Work Breakdown Structure
Program Evaluation and Review Technique (WBS & PERT)
From Critical Tools
Agenda

• Why?
• Definitions
• Critical Tools Live Demo (w/backup slides)
• Q & A
Why?

• How many PMs produce WBS in a formal or consistent manner for each project?

• How many project plans are different than what the Stakeholders expect it was?

• How many team resources thought they were working on the right deliverables?

• What is the single most important element in a project plan?
Why are we interested in better planning?

- PMOs has gotten to the point where forecasting needs to be more comprehensive and defensible.

- Higher quality plans are necessary to improve our confidence in:
  - Resource assignments
  - Resource forecasts
  - Dependencies within plans and between plans

- Better information is necessary to leverage automation, particularly as it relates to scheduling and tracking progress.
Why focus on WBS and PERT?

- WBS = The Scope (or All of the Work)
- PERT = Graphical visualization of Sequence and Dependencies
- A high quality WBS and PERT chart is the foundation of every project
- For integrated planning, information residing in different WBS and PERT charts needs to be related. As such, consistency and quality is critical
- So, anything that improves the consistency and/or quality of WBS and PERT charts is worth considering
What is a WBS?

• Official PMBOK Definition
  – WBS is a deliverable-oriented hierarchical decomposition of the work to be executed by the project team, to accomplish the project objectives and create the required deliverables

  – WBS represents the work specified in the current approved project scope/charter statement

  – Components comprising the WBS assist the stakeholders in viewing the deliverables of the project
WBS?

With detailed outputs
## Sample View of a WBS in MS Project

<table>
<thead>
<tr>
<th>WBS</th>
<th>Name</th>
<th>Duration</th>
<th>Start</th>
<th>Finish</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.3</td>
<td>Execute Deploy</td>
<td>48 days</td>
<td>Mon 8/6/07</td>
<td>Wed 10/10/07</td>
</tr>
<tr>
<td>1.3.1</td>
<td>Compliance Data Collection Tool</td>
<td>41 days</td>
<td>Mon 8/6/07</td>
<td>Mon 10/1/07</td>
</tr>
<tr>
<td>1.3.1.1</td>
<td>Submit request for contract</td>
<td>3 days</td>
<td>Mon 8/6/07</td>
<td>Wed 8/8/07</td>
</tr>
<tr>
<td>1.3.1.2</td>
<td>Review initial contract and provide changes</td>
<td>3 days</td>
<td>Thu 8/9/07</td>
<td>Mon 8/13/07</td>
</tr>
<tr>
<td>1.3.1.3</td>
<td>Obtain finalized contract</td>
<td>3 days</td>
<td>Tue 8/14/07</td>
<td>Thu 8/16/07</td>
</tr>
<tr>
<td>1.3.1.4</td>
<td>Confirm data logistics</td>
<td>7 days</td>
<td>Fri 8/17/07</td>
<td>Mon 8/27/07</td>
</tr>
<tr>
<td>1.3.1.5</td>
<td>Conduct status updates (bi-weekly)</td>
<td>25 days</td>
<td>Tue 8/28/07</td>
<td>Mon 9/10/07</td>
</tr>
<tr>
<td>1.3.2</td>
<td>HRIS Reports &amp; Organizational Data (GIS &amp; LSS)</td>
<td>21 days</td>
<td>Tue 8/21/07</td>
<td>Tue 9/18/07</td>
</tr>
<tr>
<td>1.3.2.1</td>
<td>Hierarchy Report</td>
<td>2 days</td>
<td>Wed 8/22/07</td>
<td>Thu 8/23/07</td>
</tr>
<tr>
<td>1.3.2.2</td>
<td>DC Employee Report</td>
<td>1 day</td>
<td>Wed 8/22/07</td>
<td>Wed 8/22/07</td>
</tr>
<tr>
<td>1.3.2.3</td>
<td>Open Position Report</td>
<td>1 day</td>
<td>Tue 8/21/07</td>
<td>Tue 8/21/07</td>
</tr>
<tr>
<td>1.3.2.4</td>
<td>Second Level Manager of Open Chief Positions Report</td>
<td>1 day</td>
<td>Tue 8/21/07</td>
<td>Tue 8/21/07</td>
</tr>
<tr>
<td>1.3.2.5</td>
<td>Leave of Absence (LOA) &amp; Termination Report</td>
<td>20 days</td>
<td>Wed 8/22/07</td>
<td>Tue 9/18/07</td>
</tr>
</tbody>
</table>
Sample Graphical View of a WBS
What is a PERT?

• Definition Varies
  – PERT stands for Program Evaluation and Review Technique
  – Invented by the US DoD
  – A PERT chart is a project management tool used to schedule, organize, and coordinate tasks within a project
  – PERTs become very complex very quickly, so the key to usage is to plan and manage small chunks of work
Sample Network Diagram in MS Project
PERT View by Owner

Lou Herrera

- Identify site coordinators (per location)
  - 47
  - 8/23/07
  - Lou Herrera 8/23/07

Adam Feeney

- Document BCG process
  - 65
  - 9/17/07
  - Adam Feeney 9/17/07

- Review and approve process and controls
  - 66
  - 10/1/07
  - Adam Feeney 10/1/07

Jane Bryan

- Determine Define Process/Approach for PR
  - 19
  - 8/6/07
  - Jane Bryan 8/6/07

- Run Gap Report (repeatedly)
  - 28
  - 9/17/07
  - Jane Bryan 9/17/07
Pre-Demo Question

• How easy is it for PMs to iterate and collaborate to develop comprehensive and up-to-date WBS and PERT charts?
Insert DEMO

Contact Information:
Edward W. Rosenthal, MPM, PMP
rosenthal3@aol.com
Government Standards

NOT MEASUREMENT SENSITIVE
MIL-HDBK-881A
30 JULY 2005

SUPERSEDING
MIL-HDBK-881
2 JANUARY 1998

DEPARTMENT OF DEFENSE HANDBOOK

WORK BREAKDOWN STRUCTURES FOR DEFENSE MATERIEL ITEMS
Lessons Learned

• WBS Charts aids the team to visualize the plan
• Reduces inconsistencies in the project plan
• Reduces duplicated tasks
• Intuitive

• PERT Charts reinforce sequencing (bi-directional)
• Locates orphan tasks
• Promotes fixing obvious missing predecessors and successors
• Identifies wrong owners & process groups
• Opportunities to shorten timelines