

How Big Does Your Process Need to Be? – Lessons Learned at Both Ends of This Spectrum!



8th Annual CMMI Technology Conference

November 2008

Pat Mitryk

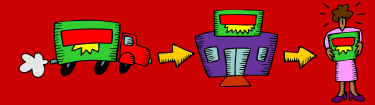
cognence inc
Improving Software Economics



- What's A Process?
- Process Components and some CMMI "Must Haves"
- Getting Started
 - Things to Consider
- Watch Out For
 - Too Large and Too Small
 - Lessons Learned
 - Other Process Gotcha's
- Summary



Must Have → Process Components



We need a standard for the standard process



Developing and Maintaining the Organization's Common Process

Procedure

1. Satisfies organization's standards.
2. Satisfies external standards.
3. Incorporates tools and methods.
4. Describes internal interfaces
5. Describes external interfaces.
6. Change procedures.
8. Peer reviewed.
9. Under configuration control.

Process Element attributes

- ✓ inputs
- ✓ procedures & methods
- ✓ work products produced
- ✓ tools & resources
- ✓ completion/exit criteria
- ✓ technologies
- ✓ standards
- ✓ responsibilities*
- ✓ peer review
- ✓ measures

Guidelines &
criteria for
tailoring the
Organization's
Common
Process



Relationships among elements

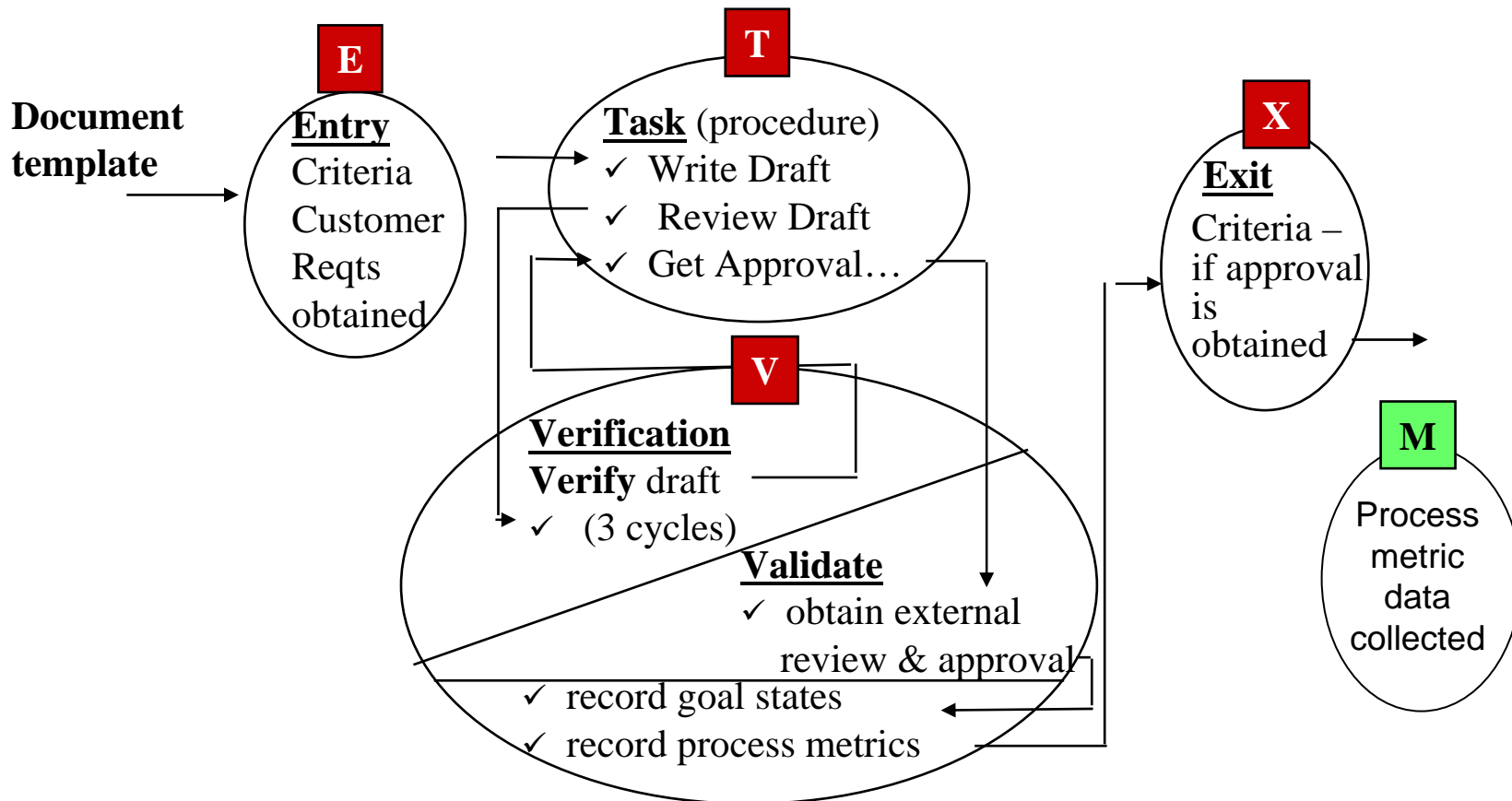
- ordering
- interfaces
- interdependencies

By the way, CMMI, ISO, ITIL can provide guidance and detail

Process Components - Element (ETVX)

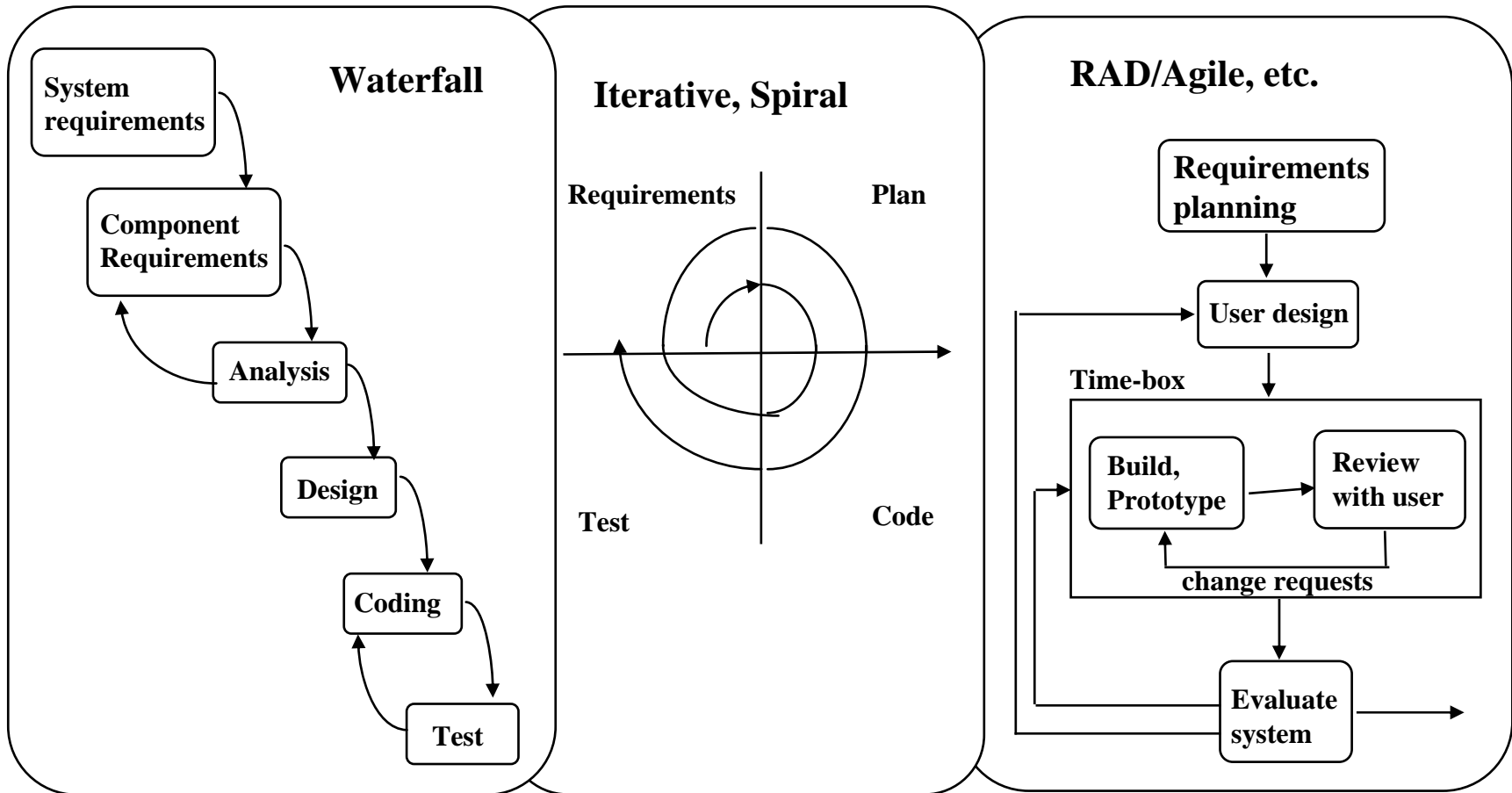


Most Popular Format Example Process: Document Component Requirements

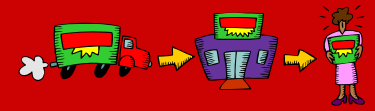


A good automated process will embed these same elements

Must Have → Approved Life Cycles



Must Have → Tailoring Rules/Criteria



- Based upon project characterization
- Use of building blocks/elements from OCP
 - What can be tailored and how much?
 - Can always tailor up
- Use of lessons learned and historical data
- Process Waivers
 - Unnecessary process elements
 - New domain
 - Process pilot
 - Customer requirements

So Let's Get Started....



Now that we know about the process components
.....What's Next???

No matter how "big" or "small" your process is going to be, the approach to it's creation is the most important factor





Do we begin with a process centered approach?

ITIL

A ITIL Process??

ISO
A ISO Process??

CMMI

A CMMI Process??



MIL-STD

SOX

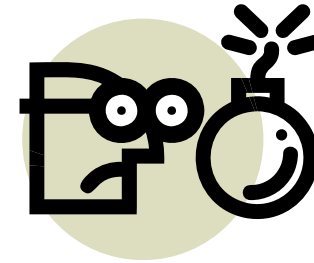
OPM3

So Let's Get Started....



The process, standard or framework centered approach...

Risk 1 - Losing people right off the bat when you need them for a long term, slow, but steady push



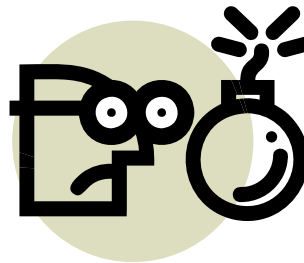
- ✓ "If I can keep my head down long enough, this will all blow over"
- ✓ "Oh, yet another initiative de jour"
- ✓ "Get out of my office, my people have real work to do"
- ✓ "I'll just yes them to death and we'll do our own thing"

So Let's Get Started....



The process, standard or framework centered approach...

Risk 2 – Little to no
understanding - consistent
interpretation of the goal

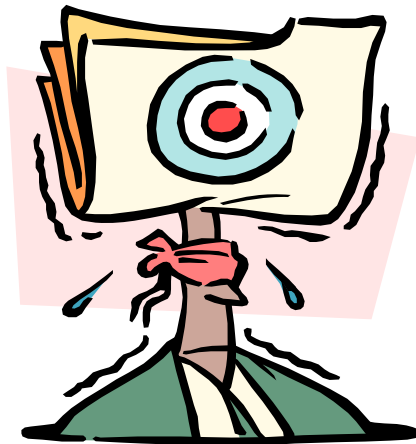


- ✓ "What is CMMI (or ITIL or ISO, etc.) and how are the processes supposed to work"
- ✓ "Do we need a process for every practice"
- ✓ "Do we need a measure for every Process Area"
- ✓ "What is the minimum amount of process we need"and let's just get it done"
- ✓ "At what level do we write the process"

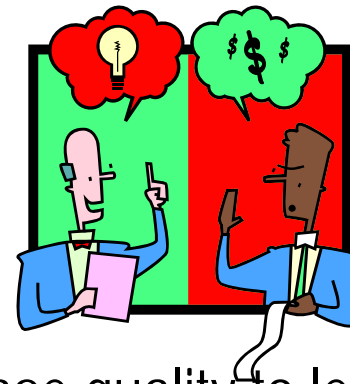
So Let's Get Started Right....



A goal centered approach....



Improve Customer Satisfaction scores to 4.5 or better?



Increase quality to less than 10 delivered issues/defects per....

Reduce product development cost by 10% per year

So Let's Get Started Right....



The Goal Oriented Approach...

Benefit 1 – Consistently working toward refining the processes (and sometimes the goals) to be compatible



- ✓ "What are our goals"
- ✓ "How might we measure them"
- ✓ "What are the things that might prevent achievement"
- ✓ "What do we need to put in place to achieve them"

So Let's Get Started Right....



The Goal Oriented Approach...

Benefit 2 – The achievement of real results and not something impossible-to-define or impossible-to-understand by the bulk of the organization



- ✓ "Our rework percentage is very low"
- ✓ "Our customers consistently give us high marks because..."
- ✓ "We consistently deliver a small percentage of defects and are improving each time"
- ✓ "People love to work here – together, we achieve real results"

“Begin With The End In Mind”



Whatever the questions → will eventually yield objective answers...

Estimation Accuracy?

1. How often do we miss our milestones?
2. What is the average overtime per week/month?
3. How often do we ask for increased funding due to under estimation of schedule or cost?

Process Deviations?

1. Is process compliance trending positively or negatively?
2. What are the common root causes for deviations?
3. What are the most common deviations?

QA Findings Addressed?

1. What is the open vs. close rate for process and product defects?
2. What is the quality of our deliverables?

Use of Lessons Learned?

1. Number of lessons learned converted to process change/improvement

Corporate Skill Set Alignment?

1. Number of employees matching position description – skills assessment
2. Number of skills (by job role) gaps closed over time

“Begin With The End In Mind”



Estimation
Accuracy?

Whatever the questions → will not yield subjective
answers

Cost
Reductions?

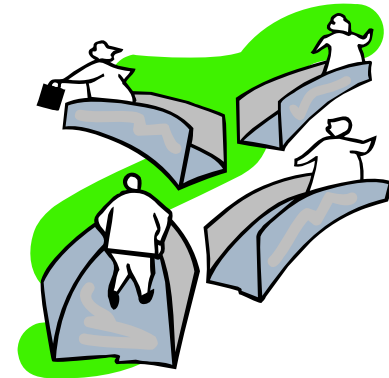
1. What is our CMMI Level?

Productivity
Improvements?

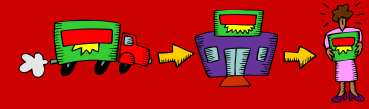
2. Are We ISO Certified?

Quality
Improvements?

Corporate Skill
Set Alignment?



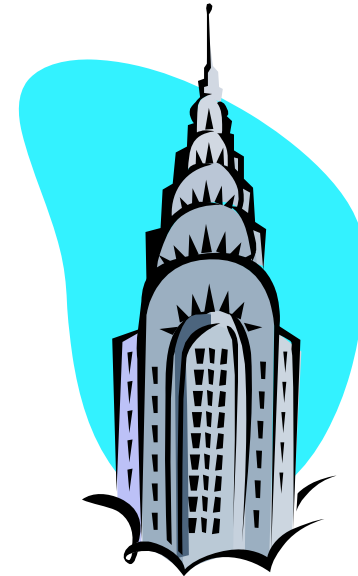
So we need a Process....



.....What Format Will It Take???



*Are you building
a doghouse or a
skyscraper? You
need to pick the
right level of
engineering rigor
for the tasks at
hand!*



Here are some things to consider...when
planning process development

Another Process Decision....

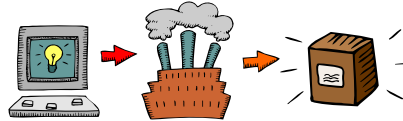


The Online Process –
Integrated and linked



Developers; WebTools;
Visual & User Friendly

The Automated Process
or Workflow



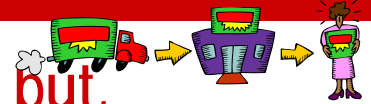
Typically tools exist – for
defect management,
team management task
management or all

Process Binders or Online
Folders



Not as user friendly

Lessons Learned → Too Small or High Level

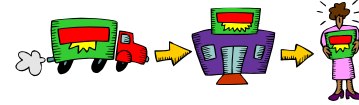


“Funny, we have our Organization’s Common Process but,
every time a project uses it, we get a different result”

- No process or procedural detail (...Document Requirements)
- Missing templates or templates have no embedded guidance
- No best practice exemplars to help drive appropriate content/detail
- Assume that tailoring guidance is not needed – because “we all do similar things” or the process is “light weight”
- Adding needed detail causes endless process change request churn
- Description differs from actual work because it’s vague and subject to interpretation
- Projects are sometimes left to document their own “Defined Process” because the organizational standard is very high level...
- Process Groups cannot understand why “standard process” measures yield unquantifiable results

Lessons Learned → Too Large or Complex

“Funny, we have our Organization’s Common Process but, every time a project uses it, we get a different result”



- To much activity detail – 15 steps when mostly 7-8 are needed to drive consistency and commonality
- Process is too large and rigid for smaller projects to reasonably follow (tool, template, procedures are overkill)
- No best practice exemplars to help drive appropriate content
- Tailoring guidance is not detailed – because the process is detailed
- Process tailoring is too cumbersome and time-consuming
- Documented procedural steps often differ from actual work because “we don’t need all these steps” even on large projects
- Process Groups cannot understand why “standard process” measures yield unquantifiable results

Even “right-sized” – Gotchas....



- Wrong scope and no plan
- Ignoring existing staff, current processes, or culture
- Adding “CMMI” process to existing/embedded MIL-standards and no time spent eliminating, reformatting, streamlining or integrating
- Producing so much process documentation that it’s impossible to keep consistent and is difficult to follow all the links
- Trying to define too much too soon
- Over or under-designing of process prior to deployment
- Developing inconsistent or rigid definitions
- Updating processes too slowly
- Updating processes without notice – no release plan
- Loss of sponsorship or support due to cost or schedule overruns in the definition effort
- Using inconsistent techniques for process definition





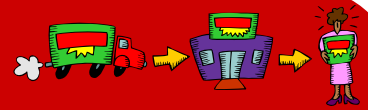
You'll know your process is right-sized when:

1. It yields consistently measurable results
 2. Your "customers" are happy
- unfortunately, this takes time

In Summary



- Approach process definition with a purpose (and a plan)
- Perform a make, buy or reuse analysis
- Plan an iterative process to build your process – with a reasonable set of release dates and content
 - Get something out there for people to use and build on it
 - Focus on manageable and sensibly partitioned releases
- Involve as many members of the organization as possible and/or plan a variety of validation sessions
- Ensure process creators take turns implementing the processes they create
- Write process requirements and design before automating
- Focus on tailoring guidance if projects are varied
- Never forget the “customer” is usually right
- Don't expect to succeed right out of the box – chances are slim!

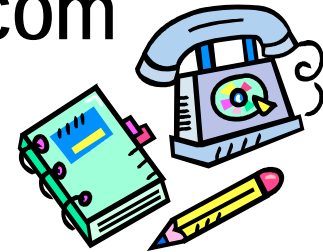


Questions?

Pat Mitryk

pat_mitryk@cognence.com

(732) 804-6410



cognence inc
Improving Software Economics