
Applying the CMMI to the or Process Improvement Project

“Eating Your Own

Dog Food”

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March, 2009

Motivation

- **“The process improvement group (SEPG) should perform one maturity level higher than the group it is trying to influence”**
 - Aligns exhibited behavior with desired behavior
 - Establishes credibility
- **However, many SEPGs are sending the message:**
- **This presentation shows how the CMMI can be adopted by the SEPG itself to change this message to:**

“Do as I say, not as I do”

“Do as I say, just as I do”

Acknowledgments

Terms like these are often used in the following material:

CMMI[®] Framework

IDEALSM Model

Capability Maturity Model IntegrationSM and IDEALSM are service marks of Carnegie Mellon University

Although CMMI[®] is registered in the U.S. Patent & Trademark Office, in this context it means:

“Canine Morsels for Meta-Improvement”

Further Acknowledgements

- **Special Thanks for the Use of the Following Terms:**

- Accelerated Leveraging of Process Opportunities



- Processes Utilizing Reliable, Intuitive, and Natural Approaches

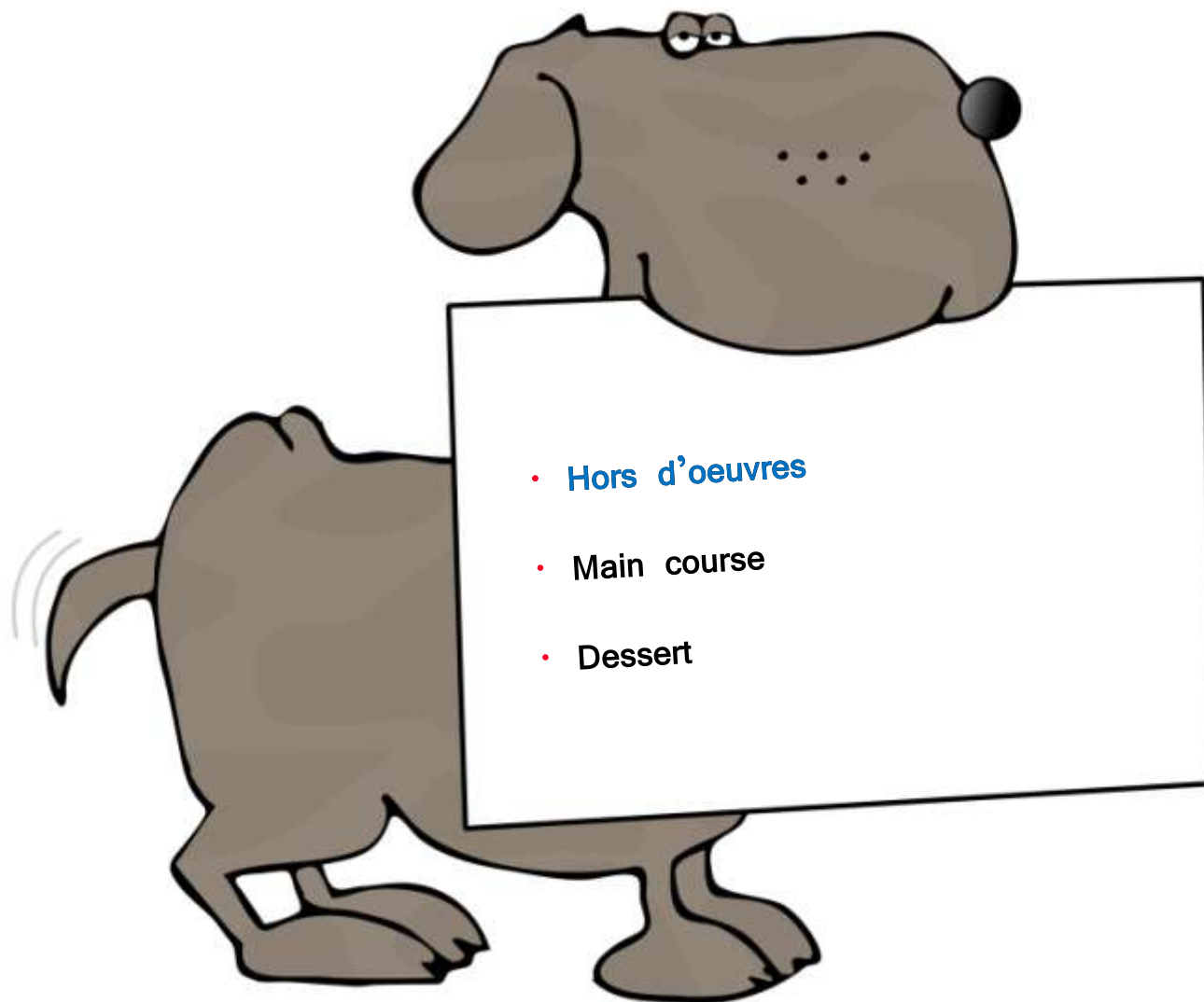


- Keep Improving By Borrowing & Leveraging Everyone's Stuff & By Improving Technology Strategically



- Managing Outcomes Very Effectively by Aligning Learning Opportunities with Near-term Goals.

Your Menu this Evening Includes...



Hors D'oeuvres

- **OPF served with a selection of savory seasonings:**

- Establish an Organizational Policy
- Plan the Process
- Assign Responsibility
- Train People
- Manage Configurations
- Identify/Involve Relevant Stakeholders
- Monitor and Control the Process
- Objectively Evaluate Adherence
- Review Status with Higher Level Mgt
- Establish a Defined Process
- Collect Improvement Information
- Establish Quantitative Objectives for the Process
- Stabilize Subprocess Performance
- Ensure Continuous Process Improvement
- Correct Root Causes of Problems.



OPF Specific Practices

- **Key Practices (Nuggets vs. Filler)**

- **SP1.1 Establish Organizational Process Needs**

- What do you want to be when you grow up?
 - What are you REALLY trying to achieve?

- **SP1.3 Identify the Organization's Process Improvements**

- What do you need to do to achieve it?

- **SP3.1 Deploy Organizational Process Assets**

- What is being provided to enable achievement?

- **SP3.4 Incorporate Process-Related Experiences into the Organizational Process Assets**

- How do we know it's better, and how do we make it betterer?



OPF Generic Practices

- **Key Generic Practices**
 - **GP2.2 Plan the Process**
 - Process Improvement Plan
 - **GP2.4 Assign Responsibility**
 - MSG = Project Sponsor
 - SEPG = Project Team
 - PAT = Subject Matter Experts
 - **GP2.5 Train People**
 - CMMI and appraisal methods
 - **GP2.8 Monitor and Control the Process**
 - “Treat” it like a project
 - **GP3.2 Collect Improvement Information**
 - Work products
 - Measures, measurement results
 - Improvement information.

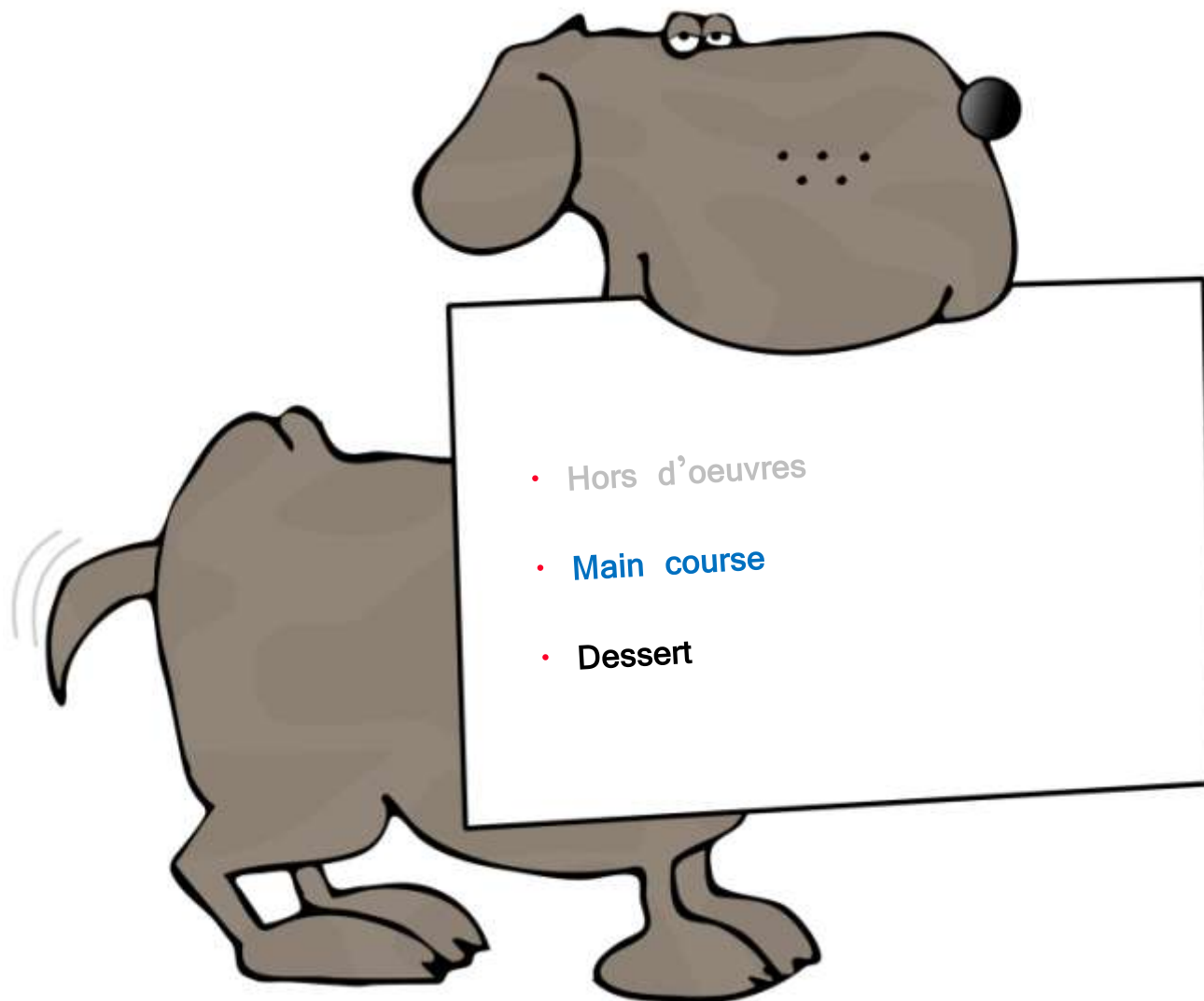


Cleansing the Pallet

- **OPF is the CMMI's foundation for process improvement**
 - The generic practices spice it up a bit
 - But, like hors d'oeuvres, it merely whets the appetite for that which is yet to come...



And Now It's Time for the ...



Tonight's Main Course Consists of...

PP

OT



M

A

DAR

... Alphabet Soup!

R

S

K

M

P

M

C

RD

Macro-Level PP and PMC

Maturity Level 2

	Staged at Maturity Level	1/1/09 Mini Appraisal	1Q09 Plan	2Q09 Plan Act	3Q09 Plan	4Q09 Plan Act
Project Mgt:						
PP	2	2	2	2	2	2
PMC	2	1	1	2	2	2
SAM	2	0	1	1	2	2
Engineering:						
REQM	2	1	2	2	2	2
Support:						
CM	2	2	2	2	2	2
PPQA	2	2	2	2	2	2
MA	2	0	0	1	1	2

Macro-Level PP and PMC

Maturity Level 3

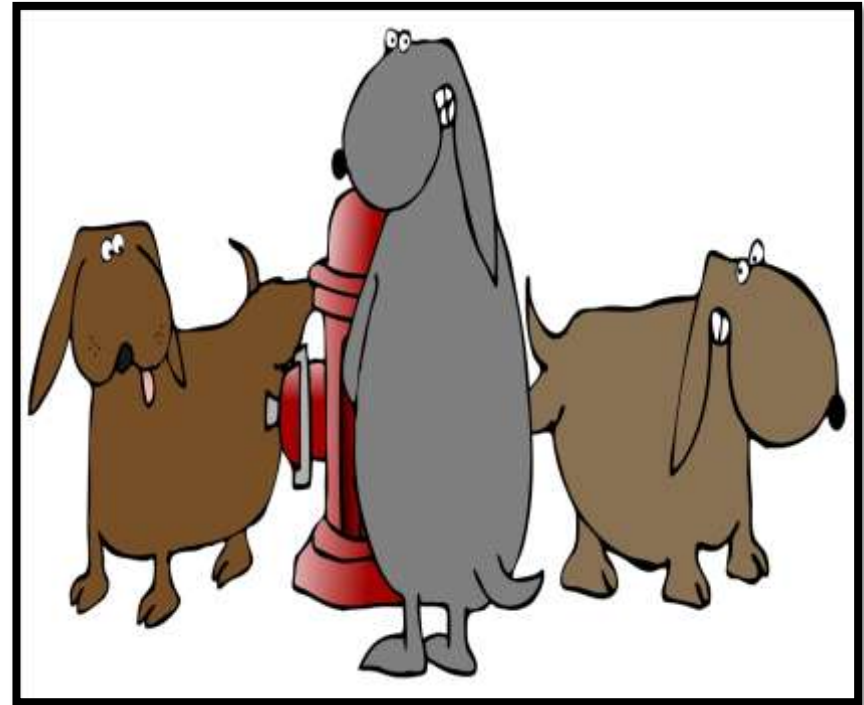
	Staged at Maturity Level	1/1/09 Mini Appraisal	1Q09 Plan	2Q09 Plan Act	3Q09 Plan	4Q09 Plan Act	1Q10 Plan	2Q10 Plan Act	3Q10 Plan	4Q10 Plan Act
Process Mgt										
OPF	3	1	1	2	2	2	2	3	3	3
OPD	3	0	1	1	1	2	2	2	3	3
OT	3	1	1	1	1	2	2	2	3	3
Project Mgt										
PP	2	2	2	2	3	3	3	3	3	3
PMC	2	1	1	2	2	2	3	3	3	3
SAM	2	0	1	1	2	2	2	3	3	3
IPM	3	0	0	0	0	1	1	1	2	3
RSKM	3	1	1	1	1	1	1	2	2	3
Engineering										
REQM	2	1	2	2	2	2	3	3	3	3
RD	3	1	2	2	2	2	2	3	3	3
TS	3	1	1	1	1	1	1	2	2	3
PI	3	1	1	1	1	1	2	2	2	3
VER	3	1	1	1	1	1	2	2	3	3
VAL	3	0	0	1	1	1	2	2	3	3
Support:										
CM	2	2	2	2	2	2	3	3	3	3
PPQA	2	2	2	2	3	3	3	3	3	3
MA	2	0	0	1	2	2	2	2	3	3
DAR	3	0	0	0	1	1	1	2	2	3

Changing Perspective...

Macro View



Micro View



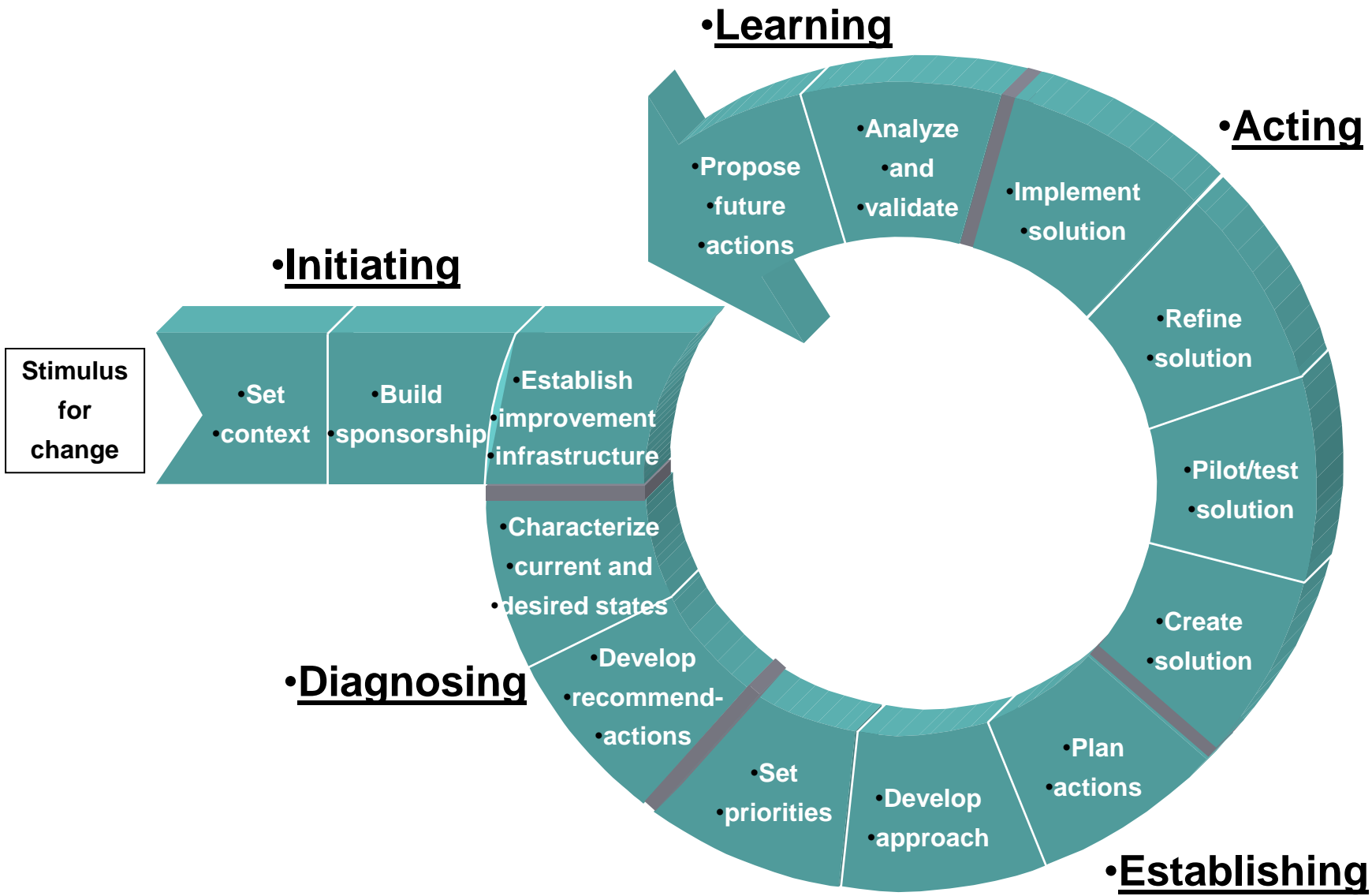
PP SP1.2: Everyone's Favorite Practice

- **Establish estimates of work products and task attributes**
- **In an appraisal context...**
 - **Model scope**
 - **Maturity Level X**
 - **Capability Level Profile Y**
 - **Organizational scope**
 - **How many / which engineering disciplines?**
 - **How many people / projects are in the organizational unit?**
 - **How many focus / non-focus projects need to be included?**
 - **How many geographical locations?**
 - **Other attributes**
 - **Will the appraisal be conducted in English?**
 - **Has the organization been appraised previously?**
 - **How many organizational personnel will serve as ATMs?**
 - **Have they been trained on the CMMI? SCAMPI? Appraisal tools?.**

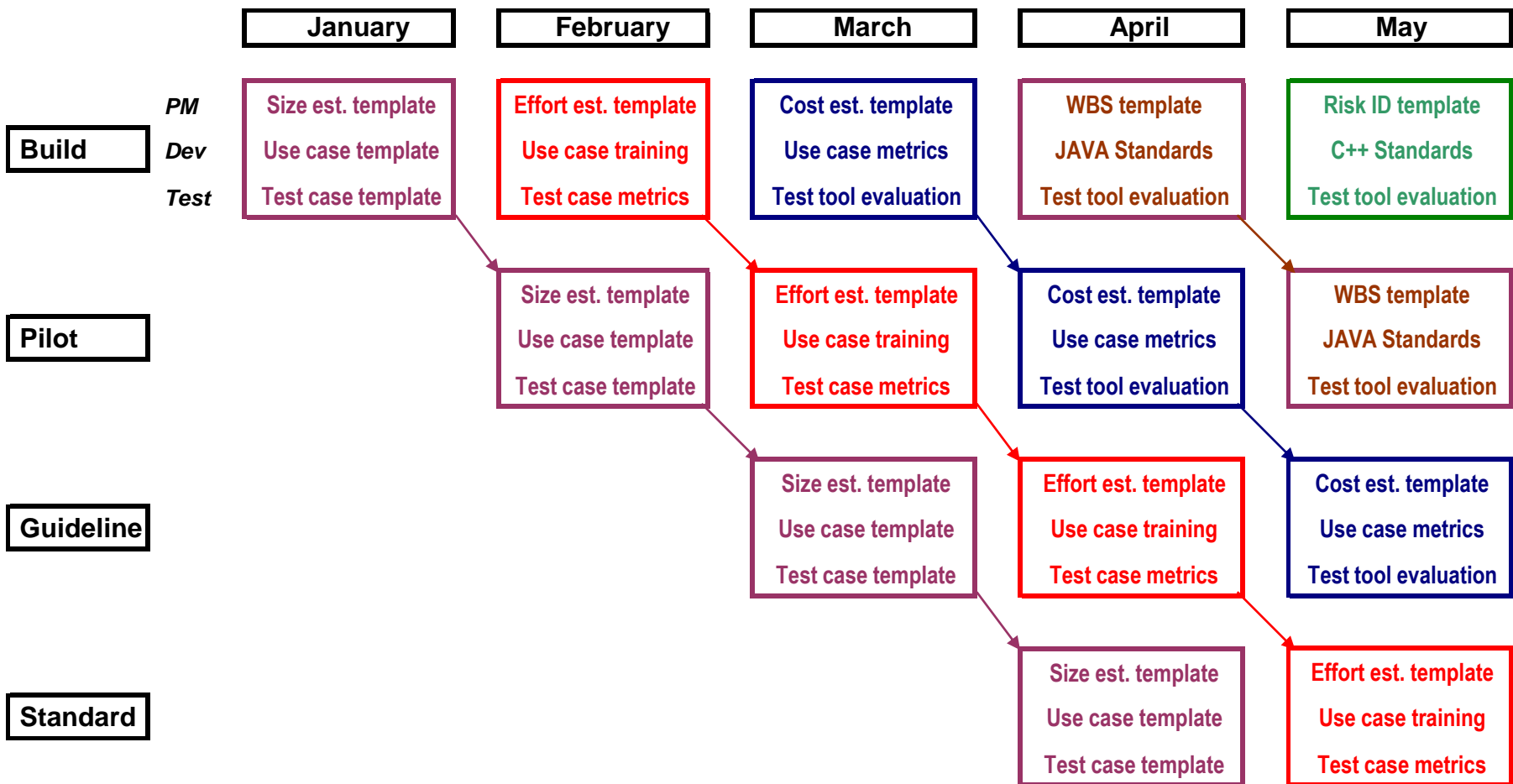
PP SP1.2: Everyone's Favorite Practice

- **Establish estimates of work products and task attributes**
- **In an organizational improvement context...**
 - **Model implementation scope**
 - **ML2? ML3? CL Profile?**
 - **How many gaps between the current / desired states?**
 - **How many (and which) SMEs are available to work on them?**
 - **Are there pain points in any / all of these areas?**
 - **Does this require new or modified behavior?**
 - **How many engineering disciplines, life cycles, etc.?**
 - **Are there other change activities currently underway?**
 - **Re-organizations or mergers**
 - **ISO9000**
 - **ITIL**
 - **Empowerment Initiative for Enabling Improvement in Organizations**
 - **EIEIO initiative.**

PP SP1.3 Define “Project” Lifecycle



PP SP1.3 Define "Project" Lifecycle



Requirements Development

- **Key Practices**

- **SP1.1 Elicit Needs**

- Management is the customer
 - The project teams are the users

- **SP2.3 Identify Interface Requirements**

- User interface
 - Interface with other relevant stakeholders
 - EIEIO Initiative

- **SP3.5 Validate requirements to ensure that the resulting product will perform as intended in the user's environment**

- Pilot, pilot, pilot
 - Remember – it's all about the stakeholders!



Measurement and Analysis

- **Macro Level: Determine Process Improvement's ROI**
 - You are competing for corporate funds just like everyone else
 - Why should management continue investing in YOUR program?
- **Micro Level: Hypothesize the value of each improvement**
 - Design changes to maximize results
 - Implement changes to achieve results
 - Measure the actual results
 - Keep management informed
 - Or, better yet, actively engaged!



Organizational Training

- **It's more than the "Intro to CMMI"**
 - Organizational Change Management
 - Presentation skills
 - Negotiation skills
 - Written/verbal communication skills
 - Process/procedure standards



- **Convey the skills and knowledge necessary to perform the improved process or to use the new tool**
 - Subject Matter Experts provide the content
 - Instructional Designers package content to maximize learning
 - SEPG provides a safe setting for practice & initial implementation
 - Provide ongoing coaching and mentoring
 - Solicit feedback – and then act on it!

Risk Management – Project Factors

Risk Factor #	Risk Factors	Low Risk Cues	Medium Risk Cues	High Risk Cues
4.0 Organization Management Factors				
4.1	Organization Stability	Little or no change in management or structure expected	Some management change or reorganization expected	Management or organization structure is continually or rapidly changing
4.2	Organization Roles and Responsibilities	Individuals throughout the organization understand their own roles and responsibilities and those of others	Individuals understand their own roles and responsibilities, but are unsure who is responsible for work outside their immediate group	Many in the organization are unsure or unaware of who is responsible for many of the activities of the organization
4.3	Policies and Standards	Development policies and standards are defined and carefully followed	Development policies and standards are in place, but are weak or not carefully followed	No policies or standards, or they are ill-defined and unused
4.4	Management Support	Strongly committed to success of project	Some commitment, not total	Little or no support
4.5	Executive Involvement	Visible and strong support	Occasional support, provides help on issues when asked	No visible support; no help on unresolved issues
4.6	Project Objectives	Verifiable project objectives, reasonable requirements	Some project objectives, measures may be questionable	No established project objectives or objectives are not measurable
5.0 Customer/User Factors				
5.1	User Involvement	Users highly involved with project team, provide significant input	Users play minor roles, moderate impact on system	Minimal or no user involvement; little user input
5.2	User Experience	Users highly experienced in similar projects; have specific ideas of how needs can be met	Users have experience with similar projects and have needs in mind	Users have no previous experience with similar projects; unsure of how needs can be met

Risk Management – SEPG Factors

Risk Factor #	Risk Factors	Low Risk Cues	Medium Risk Cues	High Risk Cues
4.0 Cultural Factors				
4.1	Attitude Toward Change	A variety of changes have been introduced, with recent success	The organization has tried to change with varied success; people are hesitant to try new approaches	The organization has been severely burned by one or more changes; there is widespread fear of new approaches
4.2	Experience with Quality Programs	The organization has successfully implemented a major quality program with favorable results	One or more quality programs have been attempted with limited success; some members of the organization are skeptical, others think the programs a waste of time	One or more quality programs have been attempted; the organization believes the efforts were wastes of time; active opposition is expected to "yet another" quality or process improvement initiative
4.3	Action Orientation	The organization is oriented to taking action and solving problems; members of the organization have proven ability to make fundamental changes	Some members of the organization take action, but there are political struggles to get broad changes made	The organization hides behind corporate politics or insists on long reviews and discussions prior to taking action
4.4	Use of Facts	The organization has defined business goals; the organization collects and uses measures regularly	The organization has some limited experience with measurement; parts of the organization are quality- and fact-oriented	Most decisions in the organization are based on politics; there are no measurable business or improvement goals in place
4.5	Patience with Change	Management and key leaders in the organization are willing to spend time socializing the changes	Some managers or key technical leaders are impatient and push for quick results	There is little experience with SPI; one or more leaders in key positions push for quick results

So Much To Do, So Little Time...

- **Management wants:**

- Six Sigma
- Lean
- ITIL
- EIEIO

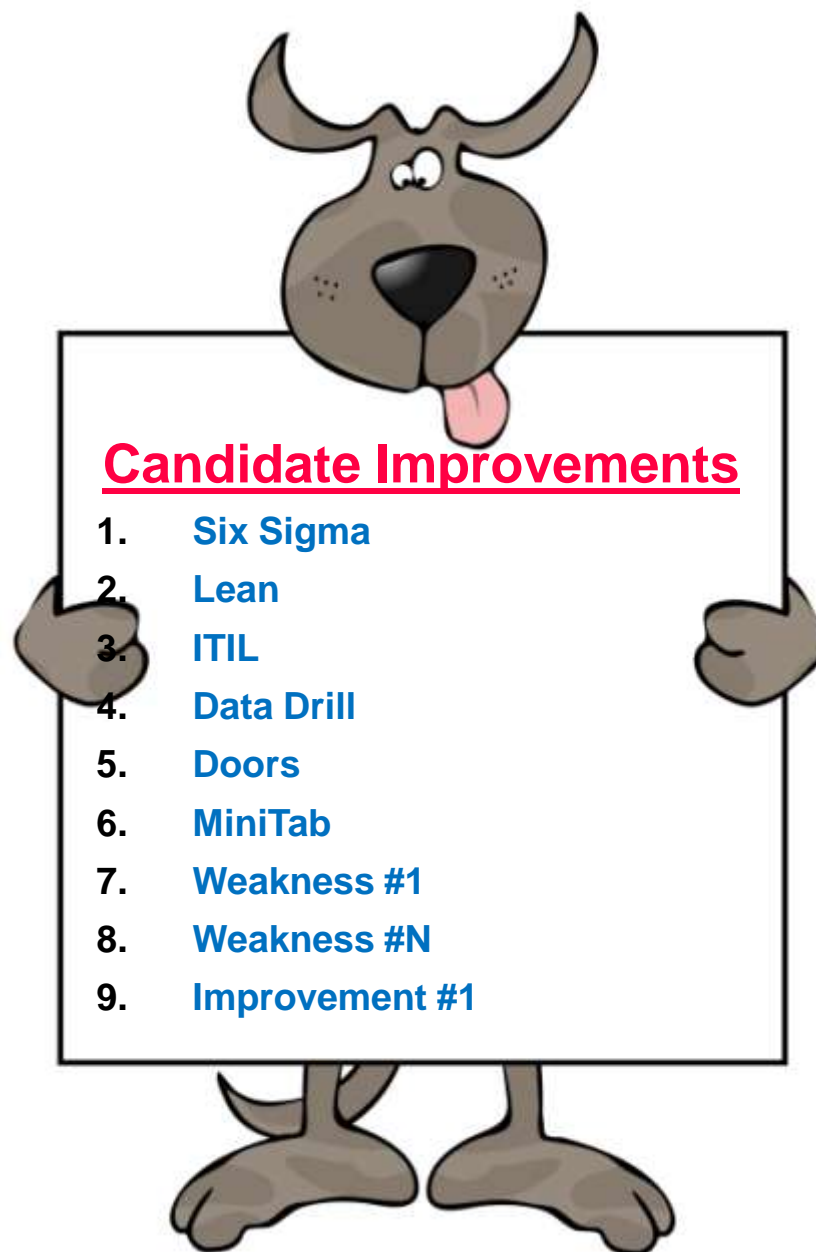
- **Projects want:**

- Data Drill
- Doors
- MiniTab

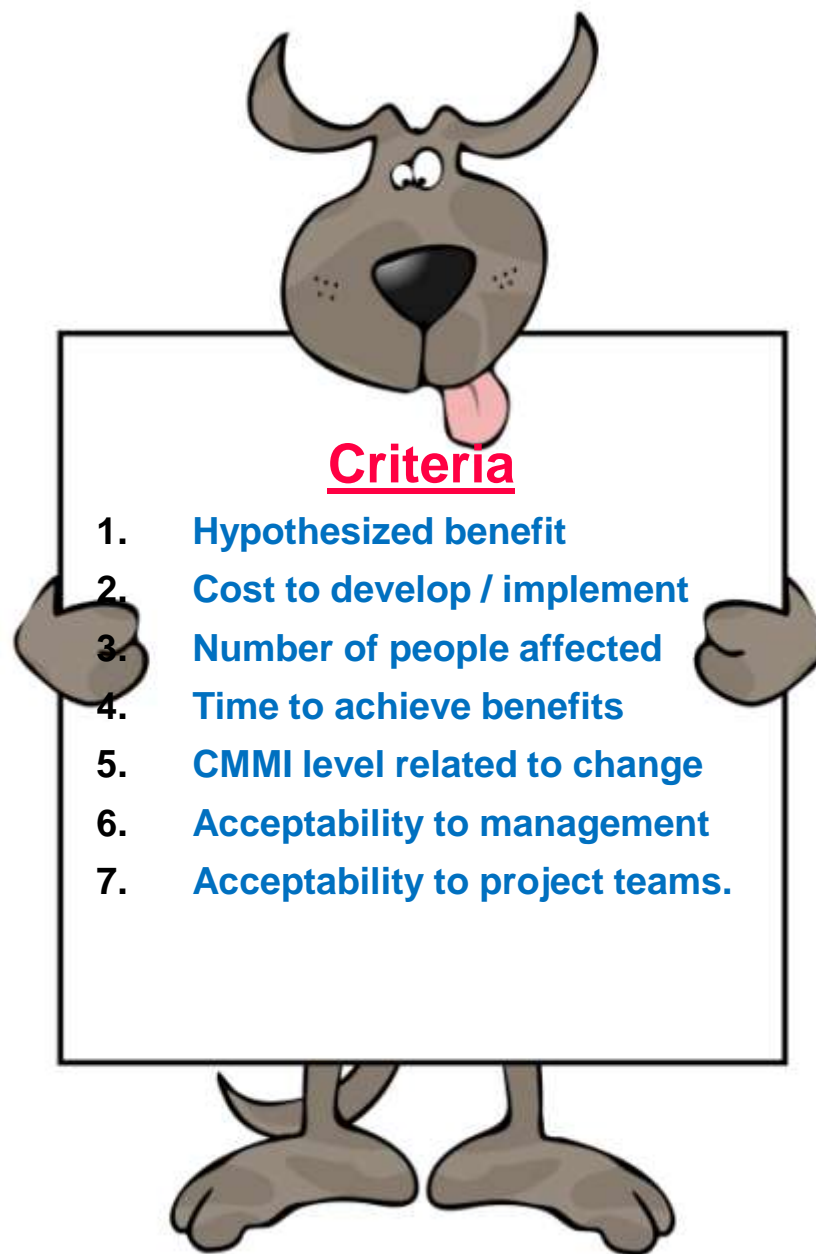


- **The Class C appraisal identified 15 weaknesses**
- **You've got a backlog of 30+ improvement requests**
- **Projects are screaming there is too much administrivia**
- **So, what should you do next???**

Decision Analysis and Resolution



Decision Analysis and Resolution



Decision Analysis and Resolution

- Rate the criteria for each candidate

	Benefit	Cost	# People Affected	Time to Achieve	ML	Mgt	Project Teams	SCORE
Data Drill	10	8	5	8	8	6	8	53
Doors	6	5	8	8	6	6	4	43
ITIL	3	5	3	7	7	5	7	37
Lean	4	4	4	3	7	3	7	32
MiniTab	4	1	9	7	9	4	4	38
Six Sigma	10	10	9	6	4	7	8	54
Improvement #1	2	4	5	2	9	8	10	40
Improvement #2	1	6	5	7	3	2	6	30
Improvement #3	7	2	5	8	7	7	4	40
Improvement #N	2	1	3	6	3	6	1	22
Weakness #1	5	4	3	4	4	3	4	27
Weakness #N	4	8	4	3	2	6	5	32

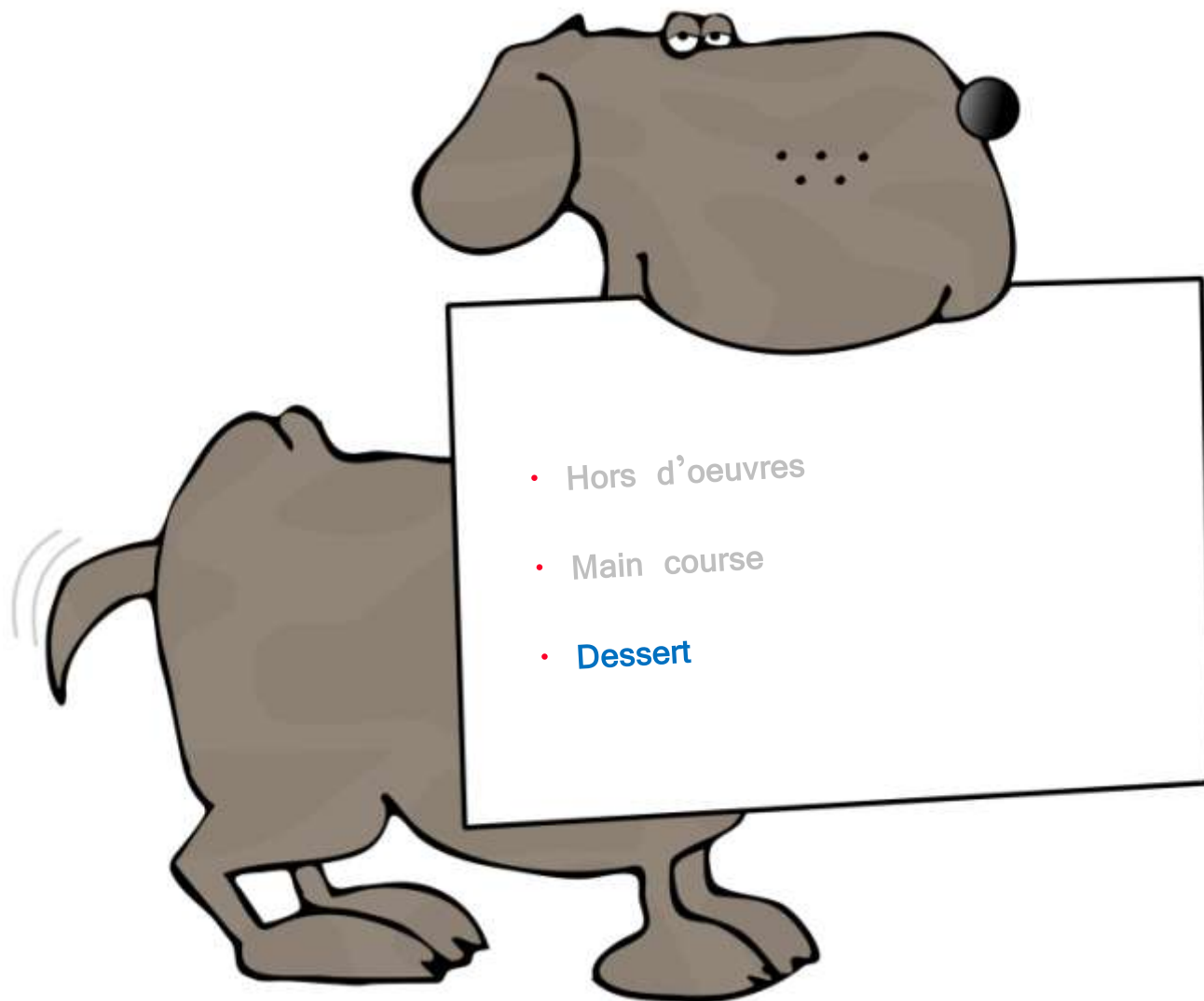
- Sort by Score and work on Top N first

Cleansing the Pallet

- **The SEPG should interpret the CMMI process areas as they apply to the process improvement project**
 - “Do as I say just as I do!”



And Now It's Time For...



Hopefully You've Saved Some Room!



- **For dessert... The CMMI for Services!**
 - The SEPG provides a set of services to the organization
 - The CMMI-SVC provides additional “food for thought.”

CMMI for Services

- **New Process Areas**
 - **Capability and Availability Management**
 - **Incident Resolution and Prevention**
 - **Service Continuity**
 - **Service Delivery**
 - **Service System Development**
 - **Strategic Service Management**
 - **Strategic Service Transition.**

Conclusion

- **When “eating their own dog food,” too many process improvement groups fill up on tasty hors d’oeuvres**
 - They mistakenly believe that OPF is their whole meal
 - They gobble up only that portion of the model
 - And then produce a big pile of OPD!



Questions?

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