PMI Project Management & Network Storage Implementations:
Leveraging Best Practices in Both Worlds

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SNIA
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Abstract

This presentation will outline core methodologies from the Project Management Institute (PMI™) in the Project Management Institute Body of Knowledge (version 4), and how they apply to storage networking and general IT projects. Close examination of real-world projects including a SAN implementation, a data center move, and a proof-of-concept testing process will be examined in great detail. The strengths and weaknesses of managing large storage projects via PMI™ will be detailed, and the presentation will conclude with an exploration of ways that PMI and end users can collaborate further.

Learning Objectives

- Understand the Project Management methodologies and programs of PMI™
- Understanding the project management process as delineated by the Project Management Institute, particularly the improvements and upgrades made in the latest version (4) of the Project Management Body of Knowledge (PMBOK4)
- To examine in detail, with appropriate documentation, several examples of PMI™-based projects that are in the networked storage domain.
- To explore opportunities for the PMI™ and SNIA (particularly its end user constituencies) can collaborate further to increase professionalism and success in the storage networking and project management disciplines.
Presentation Outline

- About PMI and PMP Credentials
- About the PMI 4 v. PMP 3 Credential
- Pop Quiz: Understanding Projects the “PMI Way”
- PMP approaches to storage networking projects
- Change Management v. Project Management: ITIL & PMI
- When it Works: Examples of PMP approaches to storage networking projects
- Tools & Methodologies
- Reasons Storage Project Fail/Checklist for Successful Projects
- Means of Further Collaboration between SNIA & PMI
- Resources
“We have IT and storage managers. Sometimes they run projects. What’s so special about ‘project management?’ ”
Why PMI?

- Currently, there are approximately 18 million people who are working worldwide in the project management profession. According to statistics, only 32%* of projects worldwide are succeeding in achieving budget, schedule, and quality objectives of the project. The same statistics shows that there is a 75% success rate for projects that employ modern project management concepts, tools & techniques. Based on these statistics, it makes sense for organizations/companies to employ modern project management concepts tools and techniques in their organization. This is an important reason why organizations are hiring or prefer to hire certified PMPs today.

*Source: Standish Group Report – Chaos Summary 2009
Project Management: Growth

- New techniques from:
  - Operations research
  - Cold War defense projects
  - 1960s space race

- Information technology both **served** project management...
  - Software for critical path & network analysis, PERT, etc.

- And **drove** project management
  - As IT transformed business, it became a major field for project management itself
What is PMI?

- Global Not-for-Profit Professional Association
  - 500,000 members and credential holders in 171 countries
- Global Standards
  - 11 standards provide a common framework and language for projects across industries and regions
- Credentials
  - 5 specialized credentials based on both knowledge and work experience
- Research
- Accreditation of academic programs, registration of other training providers (REPs)
A Projectized World

• 20% of gross global product -- $12 trillion per year -- spent on fixed capital projects worldwide
• Trillions more in projects for IT, new product and service development, entertainment/IP, NGOs
• Project, program, and portfolio management
3-year, $2.5M study completed in 2008

- 65 organizations, 418 projects, 447 interviews
- Many values identified, primarily in
  - Execution (project results, (stakeholder satisfaction, ROI)
  - Organizational integration (breaking down “silos,” strategic alignment)
  - Learning (new capabilities, innovation, business transformation)
PMI Family of Credentials

- Certified Associate in Project Management (CAPM®)
- Scheduling Professional (PMI-SP®)
- Risk Management Professional (PMI-RMP®)
- Project Management Professional (PMP®)
- Program Management Professional (PgMP®)
Globally Recognized Standards
“Project management provides hard value: saving wasted dollars and effort and mitigating the risk of wasting dollars.”

“The value of project management is tangible. It’s the structure behind the projects. We do better than industry benchmarks.”

“All quotations from interviews in *Researching the Value of Project Management*
40 Years of Growth

PMI Membership

Founded 1969


10,000 100,000 306,111

100,000

10,000

306,111

July 2009

30,000

250,000

200,000

150,000

100,000

50,000

0

350,000

PMI Project Management & Network Storage Implementations
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Global Membership

Join Locally, Connect Globally

North America 69%

Latin America 5%

EMEA 12%

Asia Pacific 14%

250 Chapters, 29 SIGs, 2 Colleges

October 2008 data
Globally Recognized Standards
Professional Training

- More than 1100 Registered Education Providers (R.E.P.s):
  - Commercial training firms
  - Colleges and universities
  - Corporations
  - Government agencies
  - PMI components & communities
- Can offer Professional Development Units (PDUs) in continuing education
- PDUs required to maintain most PMI certifications
Global Demand for Project Management

- $12 trillion per year spent on fixed capital projects worldwide – 20% of global economy
- Trillions more in projects for IT, new product and service development, entertainment/IP, NGOs
- More than 20 million people worldwide work on project teams
  - Yet trillions at risk due to shortage of trained practitioners
About PMI

- Project Management Institute (PMI) (www.pmi.org) – provides global leadership in the development of standards for the practice of project management profession throughout the world.
- Five volunteers founded the Project Management Institute (PMI) in 1969. The Commonwealth of Pennsylvania, USA issued Articles of Incorporation for PMI, which signified the official inception of the organization.
- Today, there are 195,000 chapter members of PMI. These chapters are spread out in 45+ countries. There are 302,364 PMI members, 331,208 PMP, 7,455 CAPM, 237 PgMP, 146 SP, 94 RMP certificants. (source: PMI Today, March 2009)
Advantages to PMP

- From a recent global Project Management Salary Survey conducted by Foote Partners in 15 countries covering 26,000 professionals, it is clear that overall, PMPs are getting paid more than non-PMPs.

- PMI's own annual Salary Survey (at www.pmi.org) indicates a consistent advantage for PMP certified Project Management practitioners.
- Major changes in structure, content, language
- Perspective of processes in PM is now “generally recognized”
- Project Management represented by 42 processes
- Process groups mapped to Deming’s quality steps

Significant Statistics:
- 600+ inputs, tools & techniques, outputs (ITTOS)
- 450+ definitions
- 32 pages of glossary

Verb-Object process names

Processes by Process Groups
- Initiating has 2
- Planning has 20
- Executing has 8
- Monitoring & Controlling has 10
- Closing has 2

Total of 42 processes in 9 knowledge areas
# Eligibility: Formal & OJT

<table>
<thead>
<tr>
<th>CATEGORY 1</th>
<th>CATEGORY 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. At the time of application, the candidate holds a baccalaureate or better.</td>
<td>1. At the time of application, the candidate does not hold a baccalaureate or global equivalent university degree, but holds a high school diploma or equivalent secondary school credential.</td>
</tr>
<tr>
<td>2. A minimum of 4,500 hours of project management experience within the five project management process groups within the eight-year period prior to application.</td>
<td>2. A minimum of 7,500 hours of project management experience within the five project management process groups, within the eight-year period prior to the application. Candidates who hold an associates degree should also apply in this category.</td>
</tr>
<tr>
<td>3. Additionally, the candidate has obtained 35 contact hours of project management education.</td>
<td>3. Additionally, at the time of application, the candidate has obtained 35 contact hours of project management education.</td>
</tr>
</tbody>
</table>
1. The project sponsor has approached you with a dilemma. The CEO announced at the annual stockholders meeting that the project you're managing will be completed by the end of this year. The problem is that this is six months prior to the scheduled completion date. It's too late to go back and correct her mistake, and stockholders are expecting implementation by the announced date. You must speed up the delivery date of this project. Your primary constraint before this occurred was the budget. Choose the best action from the options listed to speed up the project.

   a) Hire more resources to get the work completed faster.
   b) Ask for more money so that you can contract out one of the phases you had planned to do with in-house resources.
   c) Utilize negotiation and influencing skills to convince the project sponsor to speak with the CEO and make a correction to her announcement.
   d) Examine the project plan to see whether there are any phases that can be fast tracked, and then revise the project plan to reflect the compression of the schedule.
D. Fast tracking is the best answer in this scenario. Budget was the original constraint on this project, so it's unlikely the project manager would get more resources to assist with the project. The next best thing is to compress phases to shorten the project duration. For more information, please see Chapter 1 and Chapter 7.
2. These types of dependencies can create arbitrary total float values and limit your scheduling options.
   A. Discretionary
   B. External
   C. Mandatory
   D. Hard logic
2. A. Discretionary dependencies can create arbitrary total float values and they can also limit scheduling options. For more information, please see Chapter 4.
3. The primary function of the Closing processes is to perform which of the following?

A. Formalize lessons learned and distribute this information to project participants.
B. Perform audits to verify the project results against the project requirements.
C. Formalize project completion and disseminate this information to project participants.
D. Perform post-implementation audits to document project successes and failures.
C. The primary function of the Closing processes is to formalize project completion and disseminate this information to the project participants. For more information, please see Chapter 12.
4. You have been assigned to a project that will allow job seekers to fill out applications and submit them via the company website. You report to the VP of human resources. You are also responsible for screening applications for the information technology division and setting up interviews. The project coordinator has asked for the latest version of your changes to the online application page for his review. Which organizational structure do you work in?

A. Functional organization
B. Weak matrix organization
C. Projectized organization
D. Balanced matrix organization
B. Functional managers who have a lot of authority and power working with project coordinators who have minimal authority and power characterizes a weak matrix organization. Project managers in weak matrix organizations are sometimes called project coordinators, project leaders, or project expeditors. For more information, please see Chapter 1.
A project is a temporary endeavor undertaken to create a unique product, service, or result

- **Temporary**
  - Defined goal, schedule, cost
  - *Not* routine operations (although result may become so)
  - Backup is not a project!

- **Unique**
  - Requires learning and adaptation
  - Often assembles a team that hasn’t worked together before

- **Progressive elaboration**
  - Develops in steps, continues by increments
  - Scope is refined as specifications evolve

Projects are how organizations manage *change*. 
What holds them together?

What makes them work?

Who knows how to manage them?
Preparing for PMP: Practical Suggestions

- About training
- About self-study
- Before the Test
- Learning to answer “the PMP way”
- Sample Questions & Answers
5 Process Areas

- Initiating
- Planning
- Executing
- Controlling
- Closing
Symptoms of “TMPMP”:

- Participants complain about form filling
- Project managers do not follow the process
- Project management cost is disproportionate compared with the total cost of the project
- Completing all the documents and steps in the methodology is a key measure of success
- Following process is valued more highly than project success

In Other Words: Process That Does Not Add Value
9 Knowledge Areas

1. Integration
2. Scope
3. Time
4. Cost
5. Quality
6. Human Resources
7. Communications
8. Risk
9. Procurement
Types of Storage networking Projects that Could Benefit by PMI Processes

- SAN Rollouts
- Major SAN reconfigurations
- Data Center relocation
- New Data Center development & deployment
- Major architectural change
- Disaster recovery/Business continuity planning and preparation
- Others?
A Storage Project Using PMI Process

- Major bank in U.S. Midwest, The Huntington National Bank, U.S. making major purchase in tier 1 Storage
- PMP-managed, storage team led project evaluated 4 major providers of storage
- SNIA Tech Center asked to provide vendor-neutral vendor and administrative/technical support
The testing environment was created so that all equipment could be tested under similar conditions. A virtual private network was created so that Huntington personnel could securely access and monitor all testing events, and insure against any tampering with testing results.

The testing lab was transformed in two short weeks as approximately 12 tons of equipment were delivered and configured for the POC test.
671 Items in the Project Plan
4 vendors (engineers, sales, marketing), 10+ bank IT staff, SNIA staff over 5 weeks
Daily 30 minute project meeting

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<th>ID</th>
<th>Task Name</th>
<th>Duration</th>
<th>Start</th>
<th>Finish</th>
<th>Resource Names</th>
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<td>12 days</td>
<td>Fri 11/7/08</td>
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Average Time Per Read (Hundreds of Seconds)
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<th>XXX</th>
<th>YYY</th>
<th>ZZZ</th>
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<td>Task Description</td>
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<td>End Date</td>
<td>Duration</td>
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</table>
SNIA Tech Center Relocation

- Planned and executed using PMI methodology
- Project Manager is by Tom Mancuso, PMP
- Example links to Project files
- Utilized online project management website, Basecamp®

### Deliverables

<table>
<thead>
<tr>
<th>Deliverables (Plans &amp; Assessments)</th>
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<tbody>
<tr>
<td><strong>Project Plans</strong></td>
</tr>
<tr>
<td>Project Plan (Scope, Budget, Schedule)</td>
</tr>
<tr>
<td>Communications Plan</td>
</tr>
<tr>
<td><strong>Improvement Needs Assessments</strong></td>
</tr>
<tr>
<td>DataComm &amp; TeleComm Improvement Needs Assessment</td>
</tr>
<tr>
<td>Offices &amp; Common Area Improvement Needs Assessment</td>
</tr>
<tr>
<td>Classroom Improvement Needs Assessment</td>
</tr>
<tr>
<td>Lab Space Improvement Needs Assessment</td>
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<tr>
<td><strong>Construction/Buildout Plans</strong></td>
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<tr>
<td>Offices &amp; Common Area Buildout Plan</td>
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<tr>
<td>Lab Buildout Plan</td>
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<td>Classroom Buildout Plan</td>
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<td>TeleComm Buildout Plan</td>
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<td>DataComm Buildout Plan</td>
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<td>Power/Electrical Buildout Plan</td>
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<td><strong>Teardown-Move-Setup Plans (TMS Plans)</strong></td>
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<td>TeleComm TMS Plan</td>
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<td>Offices &amp; Common Areas TMS Plan</td>
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<td>Labs TMS Plan</td>
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<td>Power/Electrical TMS Plan</td>
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<td><strong>Systems Testing Plans</strong></td>
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<td>Telephone (Voice &amp; Wireless)</td>
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<td>Data Infrastructure (LAN/WAN/Wireless/SAN)</td>
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<td>Internet Access (ISP, addressing, etc.)</td>
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<td>HVAC</td>
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<tr>
<td>Security</td>
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<tr>
<td>Safety Systems</td>
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Tools

- Software/Standalone
  - MS Project, Primavera
- Software/Network
  - MS Project Server
- SAAS
  - Basecamp
Beware of ZOMBIE PMP’s!

WELCOME TO DOGBERT’S SCHOOL FOR ZOMBIES AND/OR CERTIFIED PROJECT MANAGERS.

THE TRAINING IS THE SAME FOR EITHER PROFESSION. THE MAIN DIFFERENCE IS THAT ZOMBIES GET MORE SUN.

REPEAT AFTER ME: I WANT TO CALENDAR AN ON-SITE POST CUTOVER SUPPORT REVIEW MEETING.

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10 Keys to Successful Projects*

1. Strong Business Case & Executive Sponsorship
2. Leadership of the PM and Project Team
3. Identify the Critical Success Factors
4. Planning
   a) Documented project milestones & deliverables
   b) Valid & realistic time scale
   c) Accurate cost estimating
   d) Understand resource requirements
   e) Fudge factor? 15%
5. Team Motivation
6. Saying “No”
7. Avoiding Scope Creep
8. Managing Risks to the Project
9. Good Project Closure
10. Good Luck!

*Adapted from “8 Keys to Ensuring Project Success”, by Duncan Haughey
10 Qualities of a Good Project Manager*

1. Inspires a Shared Vision
2. Good Communicator
3. Integrity
4. Enthusiasm
5. Empathy
6. Competence
7. Ability to Delegate Tasks
8. Cool Under Pressure
9. Team-Building Skills
10. Problem-Solving Skills

*Top 10 Qualities of a Project Manager, by Timothy R. Barry
Areas for SNIA and PMI to Collaborate

- Cross-promote each other’s credential programs
  - SNIA SNCP® & PMI’s PMP®
- Create linkages for PMP’s doing storage networking projects managed with PMI processes
- Create and develop white papers, presentations, develop best practices library
- Social Media linkages easy: SNIA LinkedIn, PMI LinkedIn
- Other ideas?
Q&A
Suggestions for Training Experiences/Sharing
Next Steps for SNIA & PMI
Q&A / Feedback

Please send any questions or comments on this presentation to rick.bauer@snia.org

Many thanks to the following individuals for their contributions to this tutorial.

- SNIA Education Committee

PMI.ORG
Leslie Bakker
Duncan Haughey
Sean Kern
Tom Mancuso
Jacqueline Moore-Armstead
Further Reading & Preparation

- Rita Mulcahy’s training materials are good
- PMI.org
- Know PMBOK 4 by heart
References

- Lewis, James P. The Project Manager’s Desk Reference, 3rd edition
- Mulcahy, Rita and Martha Young. PM Crash Course for IT Professionals: Real-World Project Management Tools and Techniques for IT Initiatives