reuters
Staff Recruitment

Goal - Hire 600 staff by end 2005
Recruitment

• New graduates
  – University Program
    • University Presentation
      – Computer Engineering and related faculties
      – Job Fairs
    • Internship Program
    • Scholarships

• Experienced Staff
  – Job advertisement
    • Newspaper
    • Internet
  – Referral Program
  – Recruiting Agencies
Recruitment Techniques

- First screening
  - Recruitment Technical Exam
- Second screening
  - Interview with HR and Technical Group Leader
- Third screening
  - Interview with HR and Development Manager
Boot Camp

• An induction program for staff who have just joined the company
  – Duration: Around one month
  – Coverage:
    • Introduction to Reuters Products
    • Market Knowledge
      – Financial markets
    • Software Process
    • Technical Programming e.g.
      – C++
      – Unix
    • English communication
RDM = Resource Development Manager

- A permanent reporting line for all staff
- Response to project resource requests.
- Liaison with development staff to find best fit projects.
- Objectives and goals setting for development staff
- Staff career development counselor and planning
- An RDM manages approximately 50 staff
Staff Recruitment Metrics

Staff Proportion

- Development: 62%
- Testing: 23%
- Product Support: 6%
- Management: 5%
- Project Office: 1%
- SPI & SQA: 2%
- Others: 1%
Product Transition

Goal - Transition 150+ products from other development centers
Product Transition Lifecycle -1

Initial Pre-transition Phase

Transition Project Planning Phase

Component and Initial Infrastructure Build-up Phase

Knowledge Transfer Phase

Review and Project Sign-off Phase

Normal Product Support and Maintenance
Product Transition Lifecycle

- Initial Pre-Transition Phase
  - To determine if product transition should get go-ahead, taking the following factors into consideration
    - Development scope (e.g., critical bug fix only)
    - Resource and skill requirements
    - Time constraints
      - Availability of current resource at Original Site
      - RSTL resource availability
Product Transition Lifecycle

- Transition Planning Phase:
  - Work Breakdown Structure
  - Estimation of effort, schedule, cost
  - Deliverables & Project libraries
  - Critical resources (e.g., feeds, lab space)
  - Intergroup communication/escalation path
  - Risks
Product Transition Lifecycle

- Component and Initial Infrastructure Buildup Phase
  - A period for self study, preparation and familiarization of product before knowledge transfer training
    - Initial Environment Set-up
    - Study of product and release documents
    - Pre-requisite training (e.g., RV training for TIB products)
    - Source code (if possible)
Product Transition Lifecycle

- Knowledge Transfer Phase
  - Main training phase
  - Either at original site or at RSTL
  - Cover 3 streams: development, testing and support
  - May need to produce/update documents to record the received knowledge. Original owners should review these updated documents.
  - Create a checklist for knowledge transfer
  - Exercises assigned by the original owners as part of knowledge transfer training
  - Daily or Weekly report as a progress tracking mechanism
Product Transition Lifecycle

• Review and Project Sign-off Phase
  – Complete the setup and verification of development/testing/support environments
  – Complete the asset transfer from the original site
  – Agree the SLA/support guidelines with Product Manager and Second Level Support
Culture Differences in Product Transitions

- Dealing with Culture differences is important in Product Transition:
  - Thai staff (as Trainees)
    • Modest
    • Good listeners, not likely to ask
  - US / European staff (as Trainers)
    • Expect the trainees to discuss/ask
Transition Manager and Group Leader Roles

- **Transition Manager**
  - Be the project owner and serve as a single point of contact and manage overall schedule of the transition along with ensuring resource availability during the transition.

- **Group Leader**
  - Act as an overall engineering team leader for the knowledge transfer training

These two roles are key to the success of the product transition:
- Experience in leading teams plus related technical and product knowledge very useful when handling culture differences
Transition Metrics

![Graph showing product size vs. number of staff over time.](image)

- **Product Size** (in *1000 FP)
- **# of Staff**

<table>
<thead>
<tr>
<th>Month</th>
<th>Nov-02</th>
<th>Jan-03</th>
<th>Jan-04</th>
<th>Jan-05</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product Size</td>
<td>100 FP</td>
<td>200 FP</td>
<td>300 FP</td>
<td>400 FP</td>
</tr>
<tr>
<td># of Staff</td>
<td>50</td>
<td>75</td>
<td>100</td>
<td>150</td>
</tr>
</tbody>
</table>

- **Legend**:
  - Purple: Product Size (in *1000 FP)
  - Red: # of Staff
Transition Metrics

- # planned transitions
- # actual transitions

Timeline:
- Dec-02 to Sep-04
- Data points for each month until Sep-04

Graph shows an increasing trend from Dec-02 to Sep-04.
Process Management

Goal - Attain CMMI Level 5
Goal - Build a culture of continuous improvement (Six Sigma)
History

- 1999 - Thailand development group achieves CMM level 2
- 2001 - Decision to open Bangkok Software Center
- 2002 – Software Center opens
- 2003 - Software Center achieves CMM Level 3
- 2003 - PI organisation in place for CMMI Level 5
- 2004 – Software Center achieves CMMI Level 5
PI Organisation

- Process Support Director
  - Process Technology Manager +7
  - Process Improvement Manager +4
  - Process Training Manager +1
  - Project Office Manager +4
  - SQA Manager +9
PI Activities

- Roadmap
- Plans – Technology, Process and Metrics
- Requirements Catalogue
- Mini assessments every quarter
- Monthly scorecard on progress
PI Roadmap

RSTL SPI ROADMAP 2004

Formal Assessment
CMMI Level 5
8-12 March 2004

MDB100 (Phase I)
MDB100 HotFix
MDB100 (Phase II)
MDB100 (Phase III)

Fusion Project
(MODB-SKIPPER Integration)

MDB100 (Phase III)

SDA Database

SKIPPER Transition

SKIPPER Support and Maintenance

PCB (Capability & Statistics)

SQA Tools & Templates

On-going Project Portal maintenance

On-going Balanced Scorecard maintenance

SPI-L5 Process Training

Process Update for Skipper

Process Update for MDB

Process Update for SDA DB

SPI-L5 Process Deployment

SPI-L5 Process Deployment

SPI Campaign

Process Maintenance

Jan
Feb
March
April
May
June
July
Aug
Sep
Oct
Nov
Dec

Mar 3, 2004
Technology

- Project Portal
- Metrics Database
- Problem tracking tool
- Personal Development and Training database
Process

- Level 4/5 Process maps and guidelines
- Web based process library
- Assessments and mapping to CMMI model
Metrics

- Balanced Scorecard
- Capability baseline
- Monthly metrics reporting
CMMI Calculator Scores

Level 3

- Requirements Development
- Technical Solution
- Product Integration
- Verification
- Validation
- Organisational Process Focus
- Organisational Process Definition
- Organisational Training
- Integrated Project Management
- Risk Management
- Integrated Supplier Management
- Decision Analysis and Resolution
- Organisational Environment for Integration
- Integrated Teaming

Scores:
- Previous
- Latest
- Marginal
- Qualified
- Full

Level 3
CMMI Calculator Scores

Level 4

Organisational Process Performance

Quantitative Project Management
CMMI Calculator Scores

Level 5

- Causal Analysis & Resolution
  - Previous: 6.00
  - Latest: 8.00
  - Marginal: 8.00
  - Qualified: 8.00
  - Full: 8.00

- Organisational Innovation and Deployment
  - Full: 8.00
  - Qualified: 8.00
  - Marginal: 8.00
RSTL Improvement in Processes – Overall ROI (1)

Note: Figures for 2004 are forecast values.
RSTL Improvement in Processes – Schedule Variance (2)

Background
- Schedule Variance during Jan 2002 - Apr 2003 is around 25% with 25 initial project observations.

Issue
- With the high growth rate of both Staff (from 100 to 350) and Supported Product (from 100 to 180 K FP), How to maintain and improve the schedule predictability?

Action
- RSTL SPI Programme 2003 - Focused on process training and quantitative project management

Result
- RSTL has improved the capability of Schedule Variance to be 15% with 100 project observations up to Apr 2004.
The average PCE had increased over the year. This is one of the factors leading to SPI ROI 2002-2003 from post-release defect reduction.

Started support of product transitioned in Y2002

Started support of product transitioned in Y2003
CMMI & Six Sigma

- CMMI asks for continuous process improvement (OPTIMISATION)
- Six Sigma provides it with
  - Well defined, disciplined methodology
    - Define, Measure, Analyse, Improve, Control
  - Industry wide
  - Can be applied to all parts of the business
  - Emphasis on results (ROI)
  - Breakthroughs v small incremental improvements
  - Measurement and Methodology
CMMI & Six Sigma
Progress

So Far

• One Master Black Belt
• Eleven Green Belts
• Established the first three Six Sigma Projects

Plans

• 2004 train all staff on Six Sigma methodology
• 2004 train one more Black Belt
• 2004 train seven more Green Belts
Offshore Development

Goal - Create an OFFSHORE development group to be used for strategic software development in Reuters
Why

- High Productivity
- Low Cost
- Software Development Centralised
- Maximize Reuse
- Operates at high maturity (Implies high quality)
- Greater control over core development
### Onshore/Offshore Theory

<table>
<thead>
<tr>
<th>Onshore</th>
<th>Offshore</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discovery</td>
<td>Project</td>
</tr>
<tr>
<td></td>
<td>- Project management</td>
</tr>
<tr>
<td></td>
<td>- Detailed design</td>
</tr>
<tr>
<td></td>
<td>- Coding</td>
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<tr>
<td></td>
<td>- Testing</td>
</tr>
<tr>
<td></td>
<td>- Documentation</td>
</tr>
<tr>
<td>Project</td>
<td>Post implementation support</td>
</tr>
<tr>
<td></td>
<td>- Bug fixes</td>
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<td></td>
<td>- Warranty support</td>
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<td></td>
<td>- Maintenance</td>
</tr>
<tr>
<td></td>
<td>- Rapid reaction support</td>
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</tbody>
</table>

**Onshore**
- Program Management
- Analysis and planning
- High level design
- User interface design
- Project co-ordination
- Onsite testing
- Implementation

**Offshore**
- Project management
- Detailed design
- Coding
- Testing
- Documentation
- Rapid reaction support
- Bug fixes
- Warranty support
- Maintenance
Real Life

- Lack of well defined requirements
- Used as just an extension of Onshore group
- Learning curve for some product support work to steep
- Culture
- Too many Offshore models
Offshore Models

- Extended Team
- Onshore Design/Offshore Production
- Functional Role Offshoring
- Transition
- Offshore Development
Progress to date

% Overrun Schedule

Relative Defects After Release

Relative Productivity/Cost

% Overrun Effort
## The future

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<thead>
<tr>
<th>2004</th>
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<tbody>
<tr>
<td>- Continue to hire good people (500)</td>
</tr>
<tr>
<td>- Continue to transition products to RSTL</td>
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<tr>
<td>- Build Offshore development process and capability</td>
</tr>
<tr>
<td>- Maintain Level 5</td>
</tr>
<tr>
<td>- Automate process/metrics</td>
</tr>
<tr>
<td>- Apply 6 Sigma methodology across RSTL</td>
</tr>
<tr>
<td>- Improvement Initiatives &amp; methodologies wherever it makes sense</td>
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</tbody>
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<table>
<thead>
<tr>
<th>2005</th>
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</thead>
<tbody>
<tr>
<td>- Develop and grow the knowledge of the staff (607)</td>
</tr>
<tr>
<td>- Create world class Offshore development centre</td>
</tr>
<tr>
<td>- Maintain Level 5</td>
</tr>
<tr>
<td>- Take an holistic approach to all Improvement Initiatives &amp; methods</td>
</tr>
<tr>
<td>- Lead the application of CMMI, Six Sigma across all Reuters locations</td>
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<tr>
<td>- Create Integrated set of tools for Reuters</td>
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* Component Architecture Method
Thank you.

Question & Answers