

DEV-18: Estimating your Transformation – the Reality Brenntag

PROGRESS SOFTWARE

DEV-18: Estimating your Transformation – the Reality

A Brenntag case study

BRENTTAG

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PROGRESS Exchange 08

Agenda

- Overview of Brenntag
- Modernization of IT system landscape
- The Transformation Project
- Estimating the transformation effort
- Status Today and Lessons Learned

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Brenntag World Wide

Region	Sales (US\$)
North America	2,887
Latin America	718
Other activities	361
Europe	5,147

Total external sales 2007: US\$ 9.1 billion

- Over 300 locations
- ca. 11,000 Employees

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Overview of Brenntag Latin America

Volume (MT) Distribution	780 KMT
External sales (US\$)	710 M\$
No. of Employees	1,090
Number of distribution sites*	49

17 Countries
21 filling stations
43 warehouses
5 marine terminals

*Stand-alone sales offices not included

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Modernization of IT System Landscape

Initial situation

- Self-developed ERP System (Progress® Platform)
 - Character-based user interface
 - Monolithic program architecture
 - One software version per language
 - Spanish, Portuguese, English
 - Disconnected installations without release control
 - Limited reports/inquiries

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Overall modernization approach

- Project Falcon**
 - Make developments from roll-out to Brazil available for other countries
 - Add new functionality
 - Modernize user interface and leverage GUI capabilities
 - Mid-term: Consolidate hardware landscape

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Screen Shot: Old application (Falcon 2)

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Screen shot: New application (Falcon 3)



There is hope !!!

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Benefits of GUI & SOA – Not-quantifiable

- Functional
 - Flexible inquiries are easier to use
 - Easier integration with personal productivity tools
- Technical
 - AppServer™ allows for better scalability
 - Newer technologies will always be GUI
 - Future projects will require less training
- Organizational

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Benefits of GUI & SOA – quantifiable

- Easier translation (multiple languages)
- Easier maintenance
- Easier navigation for Data Entry
- Integration with business partners easier

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The Progress Application

- Before: Phoenix
 - Character UI on DG/UX platform
 - 3 versions to support 3 languages
- After: Falcon
 - GUI Client/Server - OpenEdge® 10.1B
 - 1 Version with multiple languages
- Timetable
 - 15 – 18 month transformation
 - 18 – 24 month for roll-out to the countries



Transformation project

Project steps

1. Pre-Study Progress/Brenntag
2. Pilot-Project:
Transformation of Sales Order Entry Module
(Coached by Senior Progress Professional)
3. Roll-out of Pilot System to one region
4. Cooperation with Progress offshore team
(Argentina)
5. Identification and prioritization of next modules
6. Step-by-step transformation
7. Roll-out of transformed modules as soon as possible



Pre-study of Progress ERP Transformation

- Progress Professional Services & Brenntag
- Analyze Application
 - 4 weeks
 - Consider # of programs (> 2,000)
 - Consider # of tables (>150) and fields (>3,000)
 - Functionality scope
 - Architecture of code
- Estimate as result of pre-study:
Total transformation effort ca. 6 man years




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Transformation approach

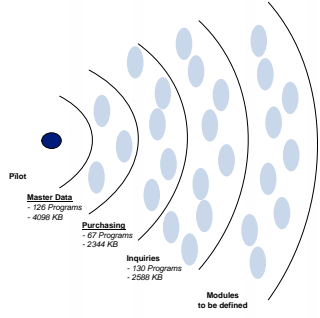
Recommendations from pre-study

- Re-design user interface to make full use of GUI capabilities
- Use ProDataSets to fully separate business logic from functionality and physical storage
- Validate data input after submitting transaction (not on field level)
- “Optimistic” locking
- Don't use shared variables

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Step-by-step transformation approach



Pilot


Master Data
- 126 Programs
- 4068 KB

Purchasing
- 67 Programs
- 2344 KB

Inquiries
- 130 Programs
- 2588 KB

Modules to be defined


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Offshoring to Latin America

- Met the resource requirements
 - More people
 - Expertise
 - Budget constraints
- Added benefit: Same language of many of their users
- Internal Team doing ongoing maintenance


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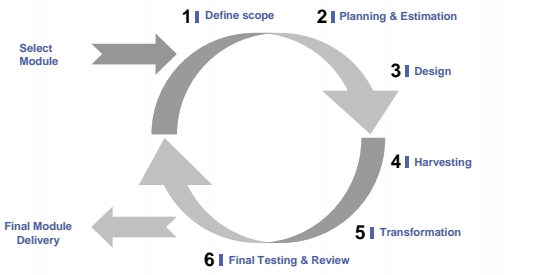
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Approach - Transformation by Module Cycle




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Planning & Estimation: Function point analysis

Steps in Function point analysis

- Design document with all programs to be transformed (options in CHUI menu)
- List of all tables used, by program
- Identify function points (business view of programs to be transformed)
- Re-design of functional areas to take advantage of GUI functionalities
- Estimate transformation effort for each function point based on new design



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Statistical Analysis

- Prediction – incl. Complexity

BACKWARD LOOKING METRICS						
Module	Programs	Size	Hours	Hours/Prog	Hours/Size	Complexity
Maintenance	184		4098	2368	12.9	0.58
Purchasing	57		2441	2368	33.6	1.02
Inquiry	130		2589	1828	14.1	0.71

METRICS for ESTIMATION		
Complexity	Hours by Program	Hours by Size
1	15	0.8
3	35	1
4	40	1.1
5	50	1.3

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Summary: Total Effort per module (as of 04/30/2008)

Argentina Offshore Team					
Module	PM/Architect	Developers	Total hours	Total days	Total years
Master Data Maintenance	1,611	1,812	3,423	428	1.94
Purchasing & Inquiries	948	5,270	6,218	777	3.53
Operations Module (60%)	363	1,909	2,272	284	1.29
Total External Effort	2,922	8,991	11,913	1,489	6.77

Internal Team		
Module		
Pilot (Sales Order Entry)	ca. 4 months, 4 Senior Developers	1.25
Testing/Coordination of offshore team	ca. 18 months, ca. 0.5 Full-time Senior Developer	1.50
Total Internal Effort		2.75
Total Transformation Effort (ca. 75% completed)		9.52

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Application Status Today

- First roll-out: Completed
 - Pilot
 - 3 modules from Argentina
- Operations module in progress
- Currently in Month 18
 - Behind schedule – had hoped to have transformation completed by now



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Development Teams – Status Today

- Internal team
 - Internal development & maintenance
 - Not working on transformation
- Latin American team
 - Increased size of team
 - All working on transformation



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Lessons Learned – SOA Transformation

- Supported by a Senior Coach who has done it before
 - Training is not enough
- Module-wise transformation approach improves manageability of project
 - Timelines & budgets
- Transformation and re-design of application co-mingled
- Client/Server Paradigm shift is quite extensive

- It always takes more effort than you think initially
- Harvesting is not as easy as you expect



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Lessons Learned - Outsourcing

- Keep face-to-face contact with your outsourcing partners
- Outsourcing works best on mid/long-term relationships
- External and internal team should work on the same platform



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Questions ?



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Relevant Exchange Sessions

- SOA-26: Practical Approaches to Implementing a Service Oriented Architecture
- DEV-37: Composite MVP – Building Blocks in Presentation Layer



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