# Capability Maturity Model Integration®

## CMMI® Implementation Plan

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# CMMI Implementation Plan

## Outline

- Principles for Success
- Recipes for Disaster
- Identify Immediate Risks
- Identify Long Term Risks
- Define Scope
- Develop Project Plan
- Enforce Project Plan
- Implement Processes
- Prepare Evidence of Use
- Prepare for Appraisal

# *Principles for Success*

*Outline*

# *Principles for Success*

- Devise a Concise Strategy
- Develop a Concise Project Plan
- Manage Like Well Run Project
- Use Small Implementation Team
- Aim for High Compliance
- Use a Top Project Manager
- Use More Doers Than Managers
- Use Itinerant Process Architects
- Use Established Process Formats

# Principles for Success
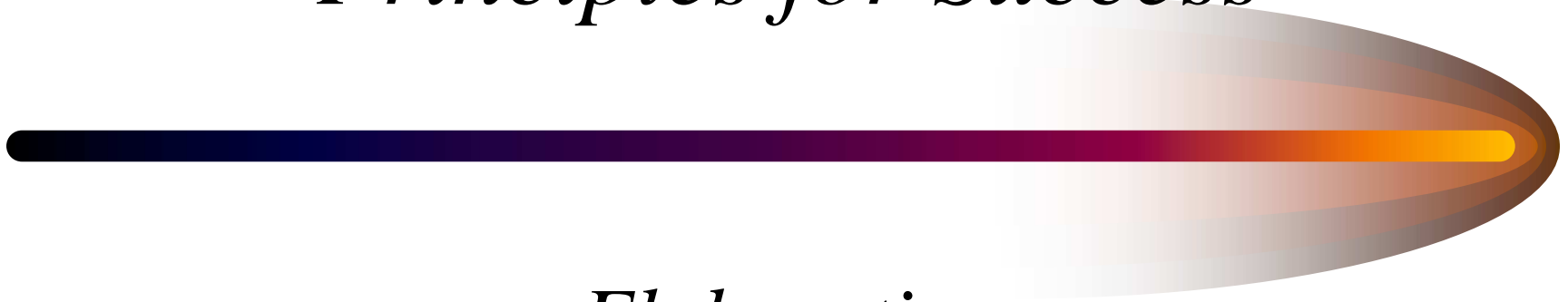
## Elaboration

# *Devise a Concise Strategy*

- Concisely scope requirements, design, and implementation
- Select a finite, closed end implementation
- Superimpose work breakdown structure, costs, and schedule on implementation
- Treat implementation like a project, not a journey
- Respect CMMI's complexity while constraining its scope and implementation

# Develop a Concise Project Plan

- Concisely define project scope
- Concisely define project requirements
- Identify deliverables
- Identify implementation tasks and activities
- Create work breakdown structure
- Use bottom up cost estimation
- Develop a feasible and concise schedule
- Create a literal project plan

# *Manage Like Well Run Project*

- Allocate full time personnel resources
- Use earned value management (EVM)
- Adhere to project scope and requirements
- Identify, analyze, and mitigate risks
- Complete project deliverables and schedule
- Protect project resources from sabotage
- Use experienced personnel

# *Use Small Implementation Team*

- Use one or two experts for process design
- Use two to four technical writers for preparing evidence of use
- Use more implementers than managers
- Focus on creating policies, procedures, and evidence of use
- Protect implementation team from organizationally debilitating politics

# Aim for High Compliance

- Adhere to process areas and specific practices

- Develop processes for compliance with process areas and specific practices

- Don't go beyond process areas and specific practices

- Use process areas and specific practices for planning, implementation, and verification

# *Use a Top Project Manager*

- Identify a professionally trained project manager

- Have project manager create project plan

- Have project manager use earned value management (EVM)

- Project manager must use scientific project management principles

- Project manager should not architect, design, or implement processes

# *Use More Doers Than Managers*

- Don't form a committee of managers to micromanage one implementer

- Use a small team of CMMI implementation experts

- Don't mistake appraisers for implementation experts

- CMMI implementation experts should also be experts in professional policy and procedure design and implementation

# *Use Itinerant Process Architects*

- Identify itinerant process architects
- Process architects should use professional policy and procedure principles
- Appraisers aren't process architects
- Evaluate portfolios of process architects before selecting them
- Select process architects with proven portfolios in implementing CMMI policies and procedures

# *Use Established Process Formats*

- Use professional policy and procedure principles

- Use professional policy and procedure formats

- Design policies and procedures to be more than one page

- Design more than one policy and procedure for each process area or system activity
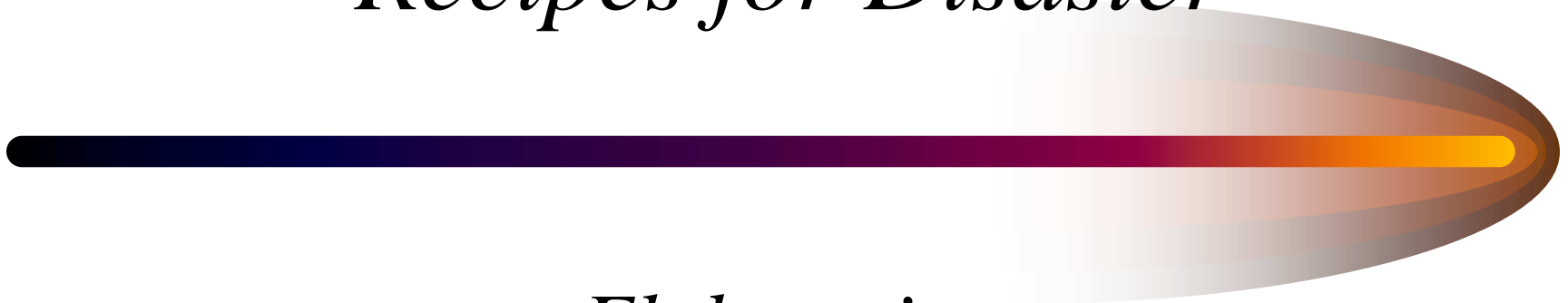
# Recipes for Disaster

*Outline*

# *Recipes for Disaster*

- Form a Committee of Managers
- Don't Form Strategy or Plan
- Meander Along Without a Schedule
- Implement Favorite Methodology
- Overscope Process Areas
- Use Amateur Process Formats
- Don't Form Process Architecture
- Underestimate Large Teams
- Use Big Bang Institutionalization

# Recipes for Disaster

## Elaboration

# *Form a Committee of Managers*

- Create a bureaucracy of managers to micromanage one implementer
- Solicit occasional advice from management committee but don't make them work
- Redirect implementers every one or two weeks just to keep them guessing
- Have implementers create occasional deliverables for managers to shoot down

# Don't Form  Strategy or Plan

- Don't identify your scope or requirements

- Don't identify any deliverables

- Don't identify any policies, procedures, or work products

- Don't create a schedule

- Don't create a project plan

- Take the attitude that you'll know it when you see it, but not before then

# *Meander Along Without a Schedule*

- Don't create a schedule for CMMI implementation
- Meander along from week to week
- Charter occasional research or reporting
- Don't commit to any real work or deliverables
- Don't burden developers with documented policies and procedures

# *Implement Favorite Methodology*

- Use CMMI to justify a fancy object oriented analysis and design method
- Use CMMI to justify purchasing millions of dollars in new computers, middleware, applications, and productivity tools
- Use CMMI to justify building a state of the art manufacturing facility
- Use CMMI resources to adopt six sigma and ISO 9000

# *Overscope Process Areas*

- Create a fancy requirements engineering methodology and buy expensive tools
- Use CMMI to justify full time quality assurance and configuration management personnel, groups, and resources
- Create a 21 part project management plan consisting of separate plans for every major project function
- Use CMMI to justify 100s of training hours

# *Use Amateur Process Formats*

- Use flow charts as final process implementation

- Use ETVX charts or input/output diagrams

- Use single page formats to describe entire life cycle, process areas, or life cycle stages

- Use document formats to create long and ambiguous essays

- Use automated tools to hide process ambiguity or lack of process definition

# *Don't Form Process Architecture*

- Don't form a centralized architecture for policies and procedures
- Let implementers use whatever process architecture suits them at the moment
- Assume policy and procedure architecture isn't very important
- Assume policy and procedure architecture isn't central to successful CMMI implementation

# *Underestimate Large Teams*

- Underestimate difficulty of forming and managing large CMMI teams
- Assume big teams are better than small ones
- Assume you'll be able to find more than one or two highly qualified experts
- Equate bodies to experience and utility
- Overestimate contribution of large teams
- Underestimate debilitating politics

# *Use Big Bang Institutionalization*

- Assume every single project manager and engineer has to breathe CMMI every day

- Assume every project has to religiously implement CMMI policies and procedures

- Assume every manager and engineer must think exactly the same way about CMMI

- Assume you have decades to institutionalize CMMI policies and procedures

# Identify Immediate Risks
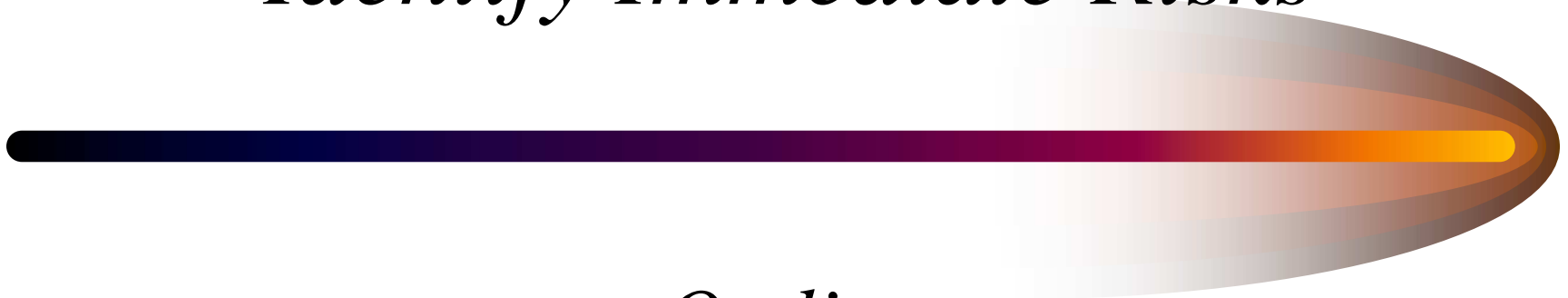
## Outline

# Identify Immediate Risks

- Process Area Scope
- Project Management Skills
- Policy and Procedure Skills
- Technical Writing Skills
- Life Cycle Architecture Skills
- Project Management Experience
- Quality Management Experience
- Manager and Staff Competition
- Technical Staff Competition
- Cross Functional Competition
- Contractor Team Competition
- Government-Contractor Competition

# Identify Immediate Risks

## Elaboration

# *Process Area Scope*

- Tendency to overscope process areas
- Tendency to ignore specific practices
- Tendency to implement non-compliant practices
- Tendency to omit compliance with specific practices
- Tendency to misinterpret and overscope intent of process areas

# *Project Management Skills*

- Tendency to meander along from week to week

- Tendency to treat CMMI implementation like a journey rather than a project

- Tendency to not apply scientific management principles

- Tendency to resist creating a project plan for CMMI implementation

# *Policy and Procedure Skills*

- Tendency to lack any semblance of professional policy and procedure skills
- Tendency to use ad hoc, amateur methods
- Tendency use non holistic policy and procedure methods
- Tendency to write ineffective policies and procedures
- Tendency to write one page, ineffectual policies and procedures

# *Technical Writing Skills*

- Tendency to lack technical writing skills
- Tendency to believe all documents should be written by technical writers
- Tendency to believe managers and engineers exist to direct technical writers
- Tendency to lack familiarity with professional policy and procedure development

# *Life Cycle Architecture Skills*

- Tendency to be unfamiliar with standard system life cycle architectures
- Tendency to refuse to implement standard system life cycle architectures
- Tendency to embrace conceptual and academic system life cycle architectures
- Tendency to superficially or partially implement system life cycle architectures
- Tendency to be unfamiliar with system life cycle cost and quality performance

# *Project Management Experience*

- Tendency to be unfamiliar with scientific management principles
- Tendency to be unfamiliar with hard tools in project planning and management
- Tendency to resist creating project plans
- Tendency to turn project plans into descriptions of system life cycle
- Tendency to resist earned value management (EVM)

# *Quality Management Experience*

- Tendency to be unfamiliar with scientific quality models
- Tendency to be unfamiliar with quantitative quality management systems
- Tendency to regard quantitative quality management systems with incredulity
- Tendency to ignore quality, reliability, and availability modeling and management principles

# *Manager and Staff Competition*

- Tendency for managers to compete with staff for power and status
- Tendency for managers to undermine success of staff
- Tendency for managers to constantly redirect staff
- Tendency for managers to hold staff responsible for their own management failures

# *Technical Staff Competition*

- Tendency for technical staff to compete with one another

- Tendency for technical staff to compete for promotions

- Tendency for technical staff to stonewall one another

- Tendency for technical staff to undermine each other's credibility

# *Cross Functional Competition*

- Tendency for functional area managers to compete with one another
- Tendency for functional area managers to compete for senior management positions
- Tendency for functional area managers to stonewall one another
- Tendency for functional area managers to create rivalries and cliques between groups

# *Contractor Team Competition*

- Tendency for contractor team to compete with one another for power and status
- Tendency for contractor team to compete for task orders and technical leadership
- Tendency for prime contractor to bully subcontractors
- Tendency for subcontractors to stonewall prime contractor initiatives and credibility

# *Government-Contractor Competition*

- Tendency for government to compete with contractors
- Tendency for government to undermine outsourcing initiatives
- Tendency for government to stonewall contractor initiatives
- Tendency for government to reject deliveries, violate statement of work, and force contractors into cost overruns

# *Identify Long Term Risks*

## *Outline*

# Identify Long Term Risks

- Proprietary
- Cost
- Politics
- Training
- Certification
- Education
- Difficulty
- Time To Implement
- Effort
- Manual
- Practicality
- Completeness
- Technology
- Ease of Use

# *Identify Long Term Risks*

## *Elaboration*

# *Proprietary*

- CMMI is a strictly proprietary U.S. military supplier selection model
- CMU mandates training and certification
- CMU requires expensive licensing to consult in CMMI
- CMMI to generate guaranteed revenue stream for CMU
- CMU prefers to be sole CMMI consultancy

# *Cost*

- CMMI may be cost prohibitive to large and small businesses

- CMMI may cost $12M to $24M+ per business unit

- CMMI designed by large U.S. military contractors for themselves

- CMMI not designed for small business

- CMMI vulnerable to debilitating politics
- CMMI creates debilitating politics between systems, software, and hardware engineering disciplines
- CMMI is a catalyst for endless guerilla political warfare over multiple organizational management regimes

# *Training*

- CMMI requires thousands of hours worth of training and certification

- CMMI requires years and decades of trial and error

- CMMI requires training and expertise in 24 systems, hardware, and software disciplines

- CMMI training requirements cost prohibitive for small business

# *Certification*

- CMMI requires cost prohibitive training and certification

- CMMI requires $10K to $25K per appraiser

- CMMI introductory training costs $10K to $15K per person

- CMU mandates certification for CMMI consultants

- CMU intolerant of non-certified consultants

- CMMI requires graduate degrees in engineering and engineering management to comprehend, apply, and qualify for

- CMMI not education friendly for majority of engineering population

- CMMI not education friendly to international community

- CMMI requires specialists in process versus market, product, and product domain

# *Difficulty*

- CMMI consists of 489 detailed requirements (e.g., generic and specific practices)
- CMMI's 489 requirements are to be replicated for systems, hardware, and software engineering
- CMMI is like having 1,467 detailed requirements for product development
- CMMI is too complex for most businesses

# *Time To Implement*

- CMMI Level 2 thru 5 requires 19.8 years
  - CMMI Level 2 requires 5.7 years
  - CMMI Level 3 requires 12.0 years
  - CMMI Level 4/5 requires 3.0 years
- CMMI vulnerability to politics could quadruple calendar time required
- Small business can't afford CMMI calendar requirements

# *Effort*

- CMMI Level 2 to 5 requires 113 staff years
  - CMMI Level 2 requires 31.2 staff years
  - CMMI Level 3 requires 65.2 staff years
  - CMMI Level 4/5 requires 16.4 staff years
- CMMI immense complexity and ambiguity could quadruple time required
- Small business can't afford CMMI effort requirements

- CMMI promotes manual processes
- CMMI is an industrial age model
- CMMI focuses on organizational dynamics, intergroup politics, and manual methods
- CMMI exacerbates debilitating politics rather than eliminating them
- CMMI aspires to turn engineer's attention away from principle task of engineering

# *Practicality*

- CMMI is too broad and diluted
- CMMI is not focused on critical tasks
- CMMI doesn't go into any depth
- CMMI is vague and ambiguous
- CMMI is wide open to individual interpretation and implementation
- CMMI isn't a practical tool for everyday product engineering needs

# *Completeness*

- CMMI omits some critical scientific management principles

- CMMI elevates trivial areas to central role

- CMMI doesn't go into any depth on critical areas

- CMMI focuses on trivial subdisciplines versus project management, quality management, and life cycle architecture

- CMMI focuses on process versus product
- CMMI distracts business from focusing on meeting market needs
- CMMI distracts engineers from focusing on mastering product technologies
- CMMI aspires to turn everyone into experts on U.S. military supplier selection models
- CMMI may compromise competitiveness

# *Ease of Use*

- CMMI takes years and decades to master
- CMMI takes years and decades to implement
- CMMI is not designed for meeting immediate project management needs
- CMMI is not designed to be used on critical projects in the near term
- CMMI is a manual method that distracts managers and engineers without helping

# Define Scope

## Outline

# *Define Scope*

- Use SE, SW, IPPD, or SS Model
- Use Staged or Continuous Representation
- Identify Process Areas
- Identify Specific Practices
- Identify Policies
- Identify Procedures
- Identify Work Products

# Define Scope

*Elaboration*

# *Use SE, SW, IPPD, or SS Model*

- Select from SE, SW, IPPD, or SS CMMI Model
  - SE model for systems engineering
  - SW model for software engineering
  - IPPD model for integrated product teams
  - SS model for supplier selection
- Mix and match CMMI Models
  - Use SE, SW, SE/SW, SE/SW/IPPD, or SE/SW/IPPD/SS
- SE/SW/IPPD/SS is a conservative choice

# *Use Staged or Continuous Representation*

- Select CMMI staged or continuous representation

- Use staged CMMI representation

  – Attain to CMMI Levels 2, 3, 4, and 5

- Use continuous CMMI representation

  – Choose a small group of process areas

  – Choose process area maturity levels

- Continuous is faster and easier approach

# *Identify Process Areas*

- Identify process areas
- Identify and analyze specific goals
- Identify and analyze process area scope
- Use process areas to constrain scope
- Don't expand scope of process areas
- Don't expand scope of terminology
- Map process areas to SE, SW, IPPD, and SS

# *Identify Specific Practices*

- Identify specific practices
- Identify and analyze specific goals
- Identify and analyze specific practice scope
- Use specific practices constrain scope
- Don't expand scope of specific practices
- Don't expand scope of terminology
- Map specific practices to SE, SW, IPPD, and SS

# *Identify Policies*

- Map policies to process areas
  - 7 policies for CMMI Level 2
  - 14 policies for CMMI Level 3
  - 4 policies for CMMI Levels 4 and 5
- Create policy for each process area
- Use integrated policies and procedures
- Policies standardized above Level 3

# *Identify Procedures*

- Map procedures to specific practices
  - 139 procedures for CMMI Level 2
  - 277 procedures for CMMI Level 3
  - 73 procedures for CMMI Level 4 and 5
- Create procedure for each process area
- Single process area procedure too short/long
- Don't create more procedures than necessary
- Use separate procedures for SE and SW

# *Identify Work Products*

- Identify work products for specific practices
  - 138 work products for CMMI Level 2
  - 291 work products for CMMI Level 3
  - 49 work products for CMMI Levels 4 and 5
- Use one work product per specific practice
- Identify form or template for work products
- Map work products to SE and SW
- Use separate work products for SE and SW

# Develop Project Plan

## Outline

# *Develop Project Plan*

- Make Work Breakdown Structure
- Identify Work Activities
- Estimate Task Durations
- Do a Bottom Up Cost Analysis
- Create Schedule
- Organize Implementation Team
- Use Full Time Personnel

# Develop Project Plan

## Elaboration

# *Make Work Breakdown Structure*

- Identify CMMI policies and procedures
- Identify specific practice work products
- Use product based work breakdown structure
  - 277 policies, procedures, and work products for CMMI Level 2
  - 568 policies, procedures, and work products for CMMI Level 3
  - 122 policies, procedures, and work products for CMMI Levels 4 and 5

# *Identify Work Activities*

- Identify implementation activities
  - Create physical, conceptual, logical designs
- Identify evidence of use activities
  - Create, gather, inventory, and audit evidence of use
- Identify appraisal preparation activities
  - Participant training and mock appraisals
- Identify miscellaneous activities
  - Identifying approaches, forming teams, gathering data, and management tasks

# *Estimate Task Durations*

- Estimate task durations for work activities
  - 10.4 staff years for CMMI Level 2
  - 21.7 staff years for CMMI Level 3
  - 5.5 staff years for CMMI Levels 4 and 5
- Productivity increases and decreases with experience
- Politics and overscoping negatively impact productivity
- Only one third of time is spent productively

# Do a Bottom Up Cost Analysis

- Factor in policy and procedure design time
- Factor in evidence of use design time
- Factor in appraisal preparation time
- Factor in appraisal time
  - Majority of appraisal effort is internal
- Factor in training and certification
- Factor in travel and lodging expenses

- Adjust staff years for productive time
  - 31.2 staff years for CMMI Level 2
  - 65.2 staff years for CMMI Level 3
  - 16.4 staff years for CMMI Levels 4 and 5
- Adjust staff years for 4 to 7 person team
  - 7.8 to 4.5 calendar years for CMMI Level 2
  - 16.3 to 9.3 calendar years for CMMI Level 3
  - 4.1 to 2.3 calendar years for CMMI Levels 4 and 5

# *Organize Implementation Team*

- Select implementers with proven portfolio
- Choose expert policy and procedure designers
- Choose expert life cycle architects
- Choose project management domain experts
- Choose quality management domain experts
- Keep team as small as possible
- Use implementers versus managers and supervisors

# *Use Full Time Personnel*

- Best to use full time implementers
- Full time schedule already unrealistic
- Part time schedule greatly unrealistic
- One to three full time personnel are best
- Full time experts finish up to 10x faster
- Telecommuting may be best arrangement
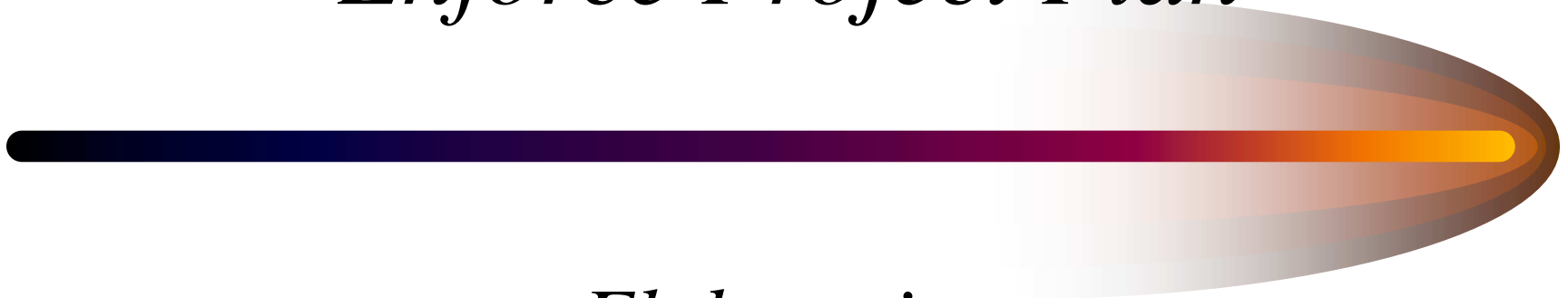- Don't over allocate full time implementers

# Enforce Project Plan
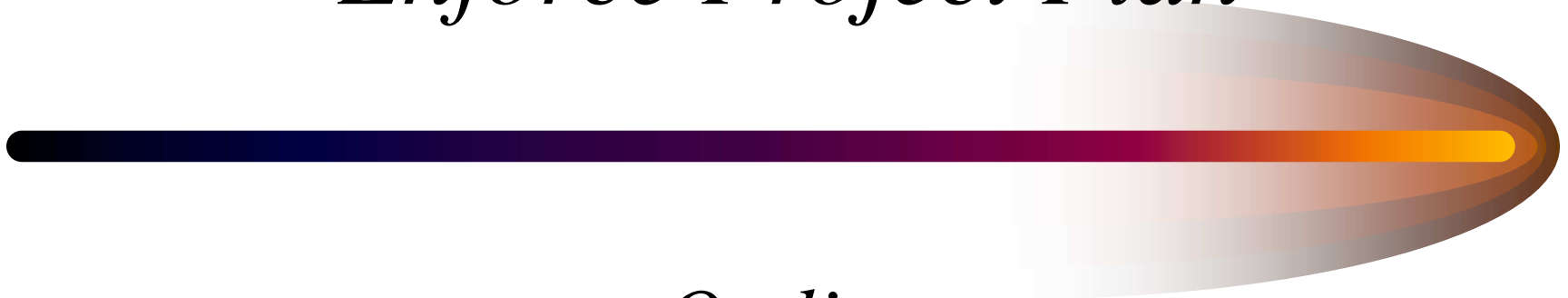
## Outline

# *Enforce Project Plan*

- Track Progress on Daily Basis
- Don't Stop Until You're Done
- Maintain Full Time Resources
- Resist Political Sabotage
- Complete Policies and Procedures
- Complete Evidence of Use
- Complete Appraisal Preparation

# Enforce Project Plan

## Elaboration

# *Track Progress on Daily Basis*

- Policies and procedures complete rapidly
- Track policy and procedure implementation
- Work products also complete rapidly
- Track work product implementation
- Use earned value management (EVM)
- Late schedules from politics and inexperience
- Accelerated schedules sign of experience

# *Don't Stop Until Your Done*

- Rapidly implement policies and procedures
- Rapidly implement evidence of use
- Pace implementers and don't work too fast
- Maintain focus and complete deliverables
- Don't get involved in politics and projects
- Don't let antagonists disrupt implementation
- Use telecommuting arrangement if possible

# *Maintain Full Time Resources*

- Full time resources key to rapid finish
- Don't over allocate full time resources
- Don't allow resources to be undermined
- Get solid commitment on resource allocation
- Use full time experts, not part time novices
- Identify contingency or back up resources
- Update schedule with resource adjustments

# *Resist Political Sabotage*

- Resist sabotage by systems engineering
- Resist sabotage by software engineering
- Resist sabotage by product assurance
- Resist sabotage by quality assurance
- Resist sabotage by configuration management
- Resist sabotage by testing
- Protect resources, schedule, and implementation

# *Complete Policies and Procedures*

- Rapidly complete policies and procedures
  - 139 procedures for CMMI Level 2 in 11.5 months
  - 277 procedures for CMMI Level 3 in 23.0 months
  - 73 procedures for CMMI Level 4 and 5 in 6.0 months
- Use medium sized experienced team finish fast
- Small sized very experienced team finishes faster
- Policies and procedures are valuable assets

# *Complete Evidence of Use*

- Rapidly complete evidence of use
  - 138 work products for CMMI Level 2 in 4.7 years
  - 291 work products for CMMI Level 3 in 10.0 years
  - 49 work products for CMMI Levels 4 and 5 in 1.7 years
- Double size of implementation team to finish faster
- Use special implementation team, not projects
- Develop all CMMI compliant evidence of use

# *Complete Appraisal Preparation*

- Rapidly complete appraisal preparation
  - Train 60 people in CMMI in 1,440 hours
  - Train 60 people in terms in 240 hours
  - Train 60 people in appraisals in 240 hours
  - Train 60 people in processes in 240 hours
  - Train 60 people in evidence in 240 hours
  - Conduct two mock appraisals in 2,400 hours

# Implement Processes

## Outline

# *Implement Processes*

- Use Professional Process Format
- Identify Process Design Experts
- Identify CMMI Design Experts
- Gather Existing Process Samples
- Create Conceptual Design
- Create Logical Design
- Create Physical Design

# Implement Processes

## Elaboration

# *Use Professional Process Format*

- Identify policy and procedure format
  - Professional
  - Repeatable
  - Executable
- Map process areas to policies
- Map process areas to procedures
- Map specific practices to procedures

# *Identify Process Design Experts*

- Identify designers with expertise in
  - Life cycle architecture and design
  - CMMI policy and procedure design
  - Scientific project management principles
  - Scientific quality management principles
  - Professional policy and procedure principles
- Schedules decrease with greater experience
- Schedules increase with lesser experience

# Identify CMMI Design Experts

- Identify designers with experience in
  - Creating CMMI implementation plans
  - Planning and costing CMMI implementation
  - Completing CMMI initiatives on a schedule
  - Design of CMMI policies and procedures
  - Controlling scope and completing schedules
- Schedules decrease by 10x with more experience
- Appraisers are not CMMI process design experts

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# *Gather Existing Process Samples*

- Gather existing process samples on
  - Project management for CMMI Level 2
  - Process assets for CMMI Level 3
  - Measurement for CMMI Levels 4 and 5
- Use existing process assets to
  - Create conceptual and logical designs
  - Verify conceptual and logical designs
  - Speed CMMI policy and procedure design

# *Create Conceptual Design*

- Identify policy and procedure requirements
  - 139 procedures for CMMI Level 2
  - 277 procedures for CMMI Level 3
  - 73 procedures for CMMI Level 4 and 5
- Enumerate policies and procedures
- Describe policies and procedures
- Use subpractices for conceptual steps
- Don't overscope conceptual designs

# *Create Logical Design*

- Analyze conceptual designs
- Analyze existing process samples
- Analyze existing process assets
- Identify steps for policies and procedures
- Describe steps for policies and procedures
- Maintain limit of seven to nine steps
- Create short description of roles and actions

# *Create Physical Design*

- Insert steps in policy and procedure format
- Complete policy statements
- Complete role descriptions
- Complete definitions and terms
- Complete inputs
- Complete outputs
- Complete policy and procedure description

# Prepare Evidence of Use

## Outline

# *Prepare Evidence of Use*

- Identify Four to Six Projects
- Form Small Implementation Team
- Manufacture Evidence of Use
- Create Evidence of Use Repository
- Gather Evidence of Use
- Inventory Evidence of Use
- Audit Evidence of Use

# Prepare Evidence of Use

*Elaboration*

# *Identify Four to Six Projects*

- Identify four to six large projects

- Crossing divisions and product lines okay

- It's not necessary to appraise all projects

- Select a sample of best in class projects

- Projects can be at any point in life cycle

- Most CMMI documents produced early

- Measurement, statistical analysis, and defect prevention can also occur early

# *Form Small Implementation Team*

- Use process designers for evidence of use
- Double or triple size of team
- CMMI has a large number of work products
- Don't depend or plan upon project support
- Use more full time personnel resources
- Resistance from project is overwhelming
- Shield implementation team from politics

# *Manufacture Evidence of Use*

- Develop work products for sample projects
  - 966 work products for CMMI Level 2
  - 2,037 work products for CMMI Level 3
  - 343 work products for CMMI Levels 4 and 5
- Investigate automated tools for work products
- Project simulation may be necessary
- Implementation team produces work products

# *Create Evidence of Use Repository*

- Create traditional or automated repository
- Use file cabinet as a traditional repository
- Use intranet for an automated repository
- Automated tools may support multiple views
  - CMMI orientation for appraisers
  - Project orientation for developers
- Use manual methods to reduce initial risks
- Investigate tools after you pass appraisal

# *Gather Evidence of Use*

- Gather evidence of use for sample projects
  - 966 items for CMMI Level 2
  - 2,037 items for CMMI Level 3
  - 343 items for CMMI Levels 4 and 5
- Have implementation team gather evidence
- Populate repository with evidence of use
- Use configuration identifiers for evidence

# *Inventory Evidence of Use*

- Take an inventory of evidence of use
- Determine percent of inventory complete
- Determine percent of inventory incomplete
- Continue to produce evidence until complete
- Don't do audits until inventory is complete
- Configuration management may want to do this
- Produce inventory report for appraisers

# *Audit Evidence of Use*

- Develop a checklist from specific practices
- Evaluate inventory for checklist compliance
- Also evaluate quality of evidence
  - Evaluate policy and procedure quality
  - Evaluate work product quality
- Rate and score inventory and asset quality
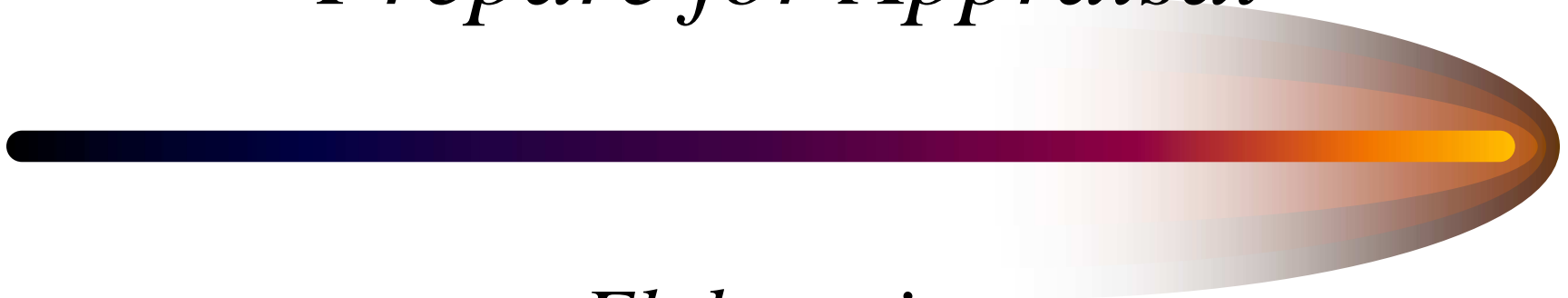- Begin appraisal preparation after audits

# Prepare for Appraisal

## Outline

# *Prepare for Appraisal*

- Identify Appraisal Participants
- Train Participants in CMMI
- Train Participants in Terminology
- Train Participants in Appraisals
- Train Participants in Processes
- Train Participants in Evidence
- Conduct Mock Appraisals

# Prepare for Appraisal

## Elaboration

# *Identify Appraisal Participants*

- Select participants from sample projects
- Use willing participants that will help
- Use implementers and project members
- Use functional area and project managers
- Schedule CMMI training and mock appraisals
- Administer orientation to participants
- Don't force unwilling participants

# *Train Participants in CMMI*

- Describe purpose of CMMI
    - Level 1 - Initial
    - Level 2 - Managed
    - Level 3 - Defined
    - Level 4 - Quantitatively Managed
    - Level 5 - Optimizing
- Describe SE, SW, IPPD, SS, and combinations
- Describe staged versus continuous models

# *Train Participants in Terminology*

- Describe SE, SW, IPPD, and SS terminology
- Describe staged and continuous terminology
- Describe maturity level terminology
- Describe process area terminology
- Describe goal and practice terminology
- Describe policy and procedure terminology
- Describe work product terminology

# Train Participants in Appraisals

- Describe appraisal purpose and goals
- Describe appraisal classes and types
- Describe appraisal processes and stages
- Describe appraisal roles and responsibilities
- Describe appraisal inputs and outputs
- Describe strategy and success criteria
- Coach participants to pass appraisals

# Train Participants in Processes

- Map processes to maturity levels
- Map processes to process areas
- Map processes to specific goals
- Map processes to specific practices
- Map processes to CMMI terminology
- Describe policy and procedure architecture
- Describe process inputs and outputs

# Train Participants in Evidence

- Map evidence of use to maturity levels
- Map evidence of use to process areas
- Map evidence of use to specific goals
- Map evidence of use to specific practices
- Map evidence of use to CMMI terminology
- Describe evidence of use repository
- Describe evidence of use for projects

# *Conduct Mock Appraisals*

- Conduct mock appraisals and coach people to
  - Respond to information requests
  - Understand process stages
  - Prepare business area briefings
  - Respond to questions and answers
  - Be familiar with CMMI terminology
  - Conduct one on one interviews
  - Deliver evidence of use to appraisers