Using the SEI Models and Practices to Assure System Lifecycle Deliverables Quality and Compatibility

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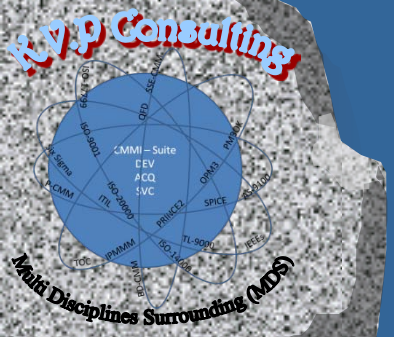
Required Standards
Example of Safety & Security
Required Standards

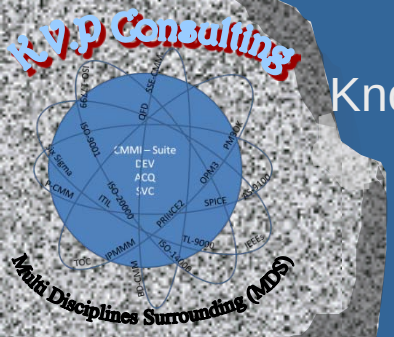


The Theory in the Models is Nice

However

Real Life is More Complicated

Much More



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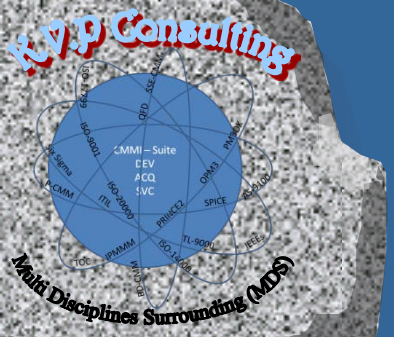
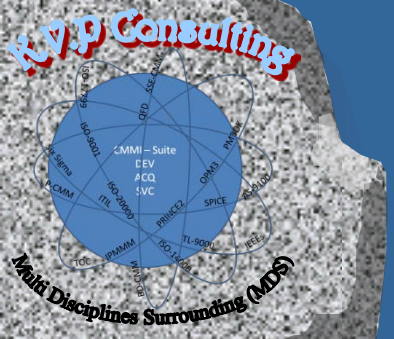


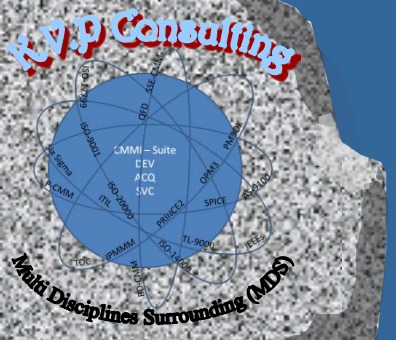
Considerations for Delivery Management

- The product is successful when the cost of development and manufacturing will drop and your profit will increase
- Produce high-quality (?) products within shorter time lines
- To Correct balance between time and cost *versus* yield and quality is essential to maximize return on investment



Considerations for Delivery Management

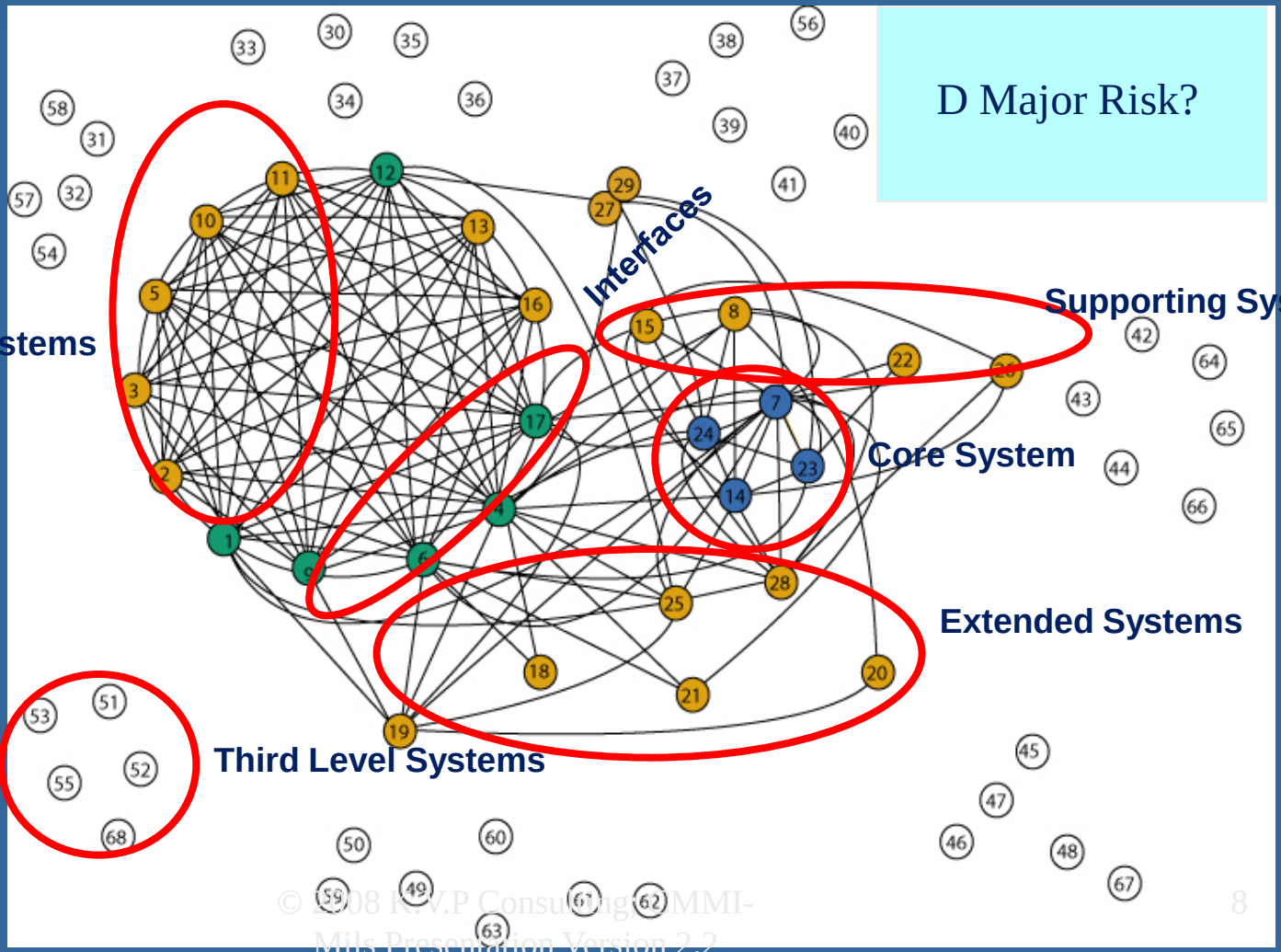
- Demonstration of the scalability
- Partial selection of what to optimize
  - Material
  - Cost of product
  - Design for
    - Scalability
    - Availability
    - Reliability
    - Serviceability
    - Maintainability
    - Supportability
    - Stability
    - Reusability
  - Sustainability of the Technology as a solution



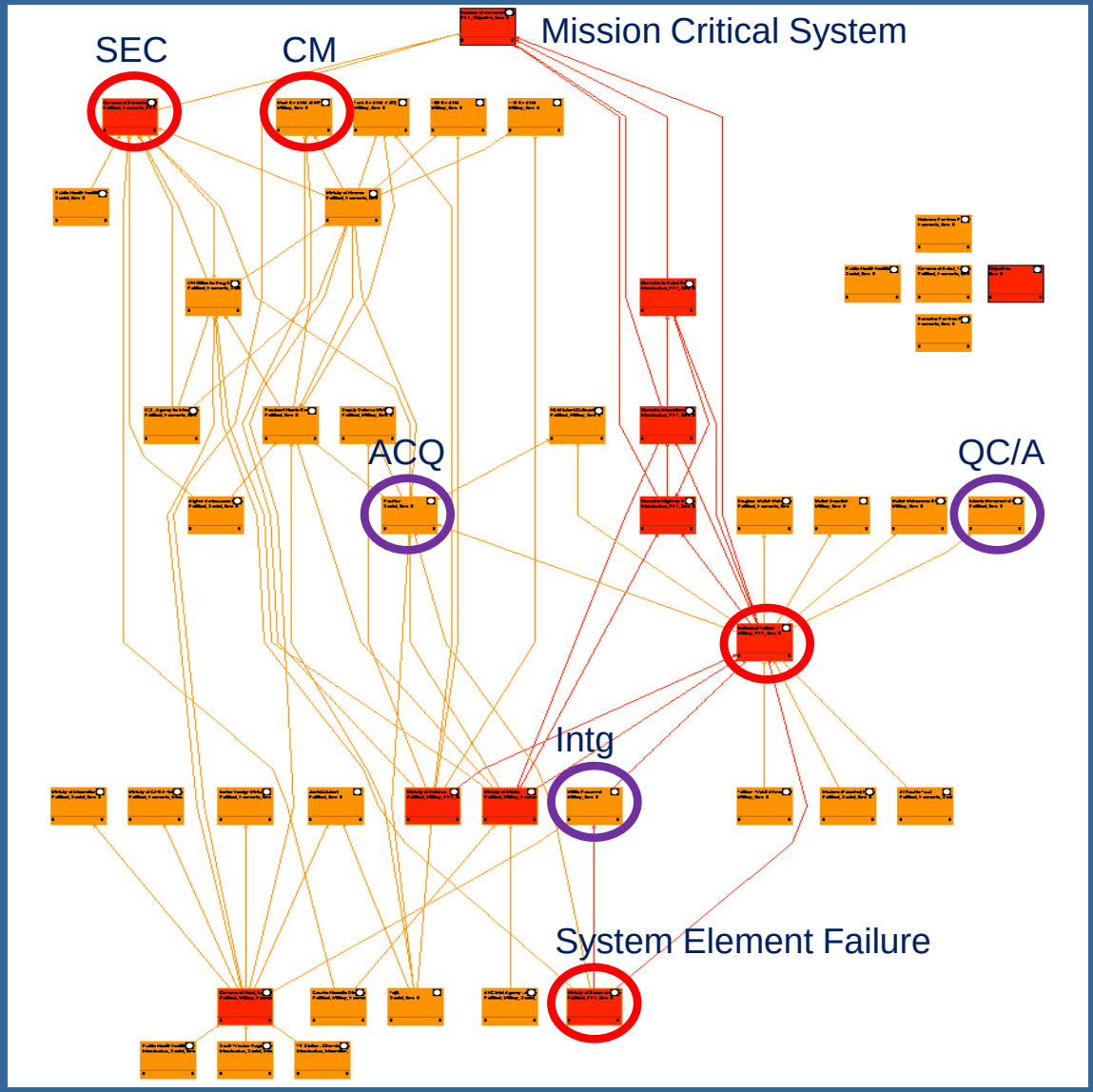
Main Roadblocks in Delivery Management

- During our analysis and planning, we were able to identify improvement targets in main lifecycle areas such as
  - operations,
  - information,
  - governance,
  - people
  - organizational structure,
  - portfolios,
  - project execution,
  - finance.
- And as in core process that are critical to the system success such as stakeholder management, technical interfaces and integration.

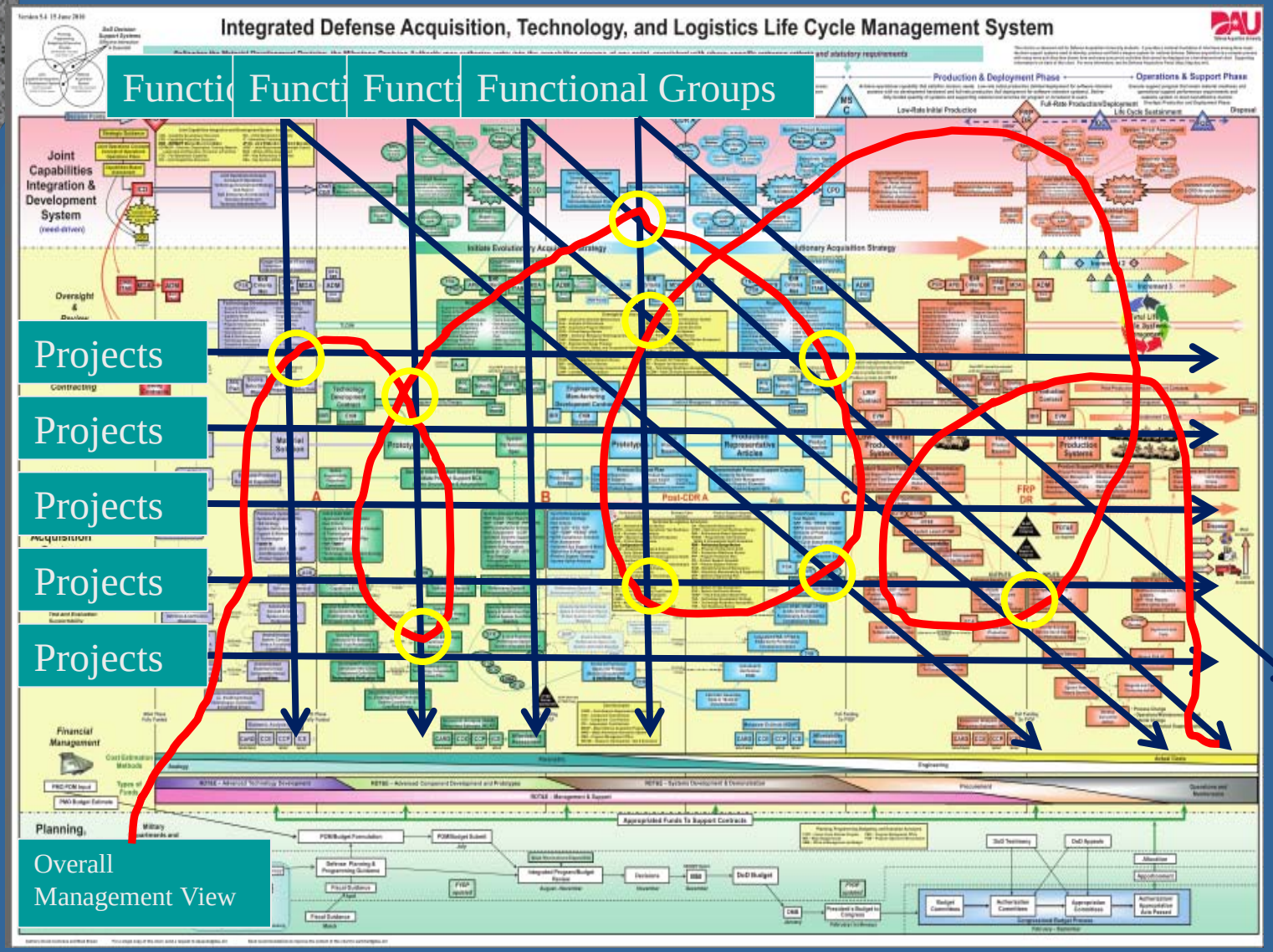
Military Combat Services Support Challenges in the C4ISR Systems



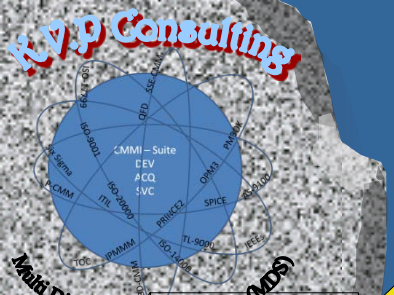
A Complex Effects-based Environment



Typical Lifecycle Description



Simplified View



DFD STAGE

Contractual Commitments

Project Scope

Client Bus. Constrains

ORG Bus. Objectives

Preparation.	Internal Guidelines	Questionnaire	Generic DFS (optional)	Generic data model (optional)	Kickoff meeting Agenda	Kickoff Presentation-
Requirements Study	Compl. Questionnaire	Impact on ERD (initial)	Business Process Decompose	Gap Analysis	Customization List	Integration Issues (Ext. Systems)
Requirements Analysis	Customization List	Impact Assessment	Data Model	DFS	DFS Overview (System)	DFS Presentation (Applications)
System Definition	Customization List	Impact Assessment				
Finalization and Approval	Impact Assessment	Final DFS	Design Review	DAD Document	Development Work Plan	Implementation Work Plan
	Data Model	DFS Overview	Final Corrections	$ign Off		Test Plan (Initial)

DFS (One per Application)

Legend

Activity Carried out in Dev. Center

Activity Carried out at client site

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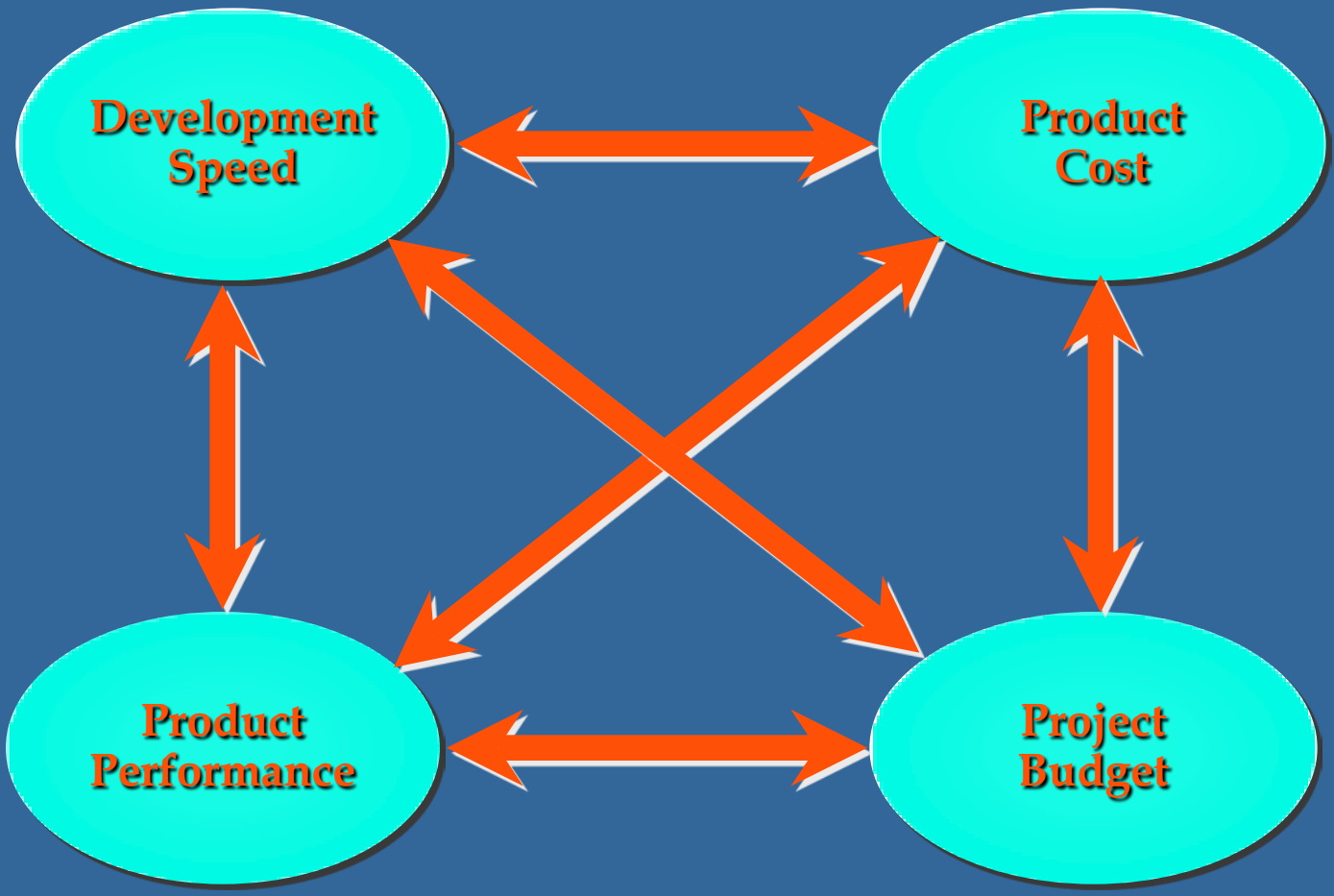
Multi Disciplines Surrounding (MDS)

The Priority Balance

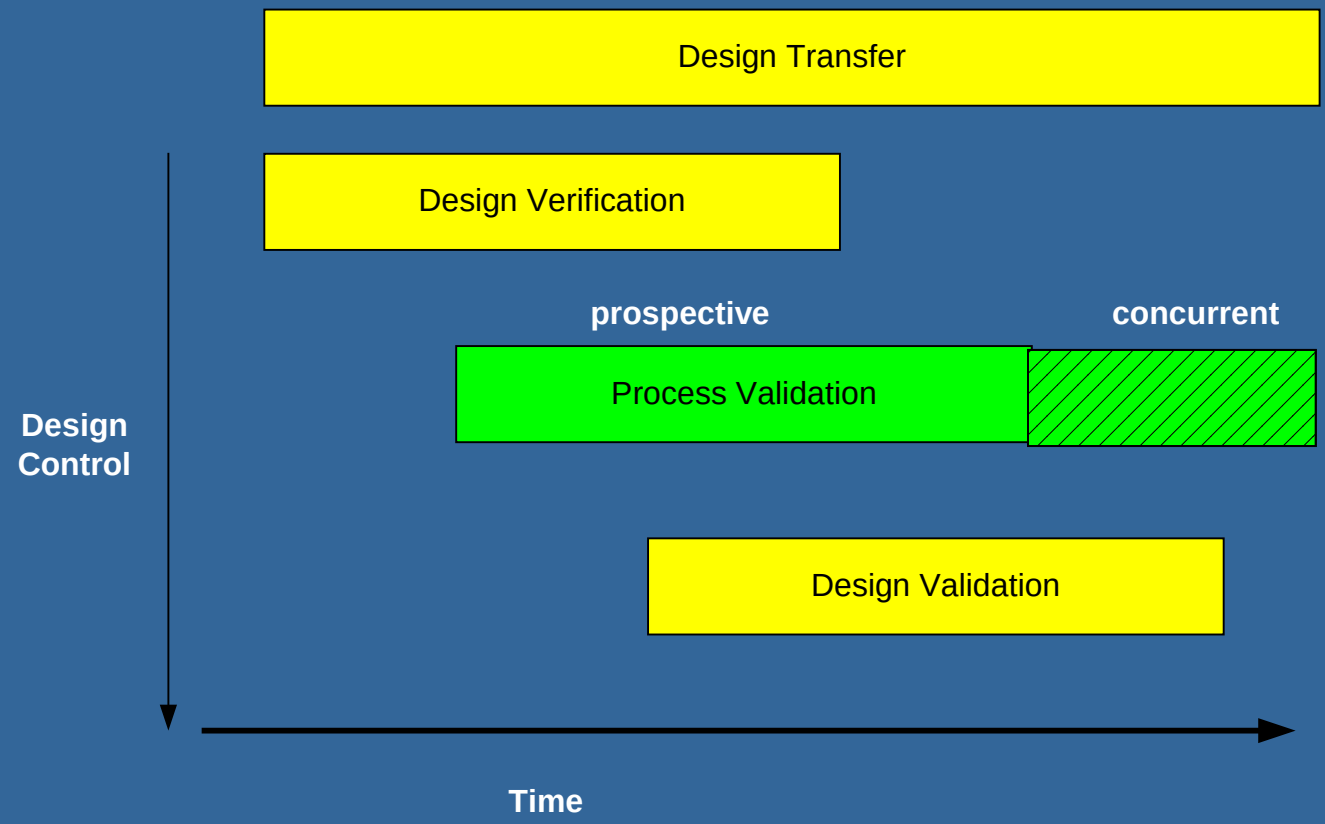


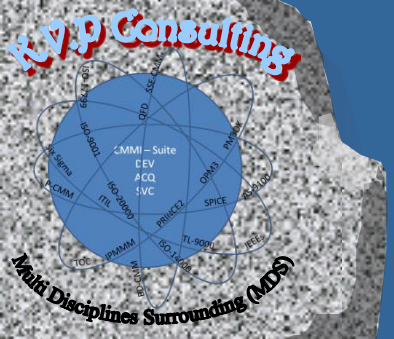
SOURCE: Smith and Reinertsen; Developing Products in Half the Time

The Compliance Requirements Challenge

	DELIVERABLE	OWNER	DUE DATE	COMPLETION STATUS Red	Yellow	Green	PERFORMANCE TO CRITERIA Red	Yellow	Green	RECEIVER PRACTICES CONFORMANCE (1-10)	EXIT RECOMMENDATION Red	Yellow	Green	NOTES
I - Carryover deliverables from Phase 1														
1	Verification that concepts satisfy the Voice of the Customer													European focus group very positive.
II - Deliverables for Phase 2														
Demonstrate Features & Performance Requirements to be Superior & Meet Customer Needs														
1	Approval of Final Features and Performance Requirements Document	Team												Nomenclature & Accent are TBD.
2	Results of customer acceptance & product benchmarking studies	Willem												IQ Research complete
3	Feature/cost trade-off decisions	Team												Complete
Demonstrate that Skeletal Designs are Superior														
1	Approval of Final Subsystem Requirements Document	Team												Accent Colors TBD.
2	Integrate hardware/software/serialized materials & system/subsystem interfaces	Rauchenplat/Crichton												Completed
3	Skeletal Design Description Document	Rauschenplat												Completed
4	Critical Parameter Layouts, with set points & tolerances	Rauchenplat/Crichton												Data for 6, 0 completed.
5	Preliminary bill of materials	Rauschenplat												Spreadsheet complete. X-studies ~ 50%
6	Patent position	Rauschenplat												No disclosures. No infringements.
Demonstrate that Skeletal System Designs are Robust														
1	Engineering Evaluation Test Plans	Webster												Completed
2	Predictions & evidence of performance and variability	Webster												Part Failures/Failure Modes completed.
3	Conclusions from life & keeping tests, analytical design, & Eng. Eval. Tests	Rauchenplat/Crichton												E.A.R. inputs complete, not published.
4	Assessment of interactions among parameters & subsystems	Rauchenplat/Crichton												Completed in Breadboard testing.
5	Packaging & handling concepts	Appleton												Same as Cirrus
Demonstrate Achievable Manufacturing and Operations Plans														60 hz green, 50 hz red
1	Selection of critical manufacturing processes, materials & suppliers	Hoffman												No new processes/suppliers.
2	Final production site selection, with implementation plan	Strong/Chase												Sites Done; 60 hz Done, 50 hz Not
3	Tooling & assembly strategy	Strong/Chase												Newly same;FPNM tools & processes
4	Assessment of risks for manufacturing processes & sources	Strong/Chase												Frame mod process.
Demonstrate Achievable Marketing and Service Plans														
1	Service plans	Barnette												Completed
2	Baseline service approach for diagnostics, tools, parts, preventive maintenance	Barnette												Completed
3	Updated marketing plan, objectives, positioning & analyses, w/ key assumptions	Lee/Mills												Completed
4	Preliminary sales, distribution, & customer support plans	Lee/Mills												60 hz complete; 50hz in process
Approval of and Commitment to Program Management and Business Plans														60 hz yellow, 50 hz red
1	Approval of & commitment to Program Business Plan	Martin												Completed
2	Financial case requirements	Martin												60 hz complete; 50hz in process

Design Controls & Process Validation





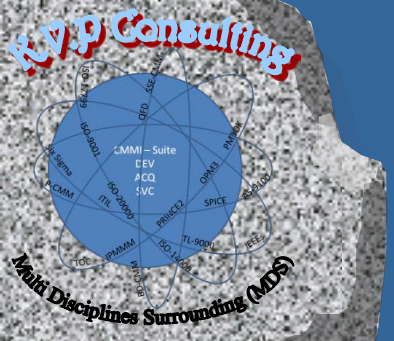
The Challenge Statement

Organizations that need to manage matrix / complex business unit with functional teams or systems and to establish business relationships with other businesses face major challenges including:

- The need for creating a win-win-situation
- The effort to align business processes and link up information systems across company borders

Organizations do not know how to efficiently use interoperability from the business perspective to identify the fundamental artifacts that are related to the business interoperability

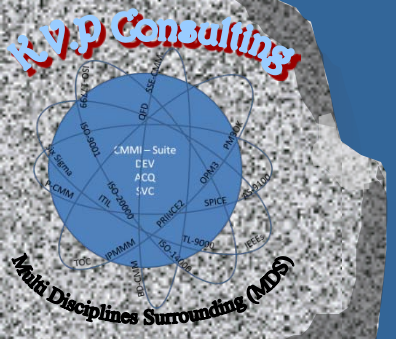
Integrated Risk Management Approach



Common Failures - 1

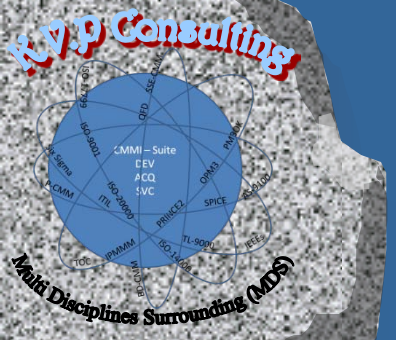
Organizational risk events are predominantly managerial, not technical.

- Lack of defining business objectives in quantitative terms and structure
- Inadequate definition of 'Good Enough' level
- Inability to differentiate different business objectives and success factors for the different domains and lifecycle phases
- Inadequate resource usage and adjustment to Plan and Objectives
- Failure to identify and manage risks
- Poor or mismanaged service / operational requirements
- Uncontrolled baselines, no configuration management
- Misunderstood business / operational needs and objectives



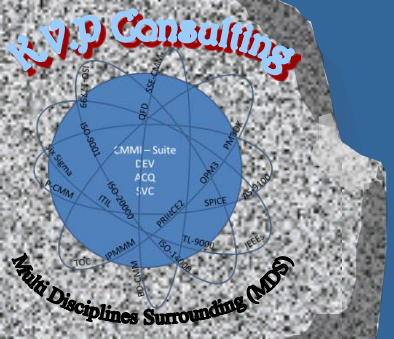
Common Failures - 2

- Poor contractor acquisition or management
- Lack of skills, capability and training
- Poor planning and tracking
  - Value Stream
  - Equipment
  - Resources
  - Finance
- Poor / misuse of data and measurements
- Inability to estimate accurately
- No quality assurance / control
- Poor communications



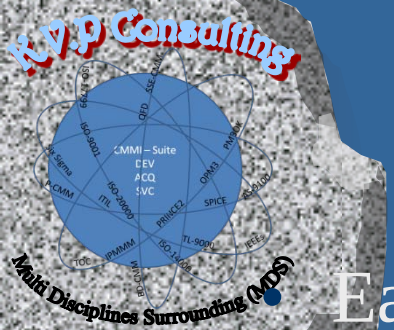
The Operational Need

- Management capability level from both professional and knowledge level
- Performance and reporting norms
- Self management and self discipline maintaining personal professional and knowledge capabilities
- Individual and team discipline
- Cooperation and knowledge and resource sharing
- Appropriate visibility of information, data and capabilities
- Quality of readiness and preparedness for performing mission



The Operational Need

- Centralized resource management and appropriate utilization and usage of it
- Multidimensional management (future planning, unit strategy, short term objectives, the immediate objectives)
- Initiating, developing and implementation management of new processes and technologies
- Balanced planning and deploying new processes and tools improvements and new technologies in a measured way that will quantify the improvement vs. expectations
- Information, data and communication security



The Operational Need

Each person working in the implementation organization will need to do the following:

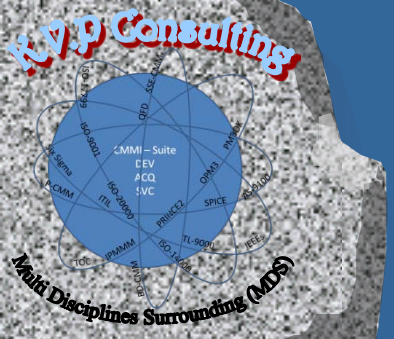
- Access the processes descriptions
- Understand the lifecycle at a top level
- Understand in detail of the processes that he or she performs

In addition, managers must do the following:

- Understand the lifecycle at a top level
- Understand the leadership change management expectations in detail
- Understand how to lead the unit using the new processes
- Access historical measurement data for all processes and product versions performance
- Support implementation of new processes in their own surroundings
- Remove roadblocks to implementation

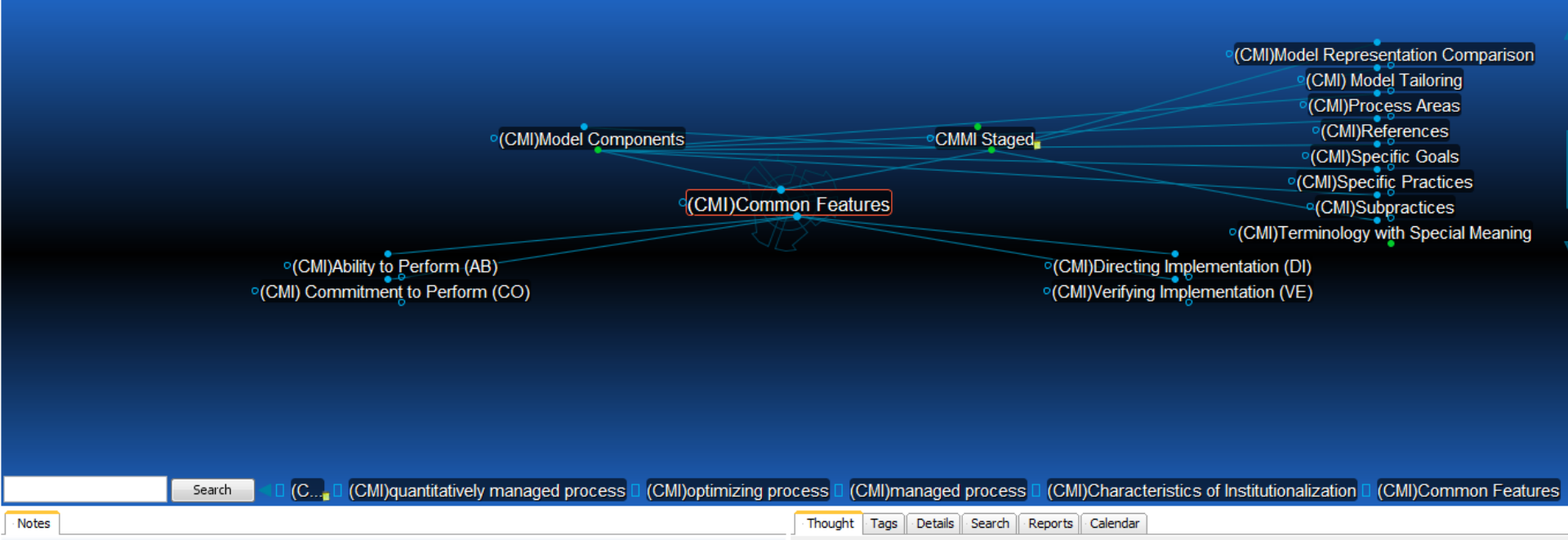
Main Risks Areas and Impact (Example Only)

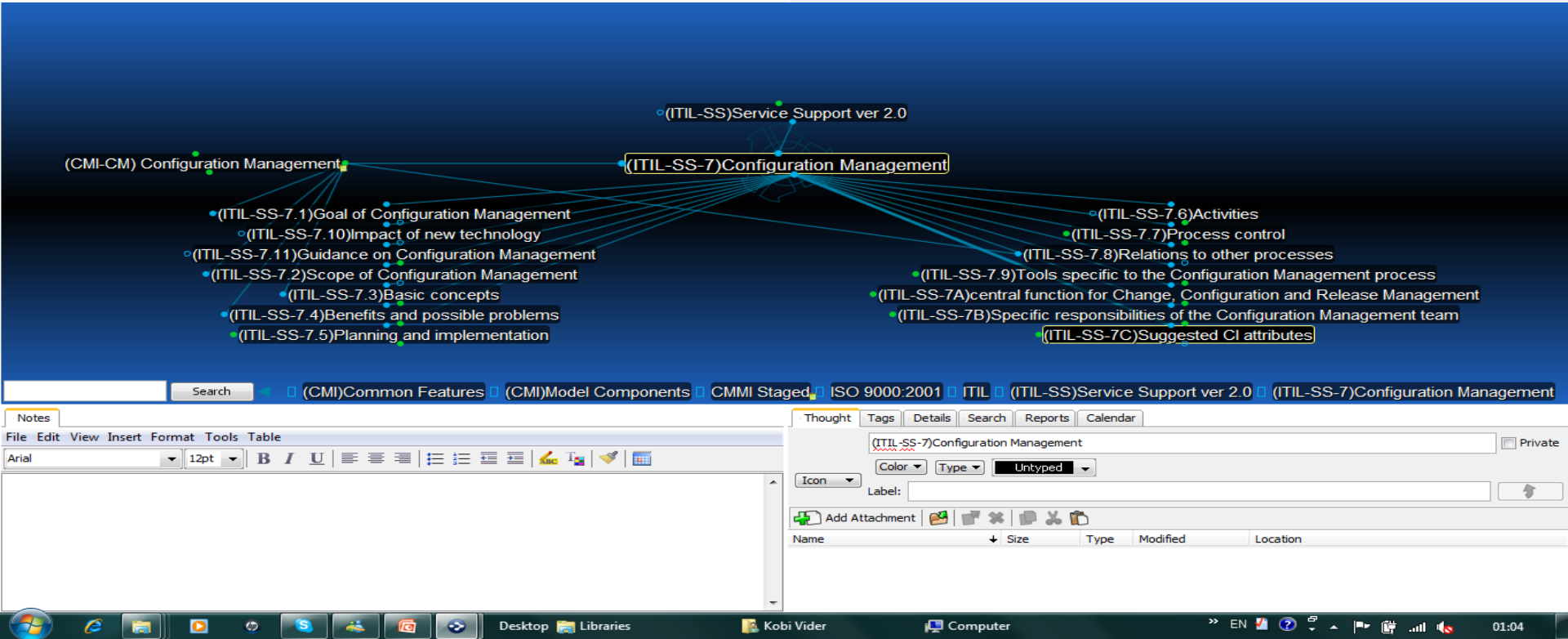
Risk Class	Risk Type	Activity or Event	Examples	Mitigation	Frequency & Severity
People	Internal	Unauthorized Activity Lack of skilled personnel	Rogue Trading High employee turnover	Partially insured	
People	External	Fraud	Theft	Partially insured	
Systems	Internal	Model Risk	Model/Methodology error Mark-to-model error	Technical risk audit Improve quality of models/people	
Systems	External	Technology Risk	Telecommunication failure Blackouts	Contingency planning Insurance	
Processes	Internal	Transaction Risk	Execution error Settlement error Documentation/contract risk	Improve processes	
Asset damage	Internal	Physical asset risk	Pipeline Rupture Production loss Unexpected plant outage	Partially insured Contingency planning	
Asset damage	External	Physical asset risk	Uninsured or irrecoverable loss or damage to assets	Insurance	



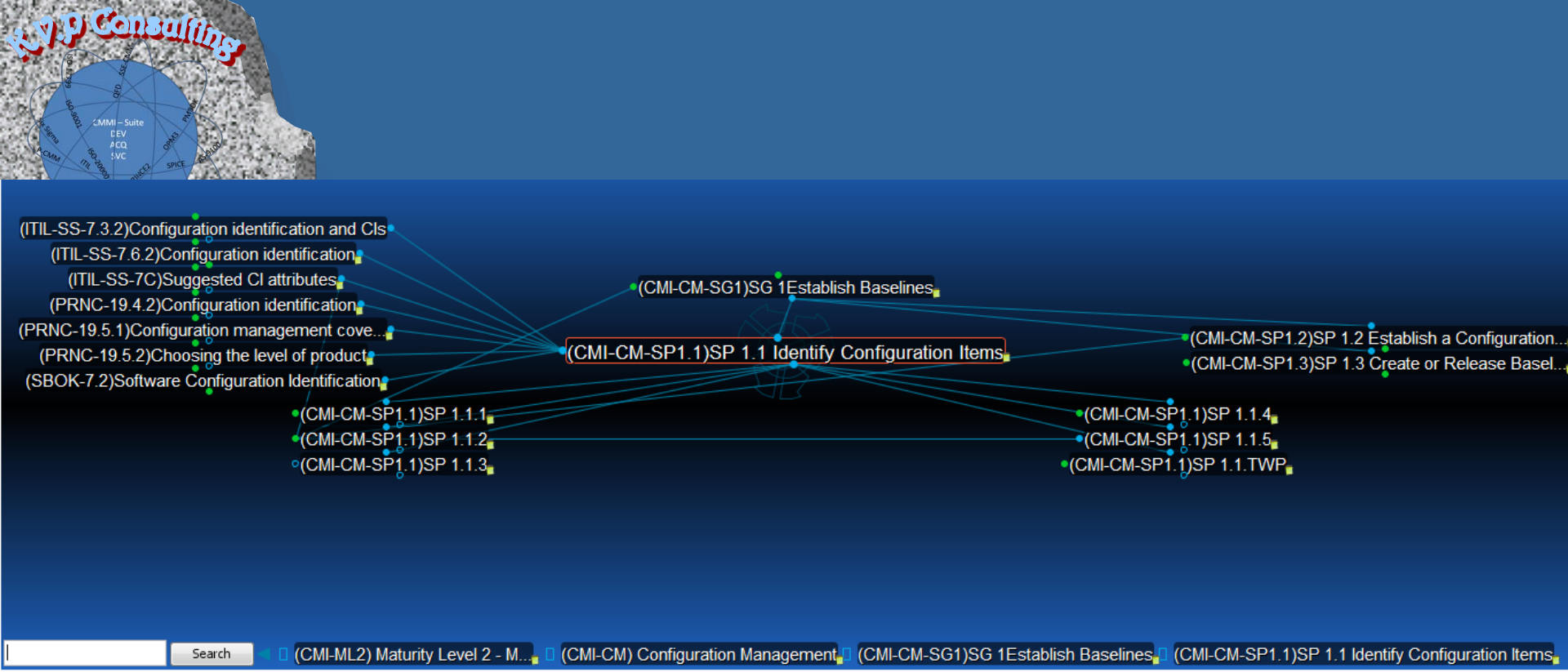
The Challenge

- This situation where the organization is running
  - separate process improvements on different parts of the system / product lifecycle
  - With partial overall view in interactions and handshakes between these groups is introducing inefficient usage of
    - resources,
    - expensive maintenance of duplicate infrastructures
    - and Organizational Sets of Standards Processes as well as assets,
  - May result in less quality and impacting the competitive edge with their global counterparts.





Desktop Libraries Kobi Vider Computer EN 01:04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(ITIL-SS-7C)Suggested CI attributes
(PRNC-19.4.2)Configuration identification
(PRNC-19.5.1)Configuration management cove...
(PRNC-19.5.2)Choosing the level of product
(SBOK-7.2)Software Configuration Identification
(CMI-CM-SG1)SG 1Establish Baselines
(CMI-CM-SP1.1)SP 1.1 Identify Configuration Items
(CMI-CM-SP1.2)SP 1.2 Establish a Configuration...
(CMI-CM-SP1.3)SP 1.3 Create or Release Basel...
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(CMI-ML2) Maturity Level 2 - M...
(CMI-CM) Configuration Management
(CMI-CM-SG1)SG 1Establish Baselines
(CMI-CM-SP1.1)SP 1.1 Identify Configuration Items
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Identify the configuration items, components, and related work products that will be placed under configuration management. [PA159.IG101.SP101]
Configuration identification is the selection, creation, and specification of the following: [PA159.IG101.SP101.N101]
Products that are delivered to the customer
Designated internal work products
Acquired products
Tools
Other items that are used in creating and describing these work products
Thought
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Details
Search
Reports
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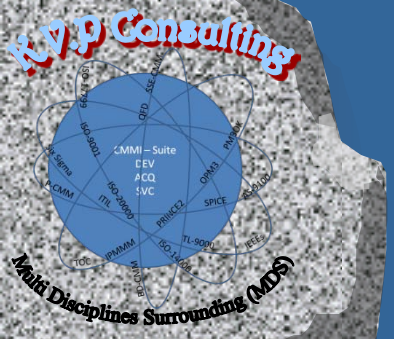
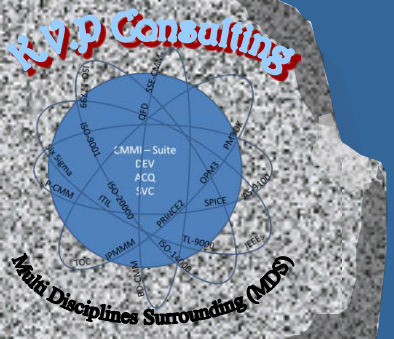


The Approach to the Solution Concept

- Best practices in the model focus on activities for providing quality services to the customer and end users
- To identify improvement targets in main lifecycle areas such as operations, information, governance, people and organizational structure, portfolios, project execution, and finance
- Select processes that are critical to the system success such as stakeholder management, technical interfaces and integration

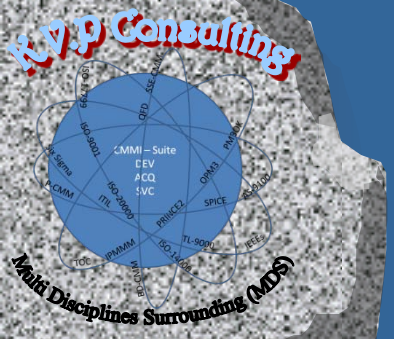


The Approach to the Solution Concept

- Build an action plan composed from the following main steps
  - Organizational map
  - Functional team and groups size and role in the lifecycle
  - Full lifecycle map
  - Setting improvement targets
  - Gap analysis
- Suggesting to the senior management to address the lifecycle and process (as a whole) as a complex of crossing interfaces and to add additional content to the lifecycle map (as a layer)

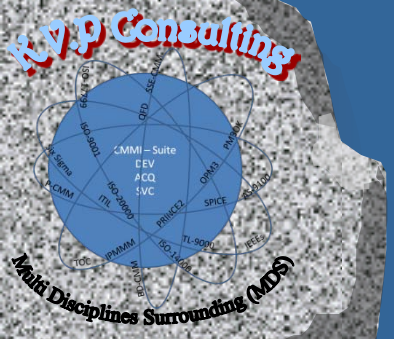
The Conceptual Solution

- Building on contingency theory, it outlines a comprehensive framework suggesting a fit between the level of Mission interoperability and environmental as well as internal contingencies.
- Moving from the current environment of basic process and way of thinking toward a more controlled and measured process to reduce the overwhelming amount of information that build decisions



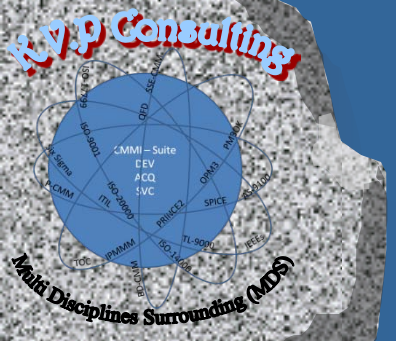
The Conceptual Solution

- We have found that Maturity Models and practices combined with some other industry standards and methods as a new integrated approach can be used as tools to leverage procedures to support the lifecycles and the organizational business objectives and capability, readiness and preparedness to achieve improvement and excellence.



The Conceptual Solution - 1

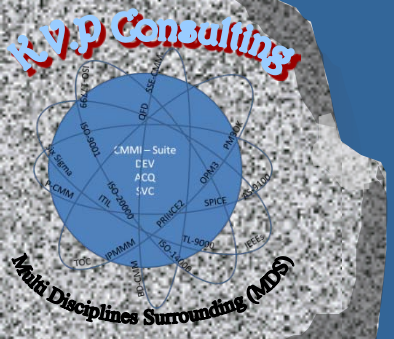
- Building on contingency theory, it outlines a comprehensive framework suggesting a fit between the level of business interoperability and environmental as well as internal contingencies.
- Moving from the current environment of basic processes and way of thinking toward a more controlled and measured set of processes to reduce the overwhelming amount of information that is now required to build decisions

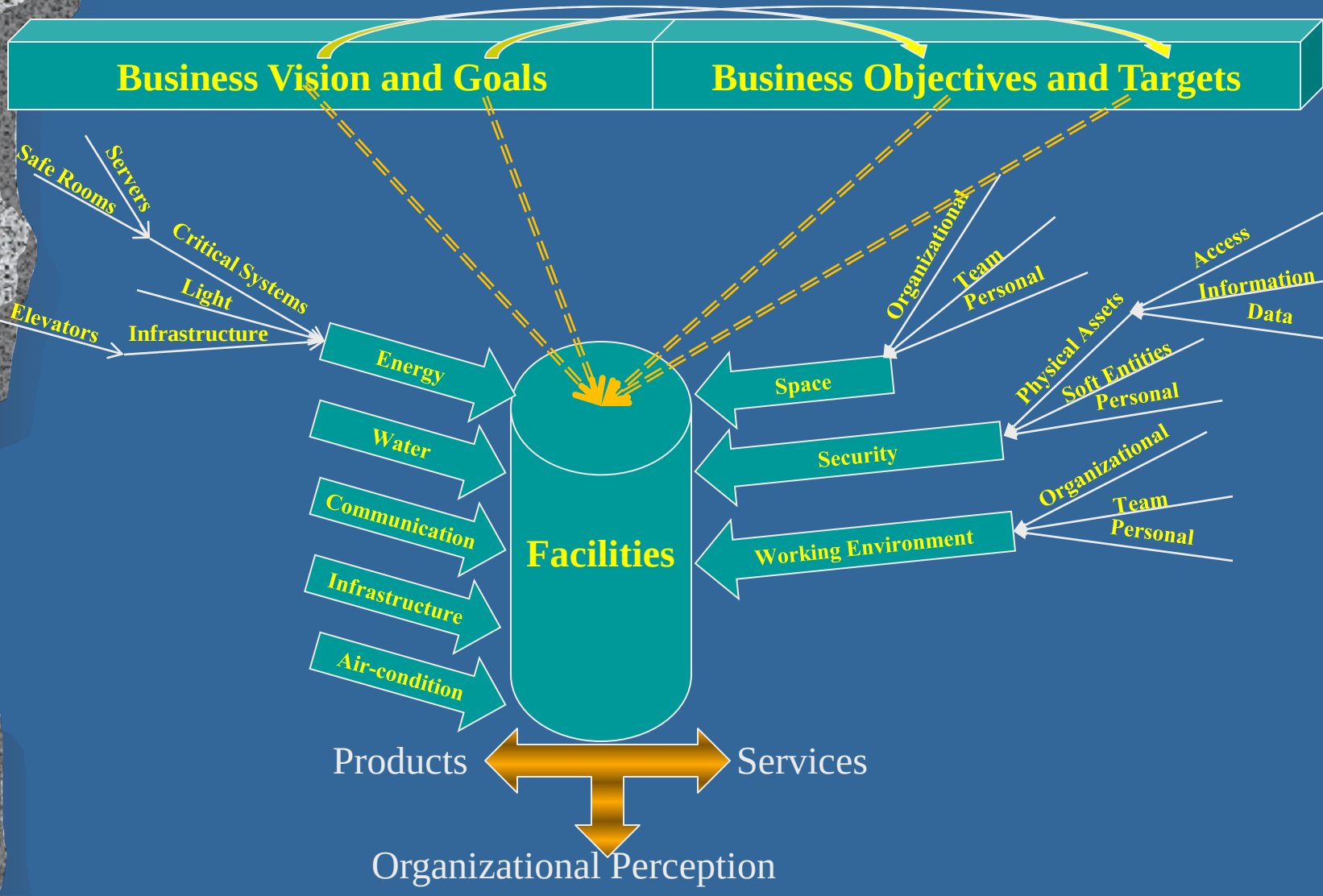


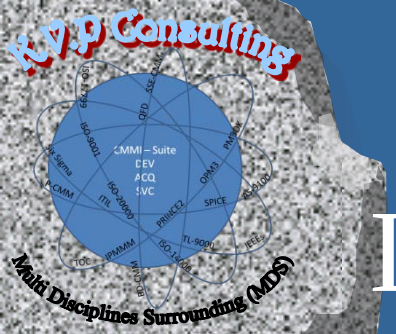
The Four Main Entities and Their Role

- Facility
  - Provide the ‘hard and physical’ working environments and infrastructure
- Technology
  - Provide the ‘soft and intangible’ working environments and infrastructure and tools
- Process
  - Provide the working procedures and instructions, which assume to guide in the most effective way how to use the facilities and technology to achieve the business objectives by the people
- People
  - Provide the individuals that build the teams within the organizational units and groups, that perform the tasks and activities described in the process

The Organization Managed Layers – Facility (as illustration only)

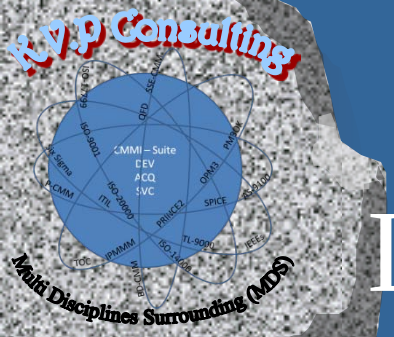






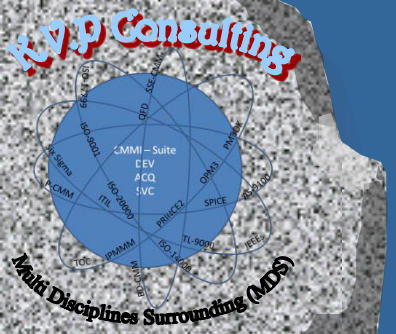
The Organization Managed Layers – Technology (as illustration only)

Safety Equipment	Security Equipment	Dashboards	Support Application
Maintenance Equipment	Manufacturing Equipment	Maintenance Environments	Manufacturing Environments
Development Tools	Administrative Equipment	Administrative Applications	Development Environments
Desktop / Laptop	Access System	Knowledge	Information
Servers	Phones	Intellectual Property	Patents
'Physical' Technology		**'Soft' Technology**	



The Organization Managed Layers – Processes **(as illustration only)**

XX	XX	Acquisition / Procurement	Support
Work Environments	Safety	Maintenance	Manufacturing
Ethics	Environmental	Development	Managerial (Portfolio)
Human Resources	Security	Knowledge	Managerial (Program)
Legal	Finances	Intellectual Property	Managerial (Project)
Administrative (Corporate 'wise')		**Business / Delivery (Product 'wise')**	



The Organization Managed Layers – People **(as illustration only)**

Administrative					Business / Delivery
	xx	xx	xx	xx	
	xx	xx	xx	xx	
	xx	xx	xx	xx	
	xx	xx	xx	xx	
	xx	xx	xx	xx	

Human Resources (Individuals)

Conceptual Structure and Elements

Dashboards and Infrastructure

Measurements Collection
And Supporting Technologies

Standards Compliance Map

STORM - BOK

IRMA-S

IRMA-B

Processes Infrastructure
And Core Components

Foundational Processes

IRMA-MF

IRMA-AM

Leading Indexes

IRMA-CF

Unique Tool Box

HERMES

IRMA-OMR

STORM / IRMA / HERMES and all related
materials are the intellectual property of
Kobi Vider and K.V.P Consulting

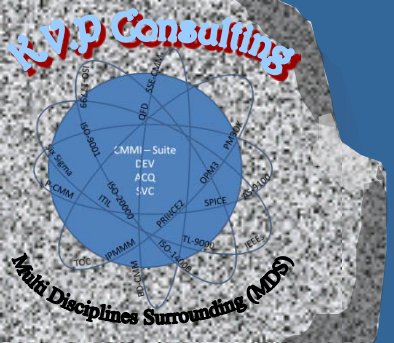
Solution Architecture

Preface
Part One – About the Model
1. Introduction
2. Model Components
3. Working with the Model
4. Relationships Among Areas
5. Implementation Guidelines
6. Interpretation Guidelines

Part Two – Model Body

1. **Volume #1 – Process Foundations**
2. **Volume #2 – Foundation Processes**
3. **Volume #3 – Delivery Processes**
4. **Volume #4 – Support Processes**
5. **Volume #5 – Skills Building Processes**
6. **Volume #6– Process Improvement and Optimization Capabilities**

Part Three – The Appendices and Glossary
References
Acronyms
Glossary



Volume Chapter Structure

Reference to Process Foundations

Method Domain

- **Purpose Statement**
- **Overview and Explanations Notes**
- **Related Methods**
- **Typical Work Products**

Method Description and Flow

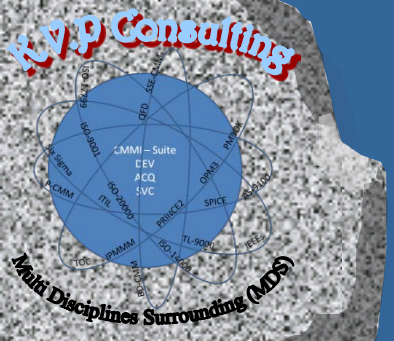
Objectives

Steps

Expected Actions

Legend

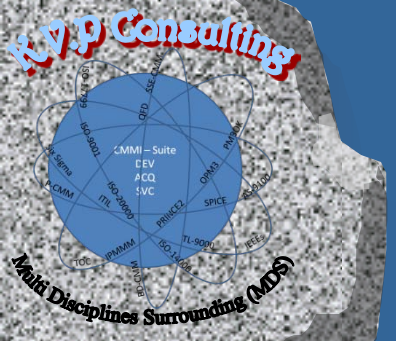
- **Required**
- **Expected**



Operational Processes KPI's

- Known Capability and Stable
- Defined Ingredients
- Known Critical Elements
- Meeting Objectives
- Controlled Interfaces
- Responsive / Modifiable
- Resilience / "Agile"
- Relevant 'What If's Scenarios
- Accepted Tolerance / Freedom Boundaries
- Predictable Outcomes

- Influence of Critical Elements on process output
- Process resources utilization 'What If's Scenarios
- Process elements capability
- Quantitative definition of process ingredients



System Compliances' KPI's

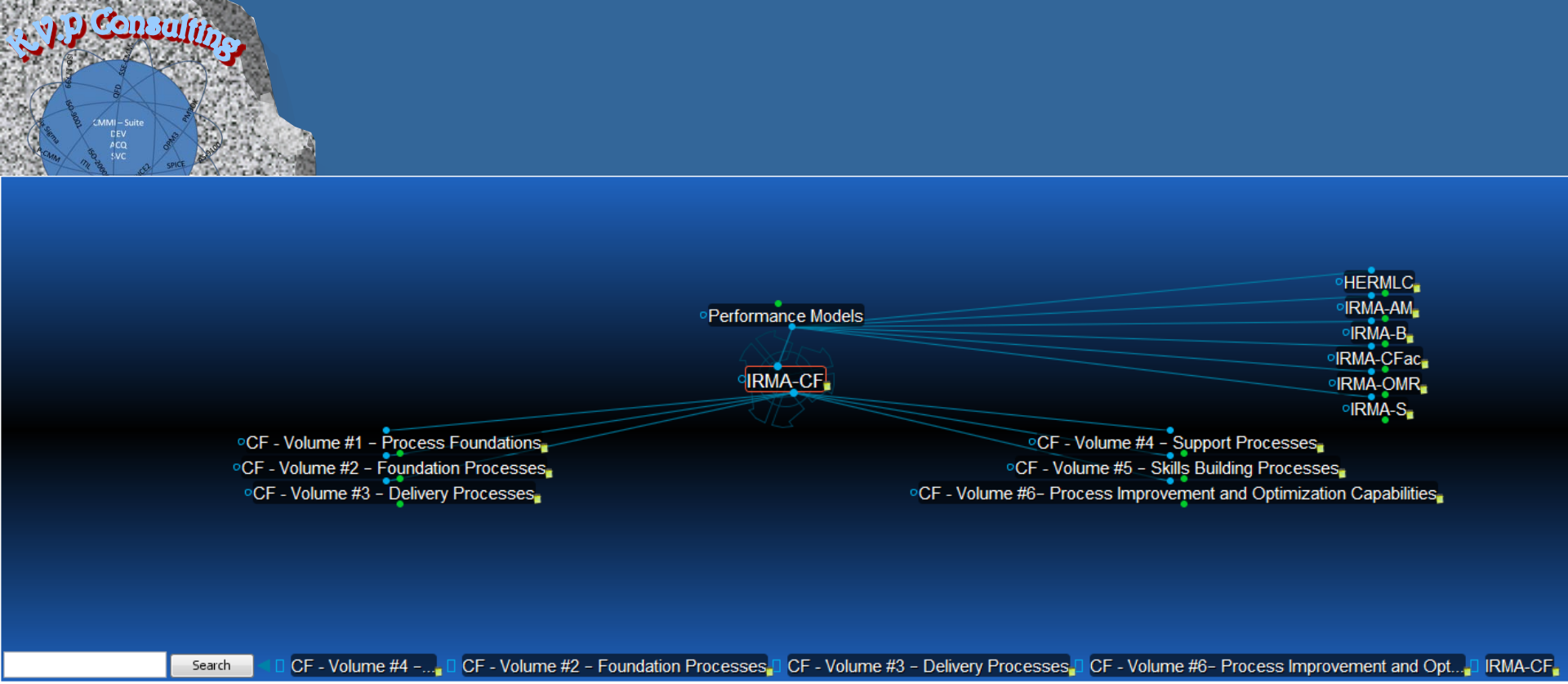
- Scalability
- Availability
- Reliability
- Serviceability
- Maintainability
- Supportability
- Stability
- Reusability
- Soundness of Technology Future

- Technology flexibility
- Capacity growth models
- System (size) growth models
- Time to Restore
- Down time
- MTBF
- Support calls causes and density
- Technology extendibility

Detailed Examples and Elaborations

- Link to Model Map (Excel)
- Link to Model BOK (Word)
- Link to Model Scoping (Excel)
- Link to Model Checklist Chart (Visio)

Due to Presentation time
We will look on screen shots
(Examples can be sent to you)



Search | CF - Volume #4 –... | CF - Volume #2 – Foundation Processes | CF - Volume #3 – Delivery Processes | CF - Volume #6– Process Improvement and Opt... | IRMA-CF

Notes

File Edit View Insert Format Tools Table

David 14pt

IRMA-CF - Integrated Risk Management Approach Core Foundation, is the basic model that is the mandatory Body Of Knowledge (BOK) to all other models

Thought | Tags | Details | Search | Reports | Calendar

IRMA-CF Private

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Add Attachment

Name | Size | Type | Modified | Location

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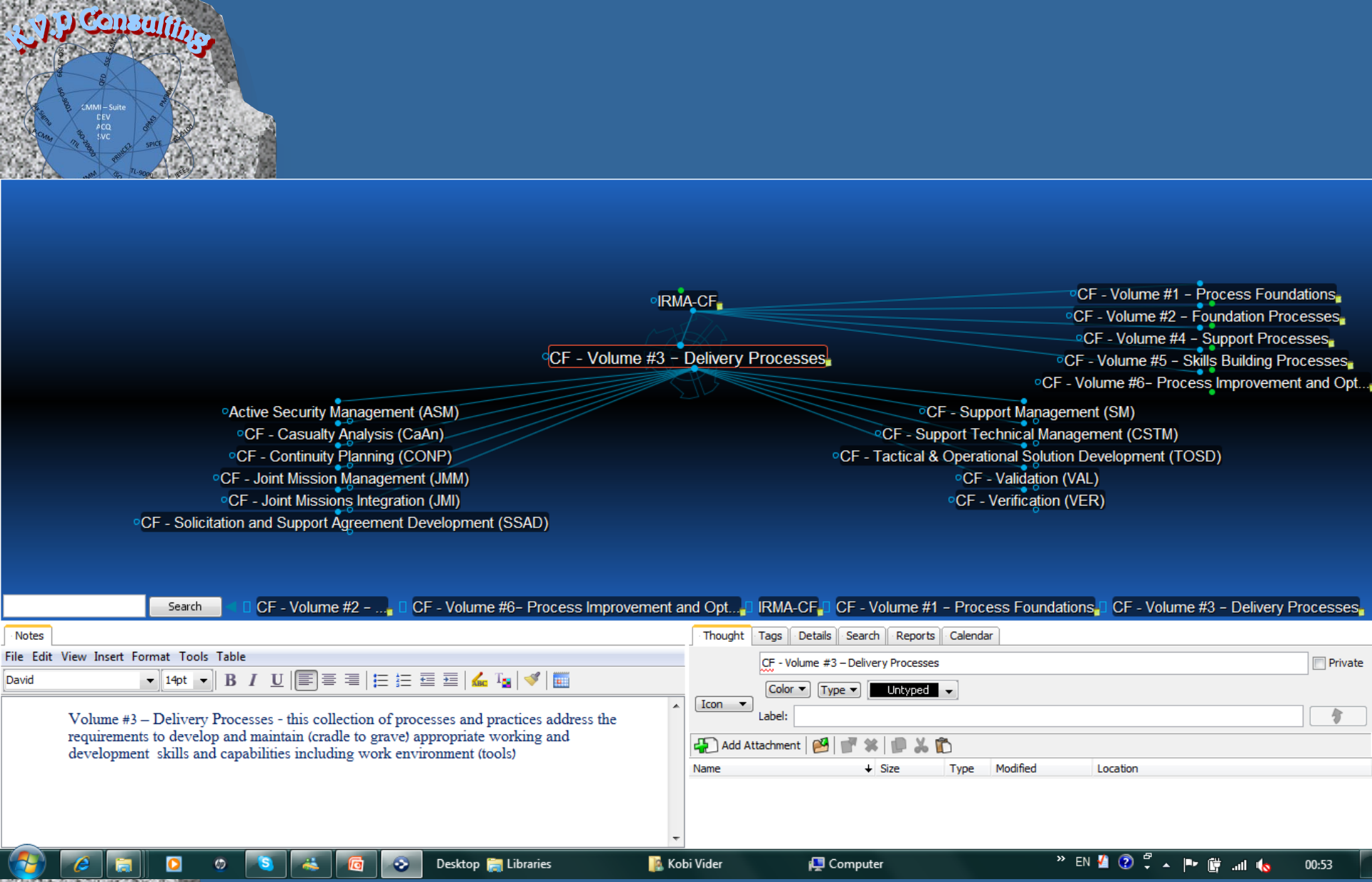

Notes

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David 14pt

Volume #3 – Delivery Processes - this collection of processes and practices address the requirements to develop and maintain (cradle to grave) appropriate working and development skills and capabilities including work environment (tools)

Thought Tags Details Search Reports Calendar

CF - Volume #3 – Delivery Processes Private

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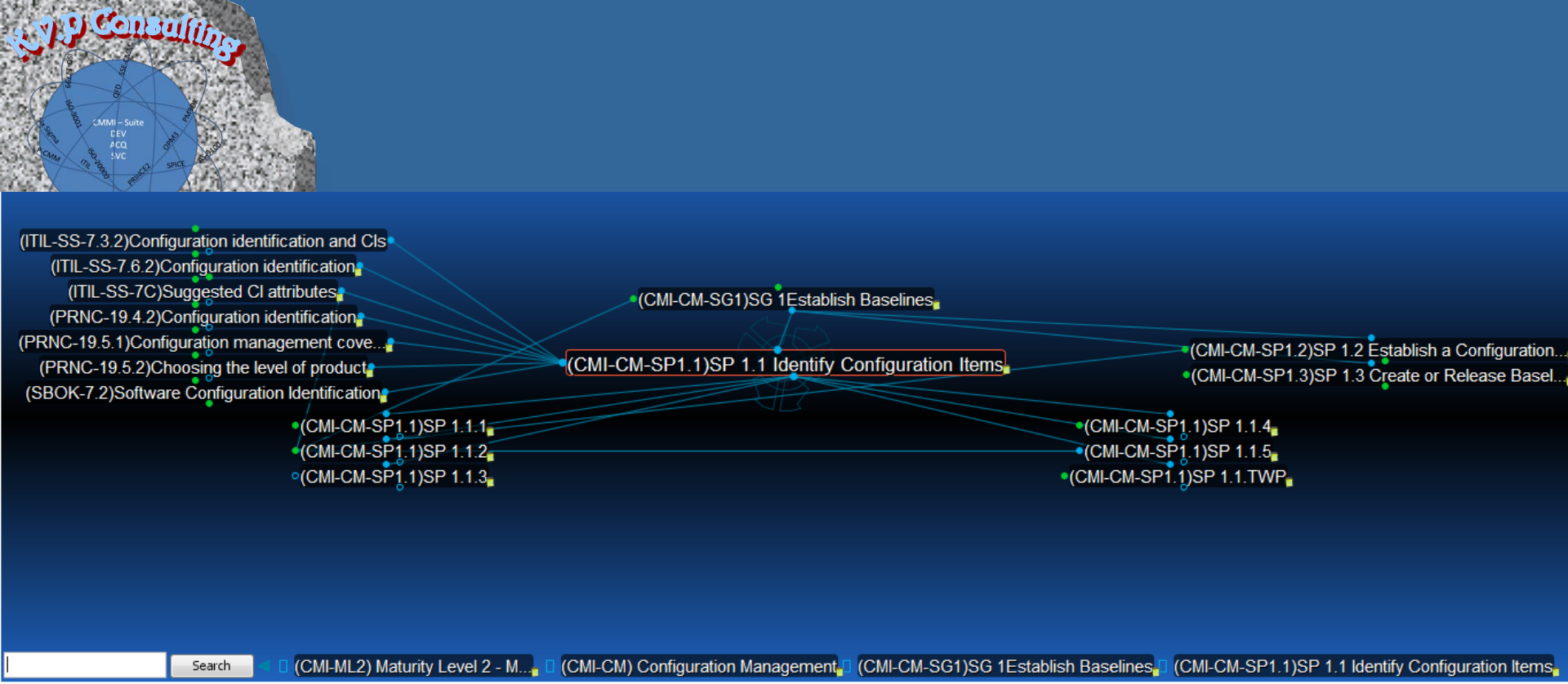

Notes

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Arial 10pt

Identify the configuration items, components, and related work products that will be placed under configuration management. *[PA150.IG101.SP101]*

Configuration identification is the selection, creation, and specification of the following: [PA159.IG101.SP101.N101]

Products that are delivered to the customer

Designated internal work products

Acquired products

Tools

Other items that are used in creating and describing these work products

Thought | Tags | Details | Search | Reports | Calendar

(CMI-CM-SP1.1)SP 1.1 Identify Configuration Items

Private

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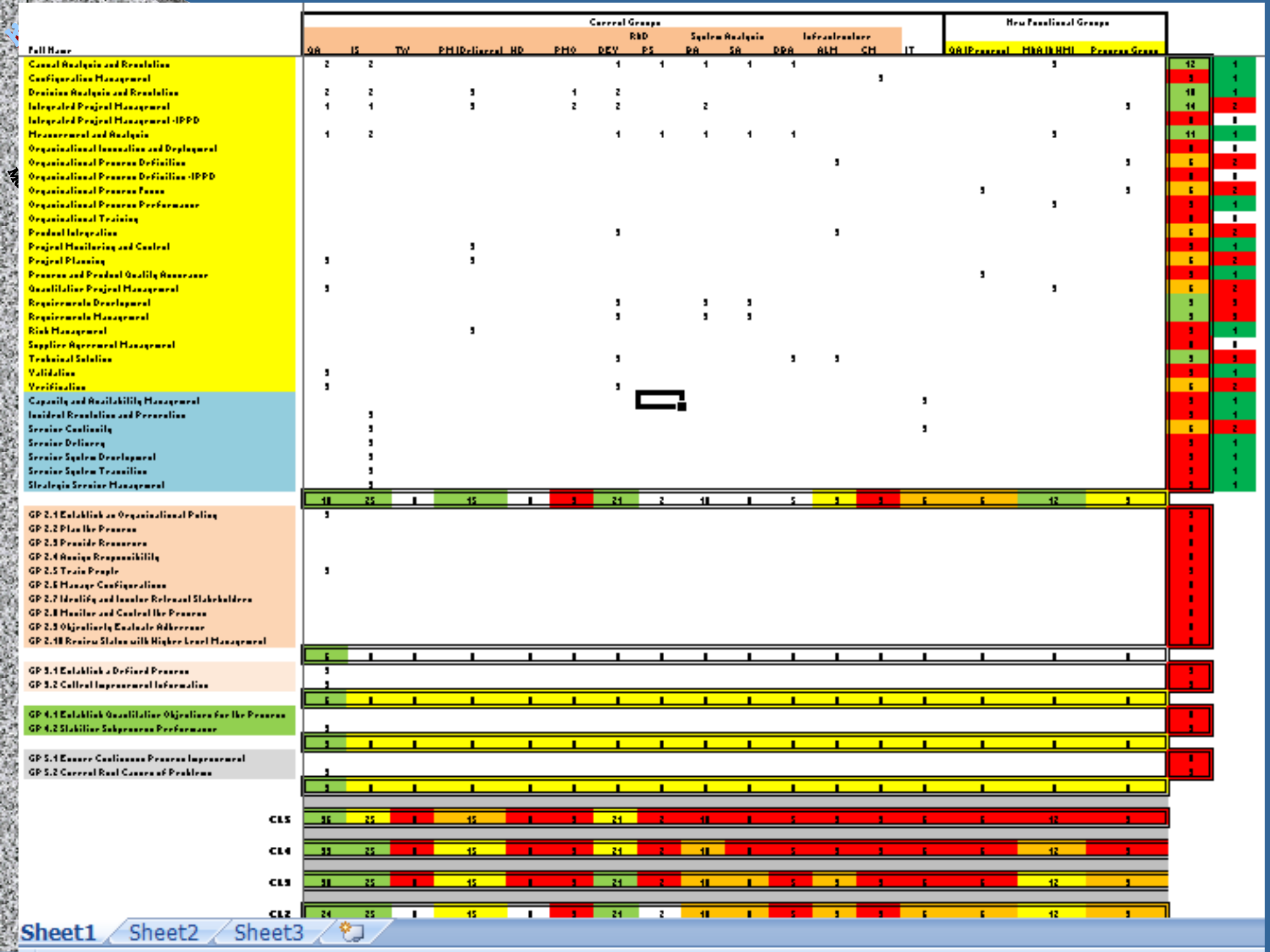
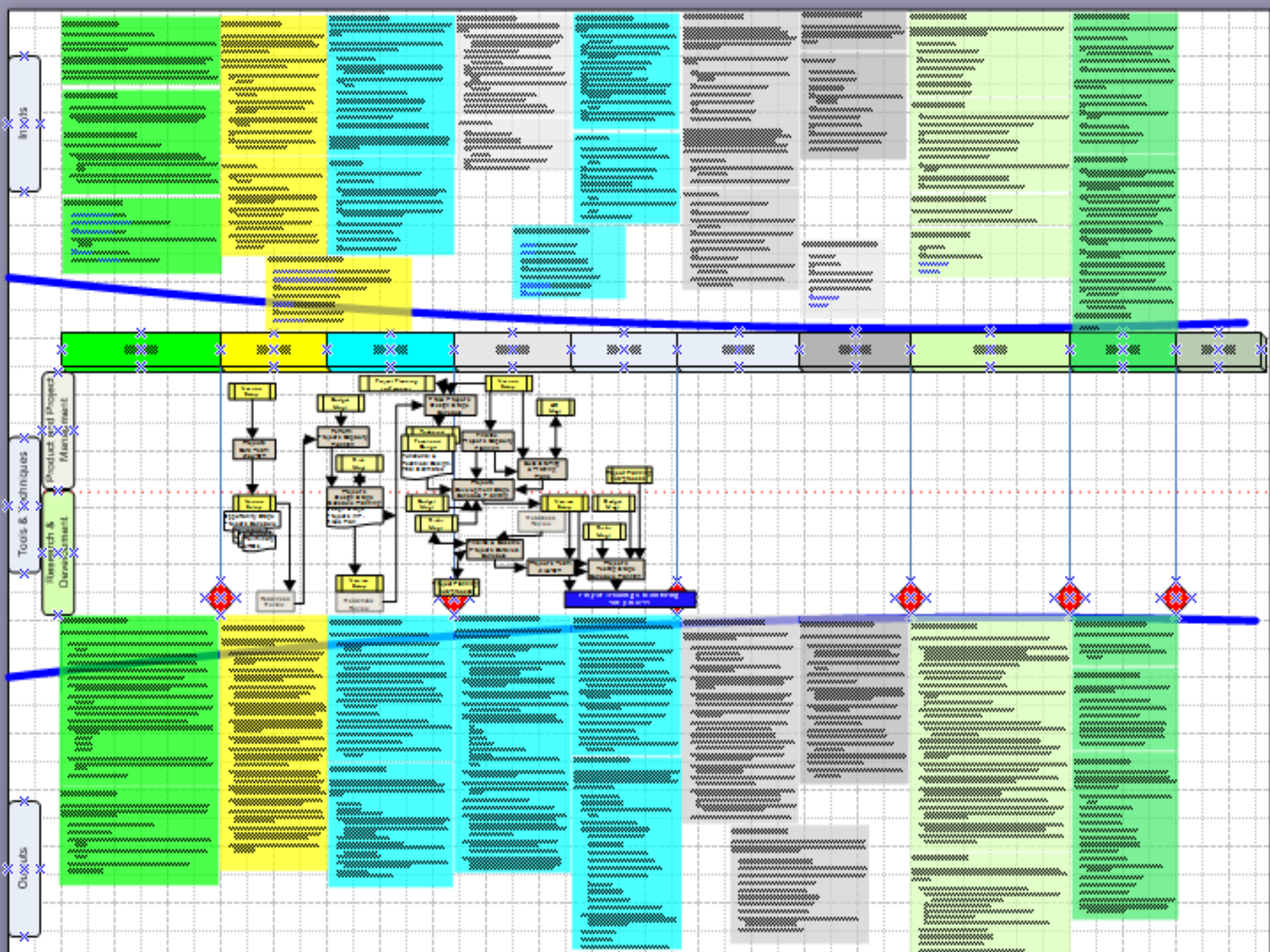


	Current Groups														New Functional Groups				
								RhD		System Analysis			Infrastructure						
Full Name	QA	IS	TW	PM	Delivery	HD	PMO	DEV	PS	BA	SA	DBA	ALM	CM	IT	QA	Process	MHA	HMI	Process Group	
Causal Analysis and Resolution	2	2						1	1	1	1	1						3		12	1
Configuration Management														3						3	1
Decision Analysis and Resolution	2	2			3		1	2												10	1
Integrated Project Management	1	1			3		2	2		2									3	14	2
Integrated Project Management -IPPD																				0	0
Measurement and Analysis	1	2						1	1	1	1	1						3		11	1
Organizational Innovation and Deployment																				0	0
Organizational Process Definition													3						3	6	2
Organizational Process Definition -IPPD																				0	0
Organizational Process Focus																3			3	6	2
Organizational Process Performance																		3		3	1
Organizational Training																				0	0
Product Integration								3					3							6	2
Project Monitoring and Control					3															3	1
Project Planning	3				3															6	2
Process and Product Quality Assurance																3				3	1
Quantitative Project Management	3																	3		6	2
Requirements Development								3		3	3									3	3
Requirements Management								3		3	3									3	3
Risk Management					3															3	1
Supplier Agreement Management																				0	0
Technical Solution								3				3	3							3	3
Validation	3																			3	1
Verification	3							3												6	2
Capacity and Availability Management															3					3	1
Incident Resolution and Prevention		3																		3	1
Service Continuity		3													3					6	2
Service Delivery		3																		3	1
Service System Development		3																		3	1
Service System Transition		3																		3	1
Strategic Service Management		3																		3	1
	18	25	0	15	0	3	21	2	10	0	5	3	3	6	6	12	3				
GP 2.1 Establish an Organizational Policy	3																			3	
GP 2.2 Plan the Process																				0	
GP 2.3 Provide Resources																				0	
GP 2.4 Assign Responsibility																				0	
GP 2.5 Train People	3																			3	
GP 2.6 Manage Configurations																				0	
GP 2.7 Identify and Involve Relevant Stakeholders																				0	
GP 2.8 Monitor and Control the Process																				0	
GP 2.9 Objectively Evaluate Adherence																				0	
GP 2.10 Review Status with Higher Level Management																				0	
	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
GP 3.1 Establish a Defined Process	3																			3	
GP 3.2 Collect Improvement Information	3																			3	
	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
GP 4.1 Establish Quantitative Objectives for the Process																				0	
GP 4.2 Stabilize Subprocess Performance	3																			3	
	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
GP 5.1 Ensure Continuous Process Improvement																				0	
GP 5.2 Correct Root Causes of Problems	3																			3	
	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
CL5	36	25	0	15	0	3	21	2	10	0	5	3	3	6	6	12	3				
CL4	33	25	0	15	0	3	21	2	10	0	5	3	3	6	6	12	3				
CL3	30	25	0	15	0	3	21	2	10	0	5	3	3	6	6	12	3				
CL2	24	25	0	15	0	3	21	2	10	0	5	3	3	6	6	12	3				

Sheet1 Sheet2 Sheet3


Inputs
Tools & Techniques
Product and Project Management
Research & Development
Outputs

Risk Evaluation Checklist

Business Continuity Plan (BCP)

Complete Audit Checklist

No	Procedures	Status	Notes
1	Determine examination scope and objectives for reviewing the Business Continuity Plan (BCP) program.		
2	Determine the existence of an appropriate enterprisewide Business Continuity Plan (BCP).		
3	Determine the quality of Business Continuity Plan (BCP) oversight and support provided by the board of directors and senior management.		
4	Determine whether an adequate Business Impact Analysis (BIA) and risk assessment have been completed.		
5	Determine whether appropriate risk management over the Business Continuity Plan (BCP) process is in place.		
6	Determine whether the Business Continuity Plan (BCP) include appropriate testing to ensure the business process will be maintained, resumed, and/or recovered as intended.		
7	Determine whether the IT environment has a properly documented Business Continuity plan that complements the enterprise-wide and other departmental Business Continuity plans.		
8	Determine whether the Business Continuity Plan (BCP) include appropriate hardware backup and recovery.		
9	Determine whether the Business Continuity process includes appropriate data and application software backup and recovery.		
10	Determine whether the Business Continuity Plan (BCP) include appropriate preparation to ensure the data center recovery processes will work as intended.		
11	Determine whether the Business Continuity Plan (BCP) include appropriate security procedures.		
12	Determine whether the Business Continuity Plan (BCP) address critical outsourced activities.		
13	Discuss corrective action and communicate		

Data Recovery Templates and Checklist

Conducting a recovery test

No	Activity	Status Y	Status N	Status N/A	Notes
1	Select the purpose of the test. What aspects of the plan are being evaluated?				
2	Describe the objectives of the test. How will you measure successful achievement of the objectives?				
3	Meet with management and explain the test and objectives. Gain their agreement and support.				
4	Have management announce the test and the expected completion time.				
5	Collect test results at the end of the test period.				
6	Evaluate results. Was recovery successful? Why or why not?				
7	Determine the implications of the test results. Does successful recovery in a simple case imply successful recovery for all critical jobs in the tolerable outage period?				
8	Make recommendations for changes. Call for responses by a given				
9	Notify other areas of results. Include users and auditors.				
10	Change the disaster recovery plan manual as necessary.				

Areas to be tested

No	Activity	Status Y	Status N	Status N/A	Notes
1	Recovery of individual application systems by using files and documentation stored off-site.				
2	Reloading of system tapes and performing an IPL by using files and documentation stored off-site.				
3	Ability to process on a different computer.				
4	Ability of management to determine priority of systems with limited processing.				
5	Ability to recover and process successfully without key people.				
6	Ability of the plan to clarify areas of responsibility and the chain of command.				

BCP TOC

Business Continuity Planning Components

Getting Started **Section 1**

1. Assign departmental business continuity responsibilities.
2. Department mission and business functions/processes.
3. Identification and evaluation of scenarios, risks, events and threats.

Developing the Plan **Section 2**

4. Document recovery plans to recover critical functions for each scenario.
5. Determine details to complete tasks.
6. List contact information.
7. List necessary resources and reference materials.

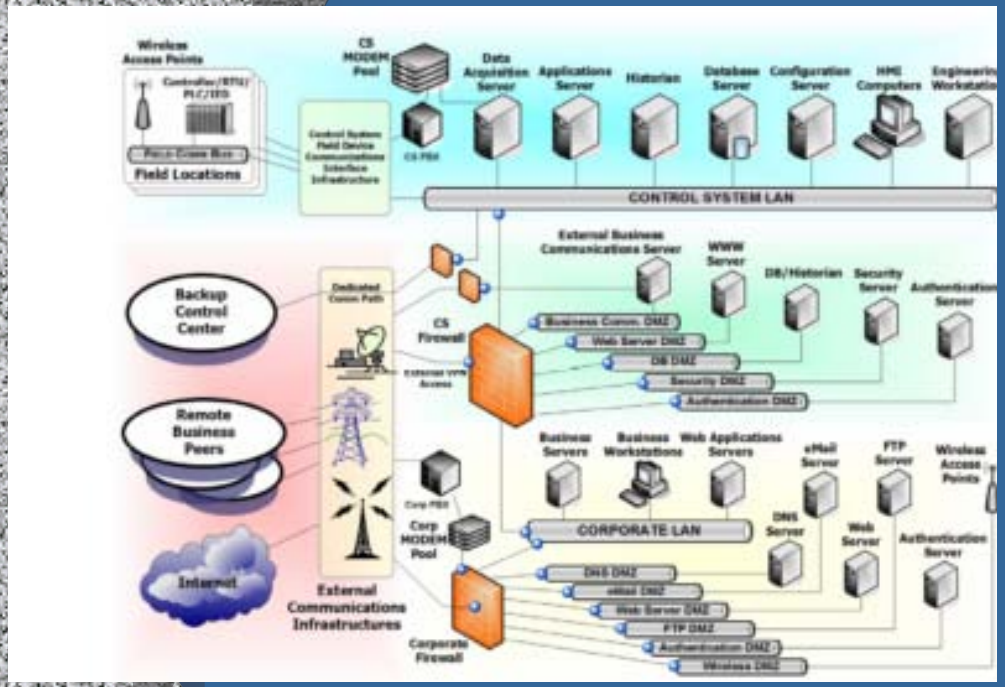
Maintaining the Plan **Section 3**

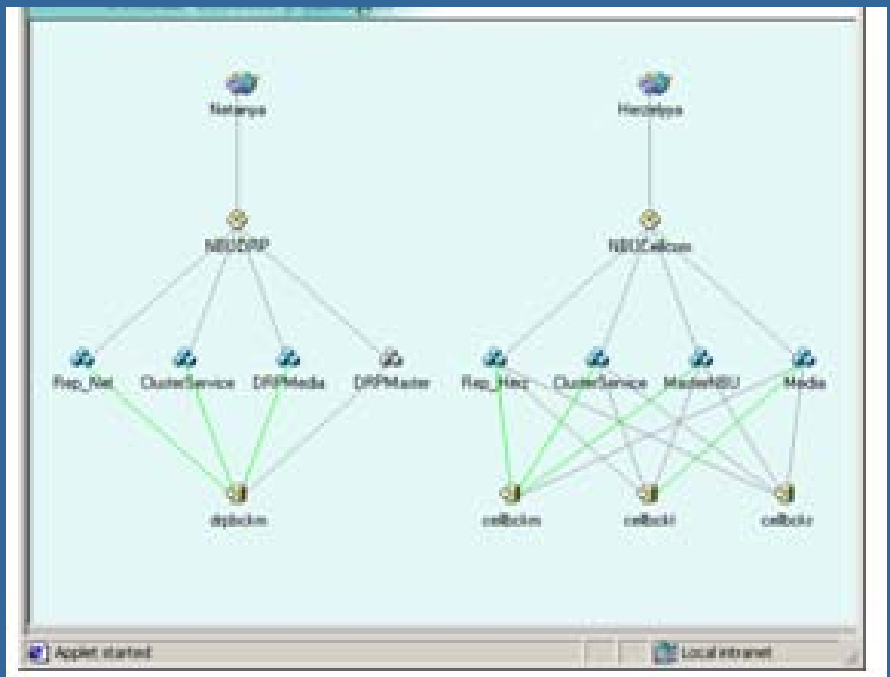
8. Train personnel on the plan.
9. Test (validate) the plan.
10. Maintain the plan.

Decision Tree Template

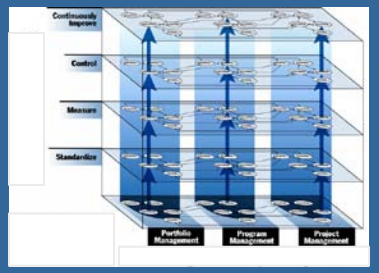
Project Name:				
Prepared by:				
Date:				
Decision Definition	**Decision Node**	**Chance Node**	**Expected Value**	**Value of Decision**
(Decision Name)	(Cost of the Decision)	(Probability and Payoff)	(Probability X Payoff)	
Build or Upgrade?	$49			
	2			
		Build New Plant (1)		
		$120		
			65% Strong	
			$200	$130
			35% Weak	
			$90	$32
				$41.50
		Upgrade Exisiting Plant (2)		
		$50		
			65% Strong	
			$120	$78
			35% Weak	
			$60	$21
				$49.00

Infrastructures and Application Mapping

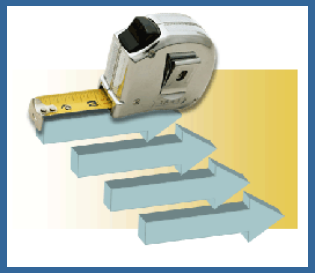




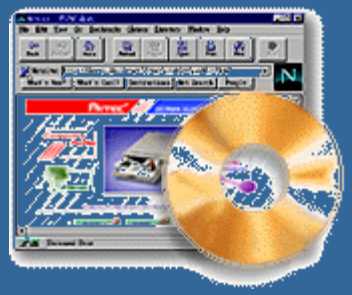
Compliance Requirements to Supporting Standards Mapping



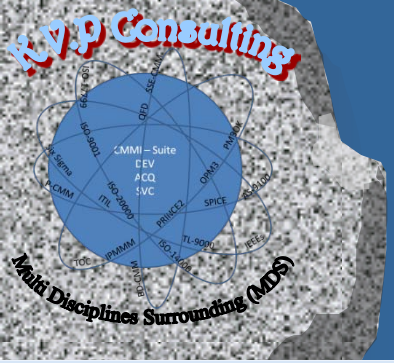
Scoping



Tool



Slides



Black text = Requirements for this level
Blue text = Descriptive characteristics or desired traits

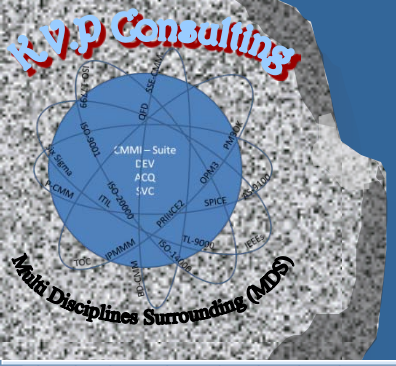
Strategy, Management, and Regulatory

Vision, planning, decision making, strategy execution, discipline, regulatory, and investment

CMMIs Interpretation

ML2

		SGMM Levels		PP	PMC	M&A	PPQA	REQM	SAM	SD	AM	ARD	SSAD	DAR	OPD	OPF	IPM	OT
1	Exploring & Initiating	Developing first Smart Grid vision																
		Support for experimentation																
		Informal discussion with regulators																
		Funding likely out of existing budget																
2	Functional Investing	Integrated vision and acknowledgement																
		Initial strategy and business plan approved																
		Initial alignment of investments to vision																
		Distinct Smart Grid Funding and budget created in collaboration with regulators and stakeholders																
		Commitment to proof of concepts																
		Identify Initial Smart Grid leader																
3	Integrating Cross Functi	Completed Smart Grid strategy and business case incorporated into Corporate strategy																
		Smart Grid governance model deployed																
		Smart Grid leader(s) (with authority) ensure cross-LOB application																
		Mandate/consensus with regulators to make and fund Smart Grid investments																
		Corporate strategy expanded																
4	Optimizing Enterprise W	Smart Grid is a core competency that drives strategy and influences Corporate direction																
		External stakeholders share in strategy																
		Willing to invest and divest, or engage in JV and IP sharing to execute strategy																



CMMI-SVC V 1.2

Con	Mat	Process	Process	Proc	SG N	SP N	Title
SVC	5	Process Man	Causal Anal CAR	Purpose			The purpose of Causal Analysis and Resolution (CAR) is to identify causes of defects and problems and take action to prevent them from occurring in the future
							Determine Causes of Defects and Problems
SVC	5	Process Man	Causal Anal CAR		1		Root causes of defects and problems are systematically determined
							Select Defects and Problems
SVC	5	Process Man	Causal Anal CAR		1	1.1	Select defects and problems for analysis
SVC	5	Process Man	Causal Anal CAR		1		1. Gather relevant defect and problem data
SVC	5	Process Man	Causal Anal CAR		1		2. Determine the defects and problems to be analyzed further
							Analyze Causes
SVC	5	Process Man	Causal Anal CAR		1	1.2	Perform causal analysis of selected defects and problems and propose actions to address them
SVC	5	Process Man	Causal Anal CAR		1	1.2	1. Conduct causal analysis with those responsible for performing the task
SVC	5	Process Man	Causal Anal CAR		1	1.2	2. Analyze selected defects and problems to determine their root causes
SVC	5	Process Man	Causal Anal CAR		1	1.2	3. Group selected defects and problems based on their root causes
SVC	5	Process Man	Causal Anal CAR		1	1.2	4. Propose and document actions to be taken to prevent the future occurrence of similar defects and problems
							Address Causes of Defects and Problems
SVC	5	Process Man	Causal Anal CAR		2		Root causes of defects and problems are systematically addressed to prevent their future occurrence
							Implement Action Proposals
SVC	5	Process Man	Causal Anal CAR		2	2.1	Implement selected action proposals developed in causal analysis
SVC	5	Process Man	Causal Anal CAR		2	2.1	1. Analyze action proposals and determine their priorities
SVC	5	Process Man	Causal Anal CAR		2	2.1	2. Select action proposals to be implemented
SVC	5	Process Man	Causal Anal CAR		2	2.1	3. Create action items for implementing the action proposals
SVC	5	Process Man	Causal Anal CAR		2	2.1	4. Identify and remove similar defects and problems that may exist in other processes and work products
SVC	5	Process Man	Causal Anal CAR		2	2.1	5. Identify and document improvement proposals for the organization's set of standard processes
							Evaluate the Effect of Changes
SVC	5	Process Man	Causal Anal CAR		2	2.2	Evaluate the effect of changes on process performance
SVC	5	Process Man	Causal Anal CAR		2	2.2	1. Measure the change in performance of the project's defined process or of subprocesses as appropriate
SVC	5	Process Man	Causal Anal CAR		2	2.2	2. Measure the capability of the project's defined process or of subprocesses as appropriate
							Record Data
SVC	5	Process Man	Causal Anal CAR		2	2.3	Record causal analysis and resolution data for use across the project and organization
SVC	2	Support	Configurati CM	Purpose			The purpose of Configuration Management (CM) is to establish and maintain the integrity of work products using configuration identification, configuration control, configuration status accounting, and configuration audits

CMMI-ACQ V 1.2

Con	Mat	Proc	Proc	Proc	SG N	SP Num	Title
ACQ	5	Sup	Cau	CAR			The purpose of Causal Analysis and Resolution (CAR) is to identify causes of defects and other problems and take action to prevent them from occurring in the future
							Determine Causes of Defects
ACQ	5	Sup	Cau	CAR	1	1	Root causes of defects and other problems are systematically determined
							Select Defect Data for Analysis
ACQ	5	Sup	Cau	CAR	1	1.1	Select defects and other problems for analysis
ACQ	5	Sup	Cau	CAR	1	1.1	1. Gather relevant defect or problem data
ACQ	5	Sup	Cau	CAR	1	1.1	2. Determine the defects and other problems to be analyzed further
							Analyze Causes
ACQ	5	Sup	Cau	CAR	1	1.2	Perform causal analysis of selected defects and other problems and propose actions to address them
ACQ	5	Sup	Cau	CAR	1	1.2	1. Conduct causal analysis with those responsible for performing the task.
ACQ	5	Sup	Cau	CAR	1	1.2	2. Analyze selected defects and other problems to determine their root causes
ACQ	5	Sup	Cau	CAR	1	1.2	3. Group selected defects and other problems based on their root causes
ACQ	5	Sup	Cau	CAR	1	1.2	4. Propose and document actions to be taken to prevent the future occurrence of similar defects or other problems
							Address Causes of Defects
ACQ	5	Sup	Cau	CAR	2	2	Root causes of defects and other problems are systematically addressed to prevent their future occurrence
							Implement Action Proposals
ACQ	5	Sup	Cau	CAR	2	2.1	Implement selected action proposals developed in causal analysis
ACQ	5	Sup	Cau	CAR	2	2.1	1. Analyze action proposals and determine their priorities
ACQ	5	Sup	Cau	CAR	2	2.1	2. Select action proposals to be implemented
ACQ	5	Sup	Cau	CAR	2	2.1	3. Create action items for implementing the action proposals
ACQ	5	Sup	Cau	CAR	2	2.1	4. Identify and remove similar defects that may exist in other processes and work products
ACQ	5	Sup	Cau	CAR	2	2.1	5. Identify and document improvement proposals for the organization's set of standard processes
							Evaluate the Effect of Changes
ACQ	5	Sup	Cau	CAR	2	2.2	Evaluate the effect of changes on process performance
ACQ	5	Sup	Cau	CAR	2	2.2	1. Measure the change in performance of the project's defined process or of subprocesses, as appropriate
ACQ	5	Sup	Cau	CAR	2	2.2	2. Measure the capability of the project's defined process or of subprocesses, as appropriate
							Record Data
ACQ	5	Sup	Cau	CAR	2	2.3	Record causal analysis and resolution data for use across the project and organization
ACQ	2	Sup	Con	CM			The purpose of Configuration Management (CM) is to establish and maintain the integrity of work products using configuration identification, configuration control, configuration status accounting, and configuration audits

CMMI-DEV V 1.2

Con	Mat	Proc	Proc	Proc	SG	SP	Num	Title
DEV	5	Sup	Cau	CAR				The purpose of Causal Analysis and Resolution (CAR) is to identify causes of defects and problems and take action to prevent them from occurring in the future
								Root causes of defects and other problems are systematically det
DEV	5	Sup	Cau	CAR	1		1	A root cause is a source of a defect such that, if it is removed, th
								Select Defect Data for Analysis
DEV	5	Sup	Cau	CAR	1	1.1		Select the defects and other problems for analysis
DEV	5	Sup	Cau	CAR	1	1.1		Gather relevant defect or problem data
DEV	5	Sup	Cau	CAR	1	1.1		Determine which defects and other problems will be analyzed fu
								Analyze Causes
DEV	5	Sup	Cau	CAR	1	1.2		Perform causal analysis of selected defects and other problems a
DEV	5	Sup	Cau	CAR	1	1.2		Conduct causal analysis with the people who are responsible for
DEV	5	Sup	Cau	CAR	1	1.2		Analyze selected defects and other problems to determine their ro
DEV	5	Sup	Cau	CAR	1	1.2		Group the selected defects and other problems based on their ro
								Propose and document actions that need to be taken to prevent t
DEV	5	Sup	Cau	CAR	1	1.2		defects or other problems
								Address Causes of Defects
DEV	5	Sup	Cau	CAR	2	2		Root causes of defects and other problems are systematically add
								occurrence
								Implement the Action Proposals
DEV	5	Sup	Cau	CAR	2	2.1		Implement the selected action proposals that were developed in
DEV	5	Sup	Cau	CAR	2	2.1		1. Analyze the action proposals and determine their priorities
DEV	5	Sup	Cau	CAR	2	2.1		2. Select the action proposals that will be implemented
DEV	5	Sup	Cau	CAR	2	2.1		3. Create action items for implementing the action proposals
DEV	5	Sup	Cau	CAR	2	2.1		4. Identify and remove similar defects that may exist in other pro
DEV	5	Sup	Cau	CAR	2	2.1		5. Identify and document improvement proposals for the organiz
								Evaluate the Effect of Changes
DEV	5	Sup	Cau	CAR	2	2.2		Evaluate the effect of changes on process performance
DEV	5	Sup	Cau	CAR	2	2.2		1. Measure the change in the performance of the project's defined
DEV	5	Sup	Cau	CAR	2	2.2		2. Measure the capability of the project's defined process as appr
								Record Data
DEV	5	Sup	Cau	CAR	2	2.3		Record causal analysis and resolution data for use across the pro
DEV	2	Sup	Con	CM				The purpose of Configuration Management (CM) is to establish a products using configuration identification, configuration contro and configuration audits

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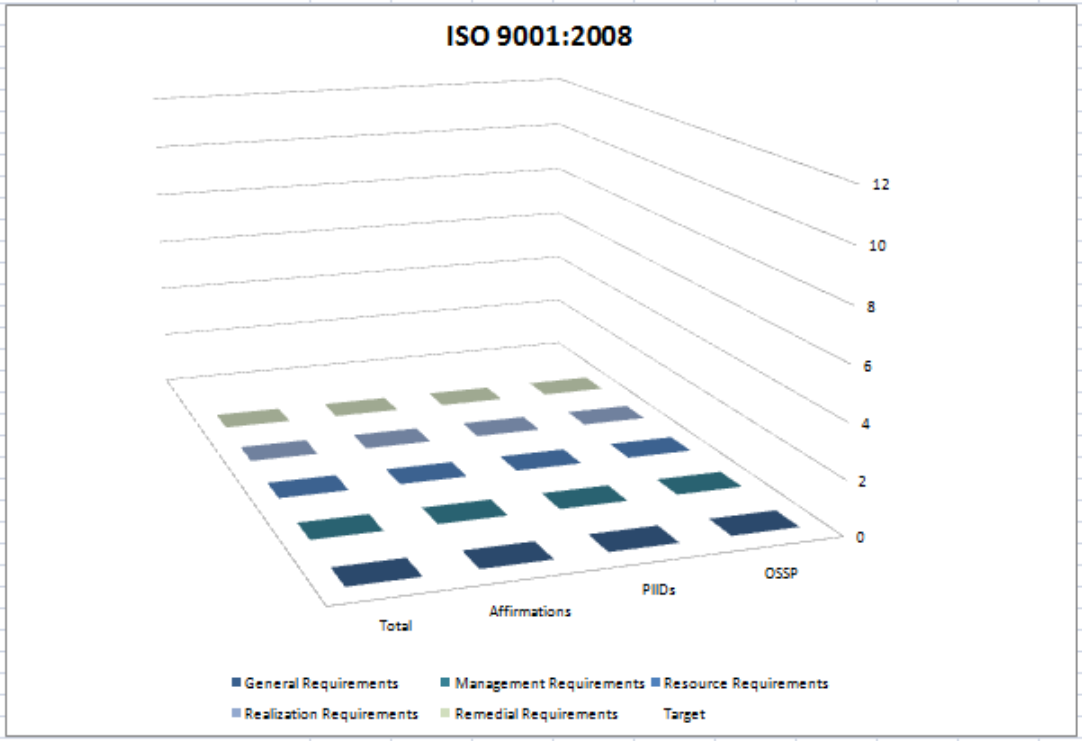
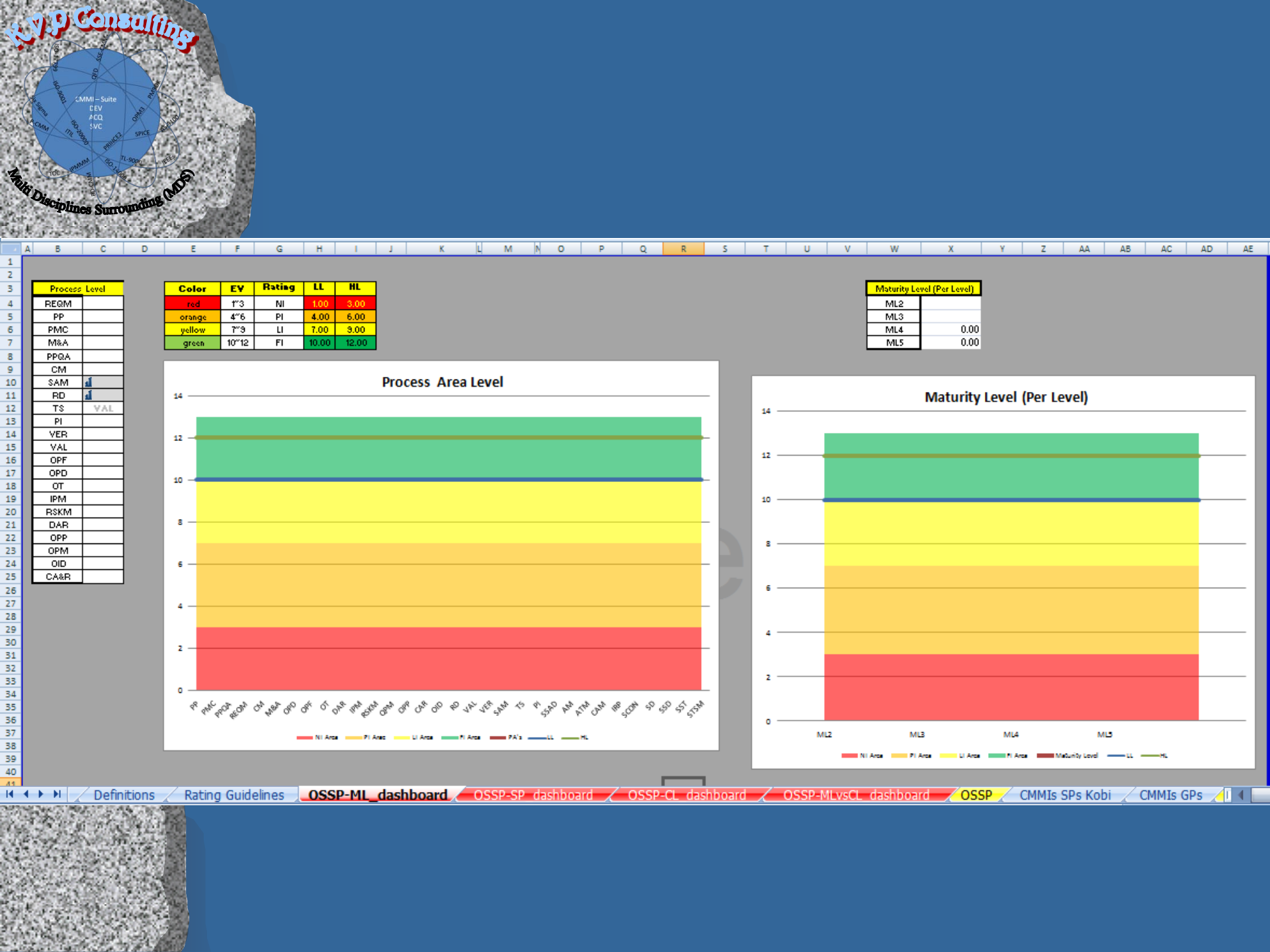
Chapter	Section			Requirements	OSSP	PIIDs	Affirmations	Total
4 General Requirements					0	0	0	0
	4.1 Develop Your Quality Management System (QMS)				0	0	0	0
		4.1.1		*Establish your organization's QMS*	0.00	0.00	0.00	0.00
		4.1.2		*Document* your organization's QMS.	0.00	0.00	0.00	0.00
		4.1.3		*Implement* your organization's QMS.	0.00	0.00	0.00	0.00
		4.1.4		*Maintain* your organization's QMS.	0.00	0.00	0.00	0.00
		4.1.5		*Improve* your organization's QMS.	0.00	0.00	0.00	0.00
	4.2 Document Your Quality Management System (QMS)				0	0	0	0
		4.2.1		*Manage Quality Management System Documents*	0	0	0	0
			4.2.1.1	Develop documents for your organization's QMS.	0.00	0.00	0.00	0.00
			4.2.1.2	Make sure that your organization's QMS documents respect and reflect what you do and how you do it.	0.00	0.00	0.00	0.00
		4.2.2		*Prepare Quality Management System Manual*	0	0	0	0
			4.2.2.1	Establish a quality manual for your organization.	0.00	0.00	0.00	0.00
			4.2.2.2	Maintain your organization's quality manual.	0.00	0.00	0.00	0.00
		4.2.3		*Control Quality Management System Documents*	0	0	0	0
			4.2.3.1	Control your organization's QMS documents.	0.00	0.00	0.00	0.00
			4.2.3.2	Control documents that are used as QMS records.	0.00	0.00	0.00	0.00
		4.2.4		*Establish Quality Management System Records*	0	0	0	0

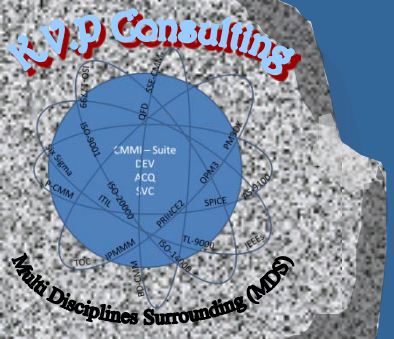
To Index

		OSSP	PIIDs	Affirmations	Total
		12	12	12	12
4	**General Requirements**	**0**	**0**	**0**	**0**
4.1	Develop Your Quality Management System (QMS)	0	0	0	0
4.2	Document Your Quality Management System (QMS)	0	0	0	0
5	**Management Requirements**	**0**	**0**	**0**	**0**
5.1	Show Your Commitment to Quality	0	0	0	0
5.2	Focus On Your Customers	0	0	0	0
5.3	Support Your Quality Policy	0	0	0	0
5.4	Carry Out Your QMS Planning	0	0	0	0
5.5	Allocate QMS Responsibility and Authority	0	0	0	0
5.6	Perform QMS Management Reviews	0	0	0	0
6	**Resource Requirements**	**0**	**0**	**0**	**0**
6.1	Provide Required QMS Resources	0	0	0	0
6.2	Provide Competent QMS Personnel	0	0	0	0
6.3	Provide Necessary Infrastructure	0	0	0	0
6.4	Provide Suitable Work Environment	0	0	0	0
7	**Realization Requirements**	**0**	**0**	**0**	**0**
7.1	Control Product Realization Planning	0	0	0	0
7.2	Control Customer-Related Processes	0	0	0	0
7.3	Control Product Design and Development	0	0	0	0
7.4	Control Purchasing and Purchased Products	0	0	0	0
7.5	Control Production and Service Provision	0	0	0	0
7.6	Control Monitoring and Measuring Equipment	0	0	0	0
8	**Remedial Requirements**	**0**	**0**	**0**	**0**
8.1	Establish Monitoring and Measurement Processes	0	0	0	0
8.2	Carry Out Monitoring and Measurement Activities	0	0	0	0
8.3	Identify and Control Nonconforming Products	0	0	0	0
8.4	Collect and Analyze Quality Management Data	0	0	0	0
8.5	Make Improvements and Take Remedial Actions	0	0	0	0



CMMIs SPs Kobi | CMMIs GPs | ISO 9001 2008 | **ISO 9001 Sum** | OHSAS 18001 2007 | OHSAS 18001 2007 Sum | ISO9000-3 | ISO9000-3 Sum | ISO IEC 27


K.V.P Consulting
Multi Disciplines Surrounding (MDS)
CMMI – Suite
DEV
ACQ
SVC
Process Level
REQM
PP
PMC
M&A
PPQA
CM
SAM
RD
TS
VAL
PI
VER
VAL
OPF
OPD
OT
IPM
RSKM
DAR
OPP
OPM
OID
CA&R
Color | EV | Rating | LL | HL
red | 1~3 | NI | 1.00 | 3.00
orange | 4~6 | PI | 4.00 | 6.00
yellow | 7~9 | LI | 7.00 | 9.00
green | 10~12 | FI | 10.00 | 12.00
Maturity Level (Per Level)
ML2
ML3
ML4 0.00
ML5 0.00
Process Area Level
Maturity Level (Per Level)
Definitions
Rating Guidelines
OSSP-ML_dashboard
OSSP-SP_dashboard
OSSP-CL_dashboard
OSSP-MLvsCL_dashboard
OSSP
CMMIs SPs Kobi
CMMIs GPs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SVC
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Questions