

## **Workshop #6**

### **Morning round robin**

**What measurements make sense to roll up into an organizational level?**

**What kinds of improvement people learned at various levels?**

**How can you cope with change in requirements?**

**How to make sure your measures are used and what measures to use?**

**Visibility into higher levels is lacking. Enterprise.**

- *How do you manage the data?*

**How do you make sure the measurement program is important, how can measurement drive the processes together?**

**For higher maturity level organizations (HMOs):**

- *Visibility into information needs/the basis for measuring*
- *Insight into measurements HMOs use*
- *The value they obtain from measurement*
- *How HMOs analyze the data they have*
- *How they use the resulting analysis results in management and process improvement*

**Measures of performance of organization units and maturity level versus performance.**

**What Measurement processes to use to drive towards higher maturity levels?**

**What measures are the most critical for an organization and what evidence is there that the measurements have a return on investment?**

**How do measurements get addressed at project level and where do the resources come from?**

**How do you choose appropriate Enterprise level measurements and appropriate maintenance measures in a way that something is done with them?**

**Performance (Simulation) Modeling and guidance on data analysis.**

## Morning consolidation

### How to choose the right measures & ensure that they are used?

- *How do you make sure the measurement program is important, how can measurement drive the processes together?*
- *Visibility into information needs/the basis for measuring*
- *What measures are the most critical for an organization?*
- *How do you choose appropriate Enterprise level measurements and appropriate maintenance measures in a way that something is done with them?*
- *What evidence is there that the measurements have a return on investment?*

### What measurements make sense to roll up into an organizational level?

- *Visibility into higher levels is lacking. Enterprise.*
- *How do you manage the data?*
- *How do measurements get addressed at project level and where do the resources come from?*

### What were the results of process improvement (high maturity processes)

- *Varies by process; maturity level....very specific process*
- *Varies by scope of organization*
- *The value they obtain from measurement*
- *How they use the resulting analysis results in management and process improvement*
- *Measures of performance of organization units and maturity level versus performance.*
- *What evidence is there that the measurements have a return on investment?*

### For higher maturity practices

- *Insight into measurements used*
- *What & how analyses are done*
- *Need the organization be at a high maturity level to do these things?*
- *Can Measurement contribute to higher maturity or capability levels*

### How can you cope with change in requirements?

### Benchmarking: Is there a useful common set of measures

### Performance (Simulation) Modeling and guidance on data analysis.

## Priority topics

### For higher maturity practices

- *Insight into measurements used*
- *What & how analyses are done*
- *Need the organization be at a high maturity level to do these things?*
- *Can Measurement contribute to higher maturity or capability levels*

### Benchmarking: Is there a useful common set of measures

### Performance (Simulation) Modeling and guidance on data analysis.

## Afternoon detail

**What characterizes mature use of measurement, that is, mature measurement process/capability?**

- *Focus on the critical few that are pertinent to the organization and are supported by the culture*
- *Measure in-process defects, as well as post-release defects, cost, and schedule*
- *Use monitoring measures to understand and improve, as well as control or get status*
- *Use measurement to support making decisions based on a cost-benefit tradeoff*
- *Measuring in a way in which the cost (or timeliness) of information is justified*
- *Management can be engaged in examining and discussing the measurement data, know how to look at data and understand it*
- *Have the discipline to use the data for making decisions*
- *Being proactive and anticipative, rather than reactive, in the use of measures*
- *Manage “by the numbers” statistically, not informal observations or comparisons*
- *Setting goals that are realistic, based on process capability (or at least accepting a risk about which decision makers are informed)*
- *Setting goals with the involvement of the roles / perspectives who are involved in the process, as well as those who use results of the process*

**What characterizes mature measures?**

- *May be the same measures as before, but examining more often, modifying them, using them differently*
- *Need to be measures over which you can control the process, input, situation, ...*
- *May leverage a single measure, treating it as a health and status measure (to monitor project progress) but also as a quantitatively managed measure to understand our process capability and be sure it falls within the spec limits (to ensure processes fit)*

**What characterizes mature measurement analyses?**

- *Using more tools, charts, graphs, to look at trends, projections, ... not merely checking for goal attainment*
- *Performing the analyses with improvement targets in mind, to detect issues and meet the targets in the future*
- *Performing the analyses with an understanding of normal process behavior, against spec limits set by the customer, to be able to stay within the spec limits, or to negotiate with customer when the limits are unreasonable*
- *Predicting future results or effects of process change, using modeling and simulation techniques*
- *Involving all the roles / perspectives of the organization needed, to adequately understand the data and analyze the results*
- *Recognizing that there is uncertainty (risk) and trying to get a handle on it, by looking proactively at more than a point estimate, likely distributions*

### **What enables an organization (or program) to use measurement in a mature way?**

- *Customer needs certain performance level or results*
- *Management that is forward looking - e.g. willing to spend the money to get the results*
- *Management with faith in the approach (whether or not they really understand it)*
- *Champion is available (senior manager, project manager) who believes in the results being possible*
- *Someone with the analytic skill is available, and is willing to get the resources needed*
- *Capitalize (grow?) on the seed of an exemplary team/project - e.g. Pathfinder, PSP/TSP teams, XP team, Six Sigma, causal analysis ...*
- *Individuals/teams who are disciplined*
- *Packaging (or repackaging) existing tools in an attractive way (ex. TQM→ Six Sigma, PSP)*
- *Management that understands and uses risk management effectively [e.g. finance, insurance, ... where risk management is a natural way of life],*
- *Integrated, automated toolset that enhances the ability and willingness to do measurement*

### **How can measurement encourage organizational maturity/capability growth?**

- *Quantitatively characterizing the processes (e.g. driving you to define the process in more detail)*
- *Use of organizational measures drives the processes to be defined uniformly across programs, with consistent definition of terms*
- *Using measurement at the organizational level forces definition of clear organizational goals*
- *Using a core set of measures enables benchmarking, which enables modeling; if this is an "industry core set," it enables benchmarking against industry peers*
- *Using a core set of measures can enable quantitative management of a pertinent area (e.g. project health and status measures)*

## White paper table prototype

• <i>Best Practice</i>	• <i>Vignette</i>
• <i>Quantitatively characterizing the processes (e.g. driving you to define the process in more detail)</i>	•
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