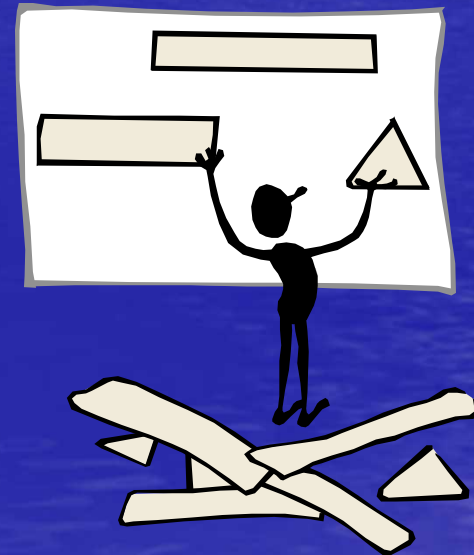# Getting Hammered at Sandia
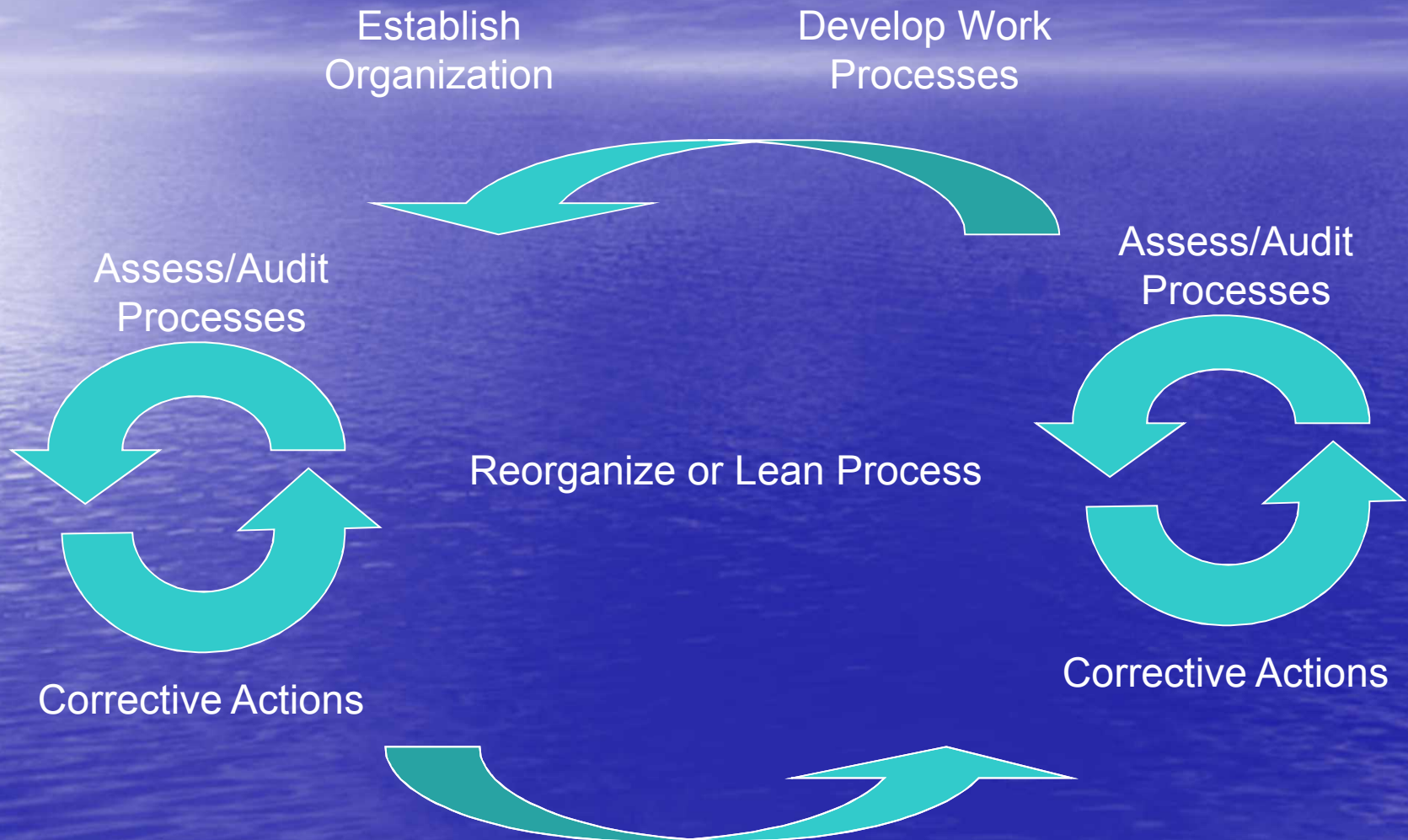
Lynnwood Dukes
Core Process Owner
February 20, 2008

The Need for Change

- Financial implications related to G&A (Health benefits and pension)
- Need for flexibility, efficiency, and perceived customer value
- Changing customer base
- Changing mission focus

Corporate Cycle

Establish Organization

Develop Work Processes

Assess/Audit Processes

Assess/Audit Processes

Reorganize or Lean Process

Corrective Actions

Corrective Actions

Pitfalls of Organizational Functionality?

- Hand-offs
- Sub optimization and Inefficiency
- Non Value Adding (NVA) work
- Lower quality; higher error rate and rework
- Complexity and inflexibility
- Lack of ownership, accountability, responsibility across the delivery process
- Introspection and little customer focus (Lack of big picture and stove piping)

Principle behind Process

" End-to-end work across an enterprise"

"A <u>designed</u> group of related tasks that work <u>together</u> across functional areas to create Customer value"

- Focuses attention on customers and results
- Shifts workload from NVA to VA activities
- Eliminates handoffs through team design
- Reduces process cycle times through streamlined end-to-end design
- Increases accountability through metrics
- Design in process flexibility
- Reduces overhead by designing it out through leaning and utilizing proven patterns

Process Redesign Principles

- Strive for simplicity of processes
- Work should be done by whoever is in the best position to do it
- A process should be performed by as few people as possible
- Do work at the best time for it to be done
- Maximize parallel process steps versus series

GUIDELINES FOR APPLYING THE HAMMER PATTERNS

Try this   **if you are here**   **and want this**

#	Pattern	Applicable Circumstances	Payoffs
1 2 4	Relocating work, moving boundaries (to or from customer)	Strong differentials in scale, capability, importance, access; high degree of coordination overhead or transaction cost	Improved work performance, reduced coordination and overhead, elimination of liaisons and intermediaries
3	Hybrid centralization and decentralization	Multiple contacts with external party (customer, supplier, regulator, etc.)	Combining economies of scale or expertise with customer focus
5	Natural parallelism	Lengthy sequential process, extensive rework	Reduced cycle time and rework
6	Early decision making	High resource costs, expensive or slow decision-making, low cost of deciding wrong	Flexibility for changing conditions
7	Deferred decision-making	High flexibility-related costs; inventories, poor resource utilization, broken commitments	Flexibility for changing conditions
8	Task integration and compression (case workers/teams)	Sequence of relatively simple tasks, slow throughput, errors, etc.	Reduction of handoffs, errors, delays, process administration overhead; improved control
9	Case manager	Disaggregated collection of diverse experts	Coordination, elimination of wasted effort
10, 11	Eliminate NVA	Bottlenecks, non-value-adding participants	Faster cycle time, improved service
12	Decreased alternatives	High cost of information collection and analysis, many similar process outputs	Reduced information collection overhead, faster decision making, reduced complexity
13	Increased alternatives	Multi-modal input variability	Customer focus and service, improved resource utilization
14	Minimal interfaces	Multiple interconnections with extensive reconciliation or duplication	Consistency, improved service, elimination of reconciliation and nodal functions
15	Improved information	Poor resource allocation, buffers, suboptimal uniformity	Greater accuracy, precision of outcomes

- Mechanistic Implementation -
A Process for Process Redesign

Mobilization

Develop enterprise process model

Appoint process owners and establish governance structure

Determine process measures

Formulate process strategy

Select design team members

Leader →

Resources →

Diagnosis

Bound and scope the process

Understand customer needs

Understand the current process

Identify weaknesses in the existing design

Set targets for new design

Insight →

Redesign

Create design concept

Develop end state design

Develop implementation roadmap

Build initial laboratory prototype

Test, learn, improve, and iterate

Design →

Transition

Implement initial field version (pilot)

Realize initial benefits

Develop supporting infrastructure

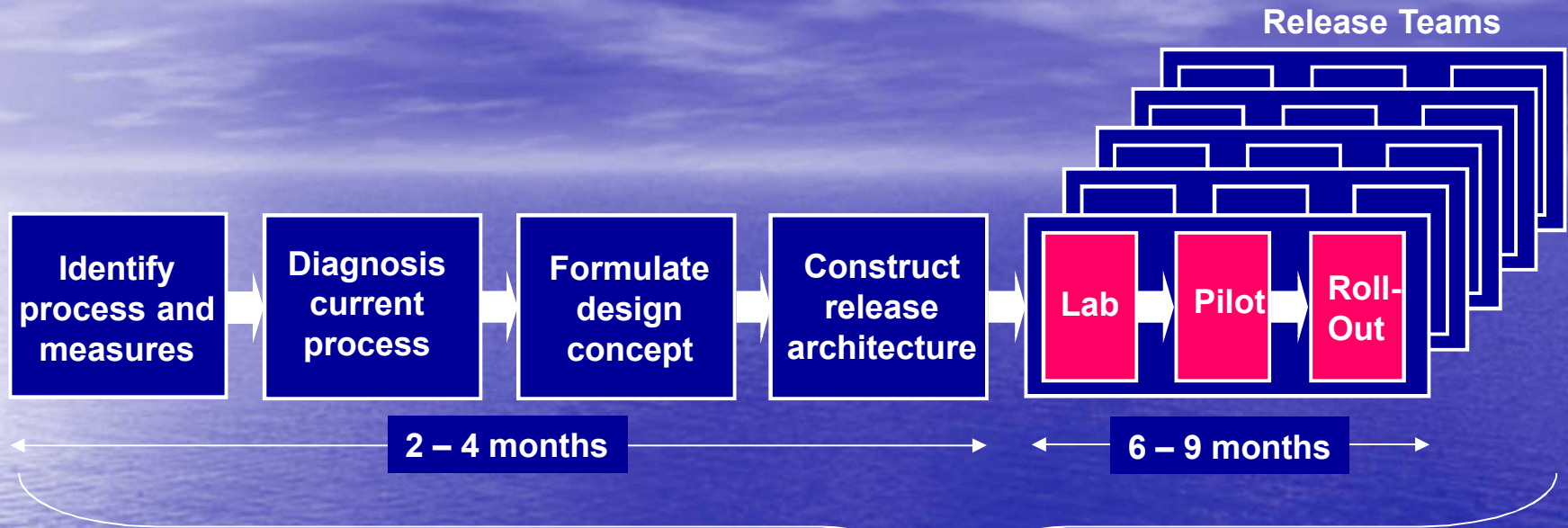**Rollout**

Institutionalize

Implement succeeding releases

- Mechanistic Implementation -
The Path of Implementation

Release Teams

| Identify process and measures | → | Diagnosis current process | → | Formulate design concept | → | Construct release architecture | → | Lab | → | Pilot | → | Roll-Out |

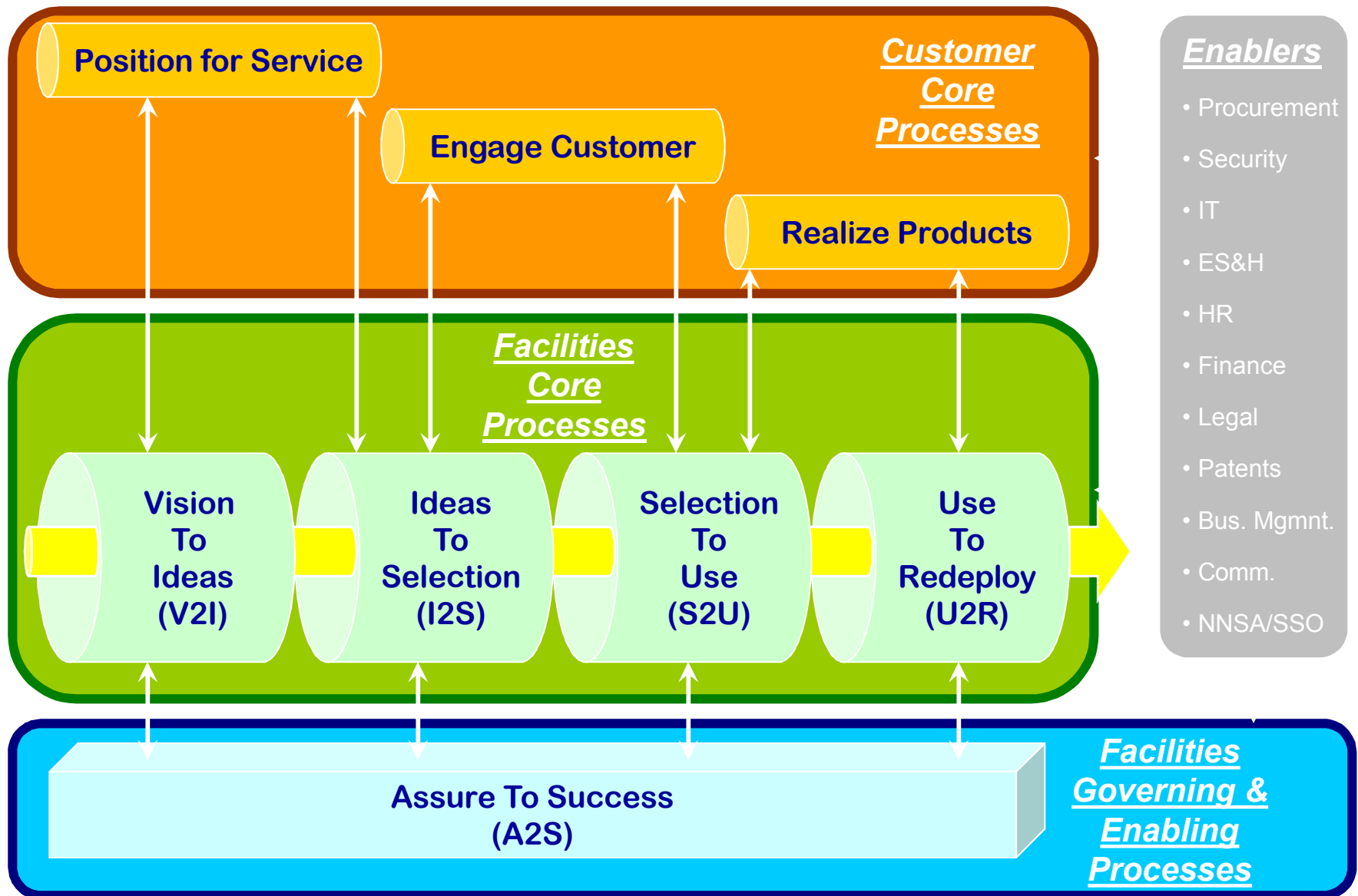**2 – 4 months**   **6 – 9 months**

Process Redesign Team
- 5 – 9 members full time, co-located for ~1 year
  - Diagonal slice across the involved functions
  - 1 -2 outsiders
- Characteristics:
  - creative
  - credibility
  - passionate
  - systems thinker
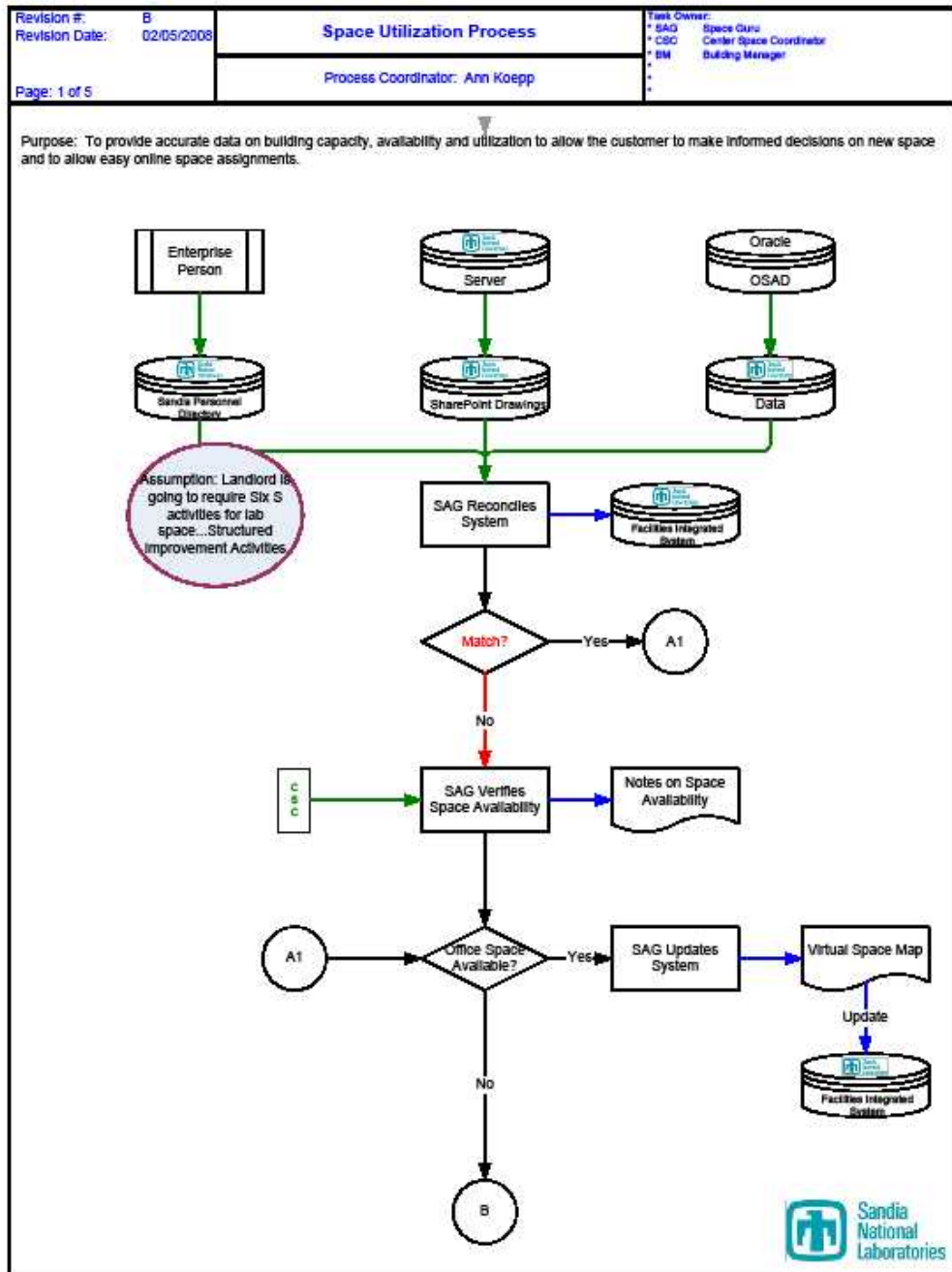 - risk tolerant
  - open minded

Facilities Enterprise Process Model
"Facilities Fit For Mission Use"

Position for Service

Customer Core Processes

Engage Customer

Realize Products

Facilities Core Processes

Vision To Ideas (V2I)

Ideas To Selection (I2S)

Selection To Use (S2U)

Use To Redeploy (U2R)

Assure To Success (A2S)

Facilities Governing & Enabling Processes

Enablers

- Procurement
- Security
- IT
- ES&H
- HR
- Finance
- Legal
- Patents
- Bus. Mgmnt.
- Comm.
- NNSA/SSO

Process Development Levels

1 - EPM	V2I		I2S		S2U		U2R			A2S	
Purpose Statements:	"Provide Vision for the Product"		"Provide Plan to Deliver the Product"		"Deliver the Product"		"Use, Sustain and Retire the Product"			"Provide Enabling Services and Governance"	
2 - Key Processes	Develop Customer Partnerships	Develop Customer Vision and Ideas	Bound and Validate Customer Ideas	Develop and Market Delivery Plan	Design Customer Selection	Deliver Customer Product	Use the Product	Sustain the Product	Retire the Product	Enable Work Processes	Govern Work Processes
3 - Subprocesses and procedures	Partner and Consult with the Customer	Develop Long-Range Plans	Develop Short-Range Plans		Design	Construct	Operate Systems	Maintain Systems		HR, ES&H, Document Management Feedback	Requirements Metrics, Quality

Targets and Metrics

- Transformation targets set at
  - 30% reduction in cost
  - 50% reduction in cycle time
  - 50% reduction in handoffs
- Process targets to be established to measure process success
  - Cycle times
  - Cost compliance
  - Schedule compliance
  - Response times
  - CSat

Organization

- Organization will be realigned around process execution
- Team and customer oriented
- Multi-tasking by personnel
- Minimize matrixing or at least make clear 'who is the boss'
- Compensation depends on support