FiSMA

northernSCOPE

customer-driven scope control for ICT projects

on time and on budget

Since the northernSCOPE concept was developed and introduced by the Finnish Software Measurement Association, the average ICT project cost and schedule overrun has decreased to an astounding average of +/- 3% among its user organisations. In addition, both customer *and* supplier satisfaction have also increased dramatically because northernSCOPE makes communication easy and makes the development process fair for both parties.

the problem

ICT projects are, by nature, plagued by uncertainties: uncertainties in requirements, technology, resources, and quality. While many organizations seek to minimize these risks through fixed price or time contracts, ultimately the lack of flexibility for change cripples the project. The Standish Group CHAOS report in 2003 cited a mere 34% of software projects are successful with scope issues dominating the reasons for project failure.

NorthernSCOPE takes scope management to a professional level. Building on the success of the Victorian Government's southernSCOPE success in Australia, northernSCOPE creates a win/win solution for both customers and suppliers through solid scope management.

a solution

The southernSCOPE and northernSCOPE concepts have been trialed in Australia and Finland in both the public and private sectors. The results of Finnish trials confirm the positive observations reported by southernSCOPE:

Projects using the southernSCOPE approach:

- Complete successfully
- Provide customers with software that meets their needs providing a high level of customer satisfaction
- Cut the average budget over-run to less than 10 percent
- Provide software value for money within the top 25 percent of industry best practice.

what is northernSCOPE?

Previous acquisition approaches for ICT projects include fixed price or time-and-materials proposals. northernSCOPE provides an alternative approach that builds in the flexibility for change and uncertainties to occur, and yet allows the customer to retain the control and minimize the risks of exactly what is delivered as part of their software solution.

northernSCOPE follows an approach to project costing similar to what has been successful in other industries. The building and construction industry costs project by unit cost per square meter, road construction is priced on a per kilometer basis, and subcontract painters charge per square meter of wall.

northernSCOPE applies a similar unit costing to software acquisition projects using functional size measurement to arrive at the software size, and industry ratios to arrive at the cost per function point of software developed.

Function points are an ISO/IEC standardized approach to sizing the amount of functionality delivered by a software or ICT project. Function points are to software as square meters are to a house. As such, while a standard house may be in the range of 150 square meters, an average software product may be in the range of 500-1000 FP.

northernSCOPE provides a fresh approach to software procurement by embracing principles of the world's leading project management institutions

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software acquisition driven by customers – and delivered on a cost per functional size unit basis

northernSCOPE

the northernSCOPE concept

Traditional approach	Phases of software acquisition	northernSCOPE
1. Business case (Project charter)	**FEASIBILITY STUDY, initial requirements**	1. Identify need and engage scope manager 2. Divide acquisition into subprojects 3. Early functional size measurement 4. Determine quality requirements 5. Prepare a Request for Proposal
2. Engage analyst	**INVITE PROPOSALS and ENGAGE SUPPLIER**	6. Engage supplier €/FP
3. Engage developer	**REQUIREMENTS SPECIFICATION**	7. Complete the Product Requirements Document 8. Baseline functional user requirements and size
4. Negotiated change control	**SOFTWARE DEVELOPMENT** DESIGN CONSTRUCTION SYSTEM TEST INSTALLATION	9. Measured change control 10. Monitor earned value in FP's and control progress
5. Pay agreed price PLUS agreed changes	**PROJECT CLOSURE**	11. Payment on size of delivered software 12. Collect data in an experience repository

There are twelve steps involved in the northernSCOPE concept:

1. **Identify** customer **need** for software and **engage** professional **scope manager.**
2. Scope manager and customer **divide acquisition into subprojects** according to the FiSMA definitions.
3. Scope manager does **early functional size measurement** for each subproject to get initial total size estimate for the program.
4. The scope manager and customer **analyse quality requirements** for the system, and develop **a realistic development timeframe for the project.**
5. Customer **prepares a RFP (request for proposal)** outlining the need for the software and the constraints that will govern the project.
6. **Engage supplier** using a payment schedule based on one or more unit cost rates **€ per function point** for the software.
7. **Complete** formal **Product Requirements Document (PRD).**
8. Scope manager performs functional size measurement to **baseline functional user requirements and size.**
9. Scope manager performs **measured change control** (based on the unit cost per function point previously agreed).
10. The scope manager **monitors earned value (EV) in function points & controls** and reports **progress** through status reports.
11. At project close, the customer makes **payment on size of delivered software** plus the agreed changes.
12. **Collect data in an experience repository** for use on subsequent projects.

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northernSCOPE and southernSCOPE

Concept	Northern SCOPE	Southern SCOPE
Customer driven requirements, scope manager retained	X	X
Divide program into subprojects	X	
Scope manager does early FP for each subproject and estimates total size	X	X
Scope manager and customer determine and analyse quality requirements	X	
Customer issues request for proposal (RFP)	X	X
Customer selects supplier based on submitted unit cost per FP	X	X
Requirements specification developed	X	X
Scope manager baselines FP size and product development	X	X
Project changes sized, cost impact evaluated (based on same cost / FP)	X	X
Scope manager quantifies progress	X	
Project finishes & customer pays supplier based on FP delivered	X	X
Experience data collected & stored	X	

what are people saying about northernSCOPE ?

"northernSCOPE enables fair and flexible contracting and supports software development projects throughout their life cycles. Moreover, it facilitates both the traditional project business model … and the new software product line paradigm."

Timo Käkölä, Professor,
University of Jyväskylä, Finland

"northernSCOPE concept really helps both the customers and the suppliers to make a move toward quantitatively managed and predictable ICT development. The results are amazing – the average price has dropped by 60% on a cost per function point basis."

Pekka Forselius, FiSMA Scope Manager,
CEO, STTF Oy, Finland

"northernSCOPE is a concept long overdue for ICT projects. Finally, here is a solution that overcomes the risks of early estimates, delivers high quality software, and leaves both suppliers and customers elated."

Carol Dekkers, PMP, President
Quality Plus Technologies, Inc., USA

benefits of northernSCOPE

- No lose/lose fixed price contracts
- Flexibility for customers to request needed change
- Supplier paid for work done on direction of customer
- Customer pays for functionality they need
- Increased customer and supplier satisfaction
- Project is baselined at completion of requirements, at points of change, and again at project end.
- "Lessons-learned" data collected in experience database

for more information
about northernSCOPE visit the FiSMA website at
www.fisma.fi
or contact
Pekka Forselius
(pekka.forselius@4sumpartners.com)

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