

DARPA – A Unique Opportunity

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INTRODUCTION

- DARPA Program Manager : Microsystems Technology Office 1999-2002; Defense Sciences Office 2002-2005
- Currently the Director of R&D, Center for Micro- and Nano-Technology at LLNL (August 2005 – Present)

- Managed Programs at DARPA in the Areas of Computer-Aided-Design Tools, Micro/Nano-Bio-Info Intersection, Nano-biotechnology, Mixed Signal Systems & 3-D Integrated Circuits (Mostly 6.1 and 6.2 Programs)
- Also Managed 2 MURI Programs that Focused on Research in Academia

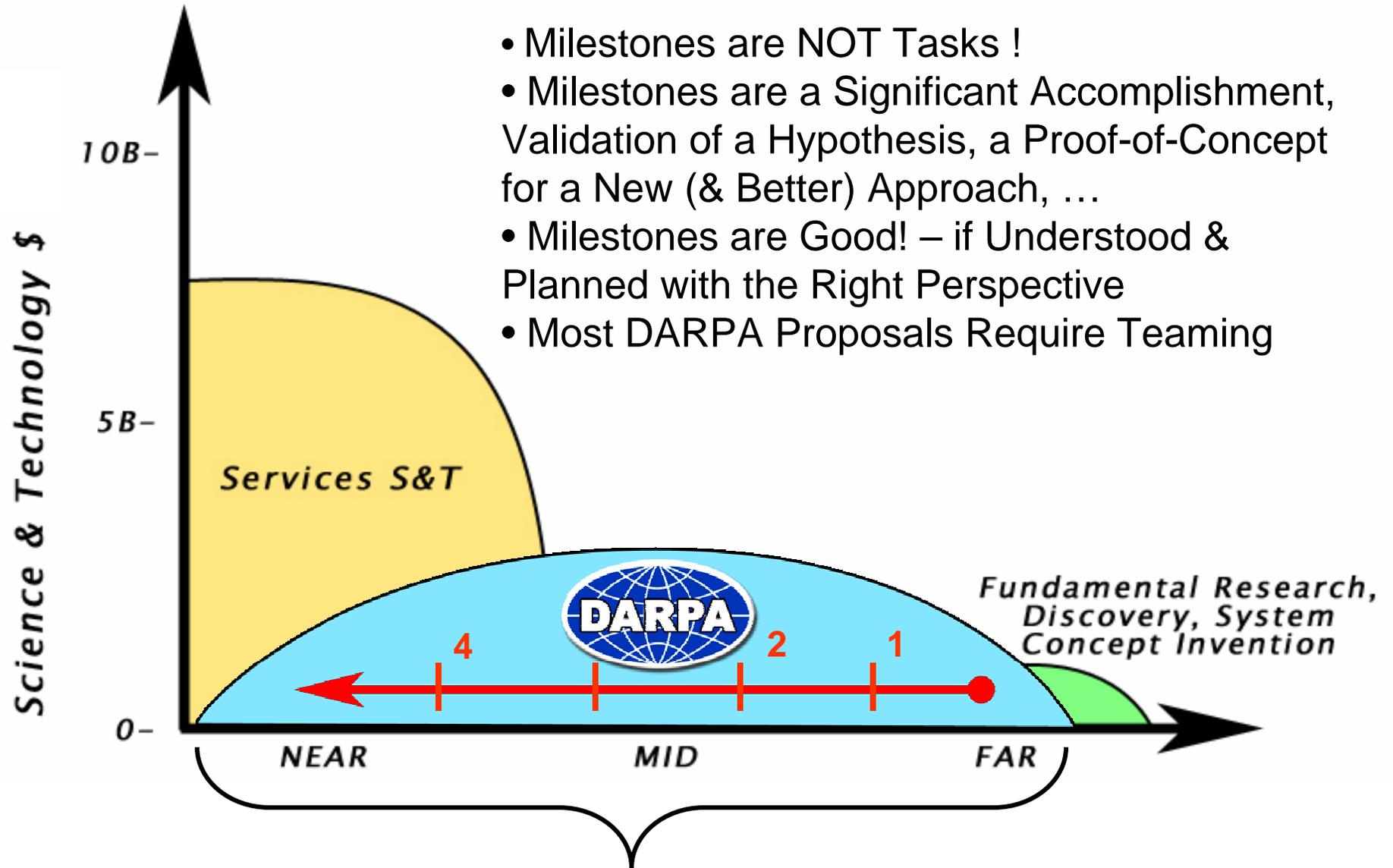
- Some Thoughts on Academic Participation in DARPA Programs:
 - Many Faculty Members Thrived on DARPA Programs, Were Extremely Successful and Enjoyed the Experience
 - Some Hated It ; Never Wanted to be in a DARPA Program Ever Again in the Future
 - Temperment, Perspective & Project Management Style Made all the Difference

- If Done Right, the DARPA Experience Can Be Extremely Productive!!

DARPA RULES OF ENGAGEMENT

- **DARPA Constantly Asks its Technical Directors, Program Managers & Performers:**
 - **What are you trying to accomplish?**
 - **How is it done now, and with what limitations?**
 - **What is truly new in your approach which will remove current limitations and improve performance? By how much?**
 - **If successful, what difference will it make?**
 - **What are the mid-term, final exams or full scale applications required to prove your hypothesis? When will they be done?**
 - **What is the DARPA “exit strategy”?**
 - **How much will it cost?**

DARPA MILESTONES



- Milestones are NOT Tasks !
- Milestones are a Significant Accomplishment, Validation of a Hypothesis, a Proof-of-Concept for a New (& Better) Approach, ...
- Milestones are Good! – if Understood & Planned with the Right Perspective
- Most DARPA Proposals Require Teaming

5 – 10 Years for a Revolutionary Impact

RESEARCH PORTFOLIO

- Think of Your Entire Research as a Mutual Fund Portfolio!
- DARPA Research will be Analogous to the Highest Risk Fund you would Invest in :
 - If Done Right (+ Luck), the Returns Can be Spectacular Over a Period of Time
 - The Amount (of Your Time & Effort) to be Invested Depends on Your Temperment, Ability to Handle Risk and Age – Maintain a Balanced Portfolio
 - It Will Require a Disproportionately Large Effort to Track it and Manage it Well
- Traits of a Successful PI :
 - Open-Minded and Flexible
 - Understands DARPA Well
 - Broke Out of the Single Investigator Mode – is Part of a Team
 - Knows When to Say 'No' to DARPA

SUMMARY

- DARPA is Very Different Amongst All the Funding Agencies:
 - Your Pedigree Does NOT Matter, Who You Worked With or Where You Came From ...
 - DARPA Funds You on the Strength of Your Ideas, Your Track Record, Your Enthusiasm & Motivation ...
 - And, If You Think Big and Work Hard, You Will Be Successful in DARPA Programs
 - DARPA is a Unique Opportunity for Young Faculty Members
 - Understanding DARPA, Your Temperament and Your Project Management Style Will be Key to Your Success
- Please Feel Free to Talk with Me if You Have Any Questions or Comments
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