



## Acquisition Research Program: Creating Synergy for Informed Change

# The Crossing

LT Suzanne L. Schang

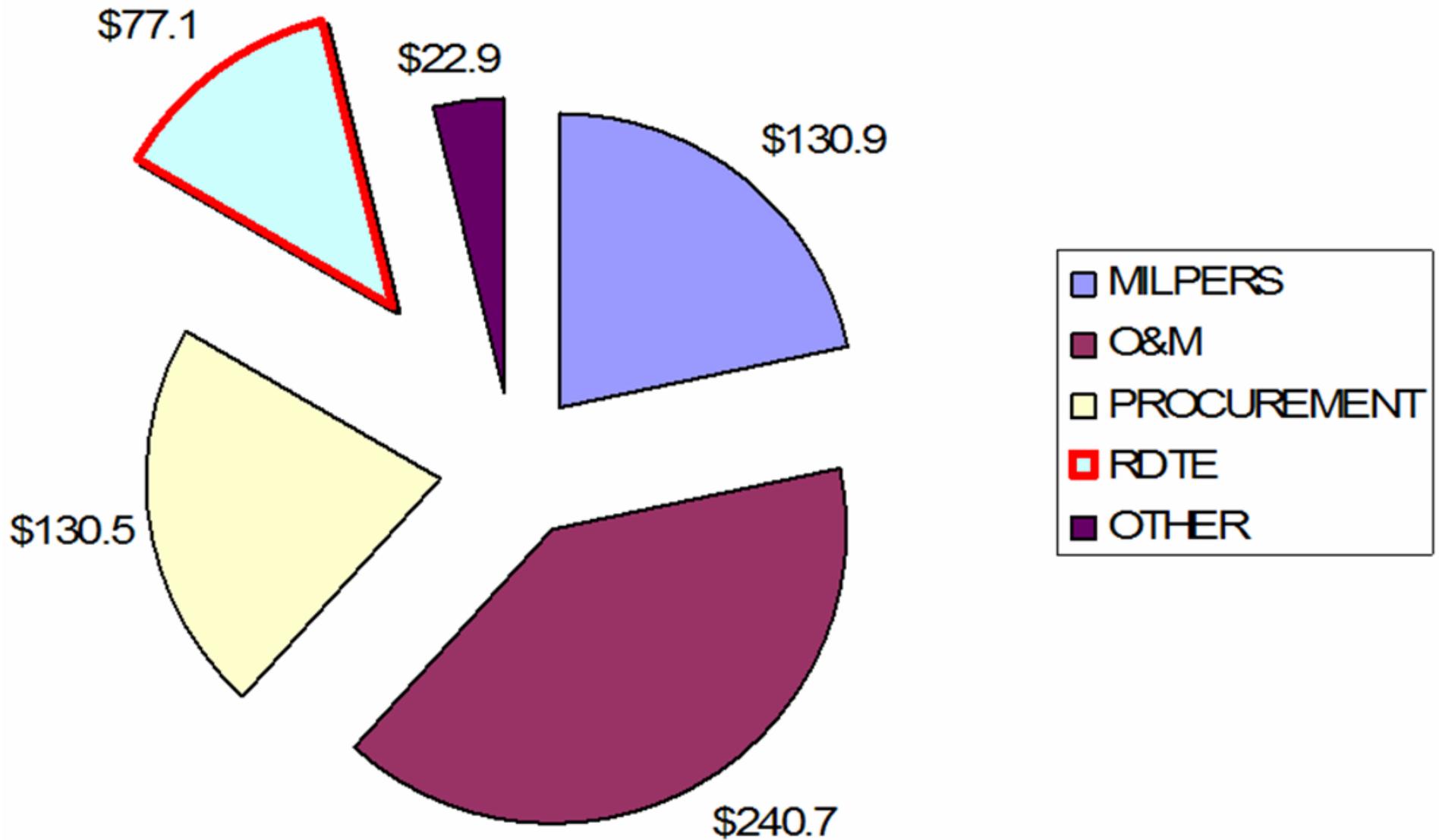
# Report Documentation Page

*Form Approved  
OMB No. 0704-0188*

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1. REPORT DATE <b>MAY 2007</b>	2. REPORT TYPE	3. DATES COVERED <b>00-00-2007 to 00-00-2007</b>			
4. TITLE AND SUBTITLE <b>The Crossing</b>		5a. CONTRACT NUMBER			
		5b. GRANT NUMBER			
		5c. PROGRAM ELEMENT NUMBER			
6. AUTHOR(S)		5d. PROJECT NUMBER			
		5e. TASK NUMBER			
		5f. WORK UNIT NUMBER			
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) <b>Naval Postgraduate School, Monterey, CA, 93943</b>		8. PERFORMING ORGANIZATION REPORT NUMBER			
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)		10. SPONSOR/MONITOR'S ACRONYM(S)			
		11. SPONSOR/MONITOR'S REPORT NUMBER(S)			
12. DISTRIBUTION/AVAILABILITY STATEMENT <b>Approved for public release; distribution unlimited</b>					
13. SUPPLEMENTARY NOTES <b>4th Annual Acquisition Research Symposium: Creating Synergy for Informed Change, May 16-17, 2007 in Monterey, CA</b>					
14. ABSTRACT					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT <b>Same as Report (SAR)</b>	18. NUMBER OF PAGES <b>25</b>	19a. NAME OF RESPONSIBLE PERSON
a. REPORT <b>unclassified</b>	b. ABSTRACT <b>unclassified</b>	c. THIS PAGE <b>unclassified</b>			

# President's DoD Budget Authority FY07 (\$601.9B)



# Agenda

1. **Coordination**
2. **Complications**
3. **Command and Control?**
4. **End-User Issues**
5. **Case studies**
6. **Graphs**

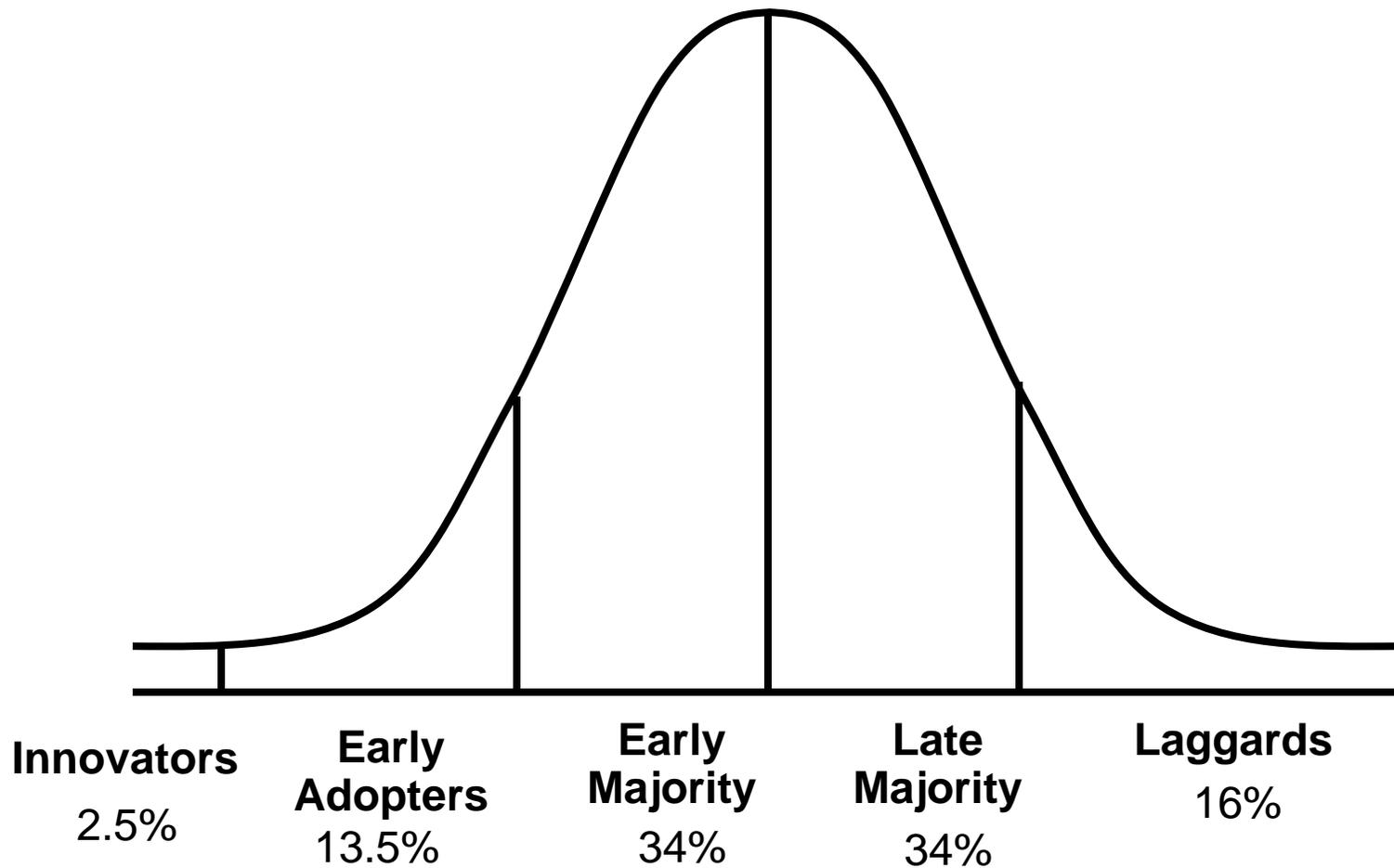


# 1. Coordination

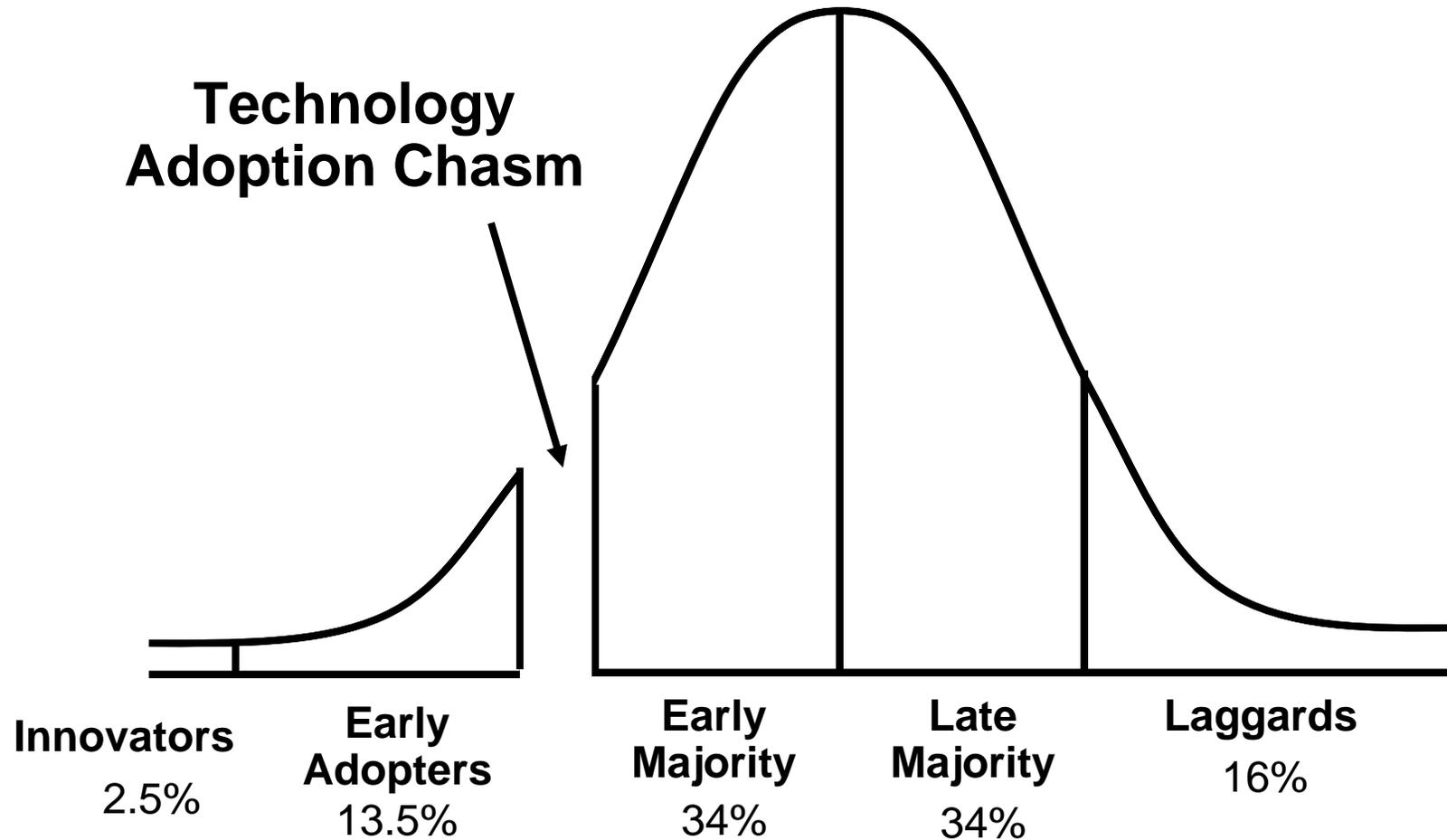
- **Externalities**
- **Network Externalities**  
(Direct and Indirect)
- **The Telephone**
- **VHS versus Beta VCRs**
- **TAL and The Chasm**



# Technology Adoption Life Cycle (TAL)



# Technology Adoption Life Cycle (TAL)



# 2. Complicated

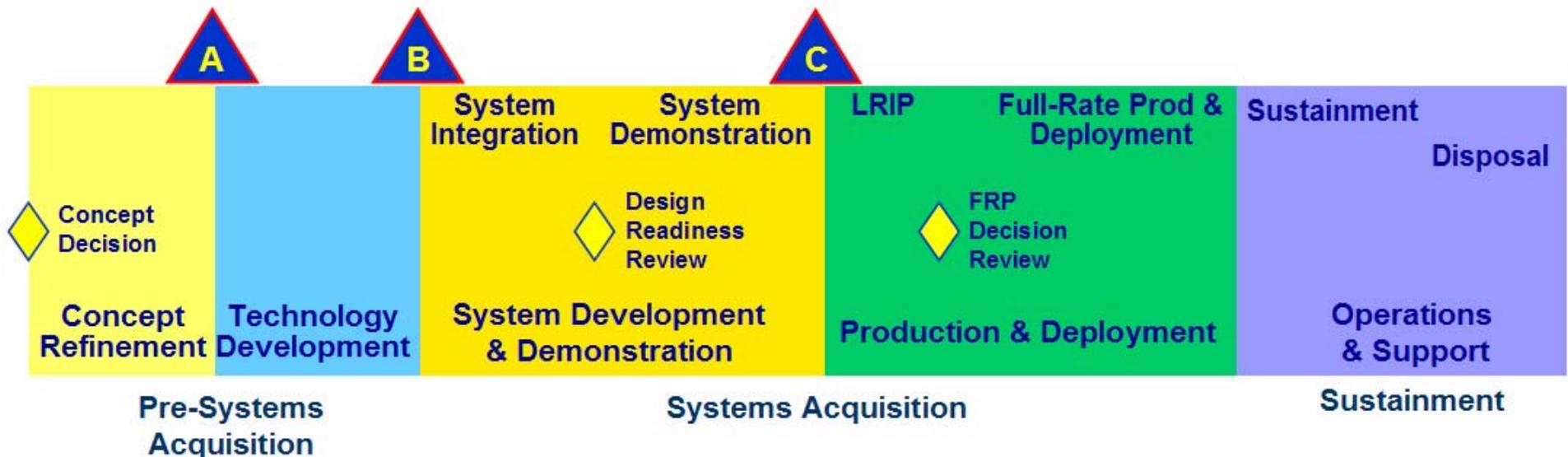
- **Decision-Maker / Buyer / End-User Chain**
- **Benefits > Costs ???**
- **DoD Acquisition Process**
- **AS&C Office**
- **JCTD Program**



# The Defense Acquisition Management Framework

Technology Opportunities & User Needs

- Process entry at Milestones A, B, or C
- Entrance criteria met before entering phases
- Evolutionary Acquisition or Single Step to Full Capability



Initial Capabilities Document (ICD)

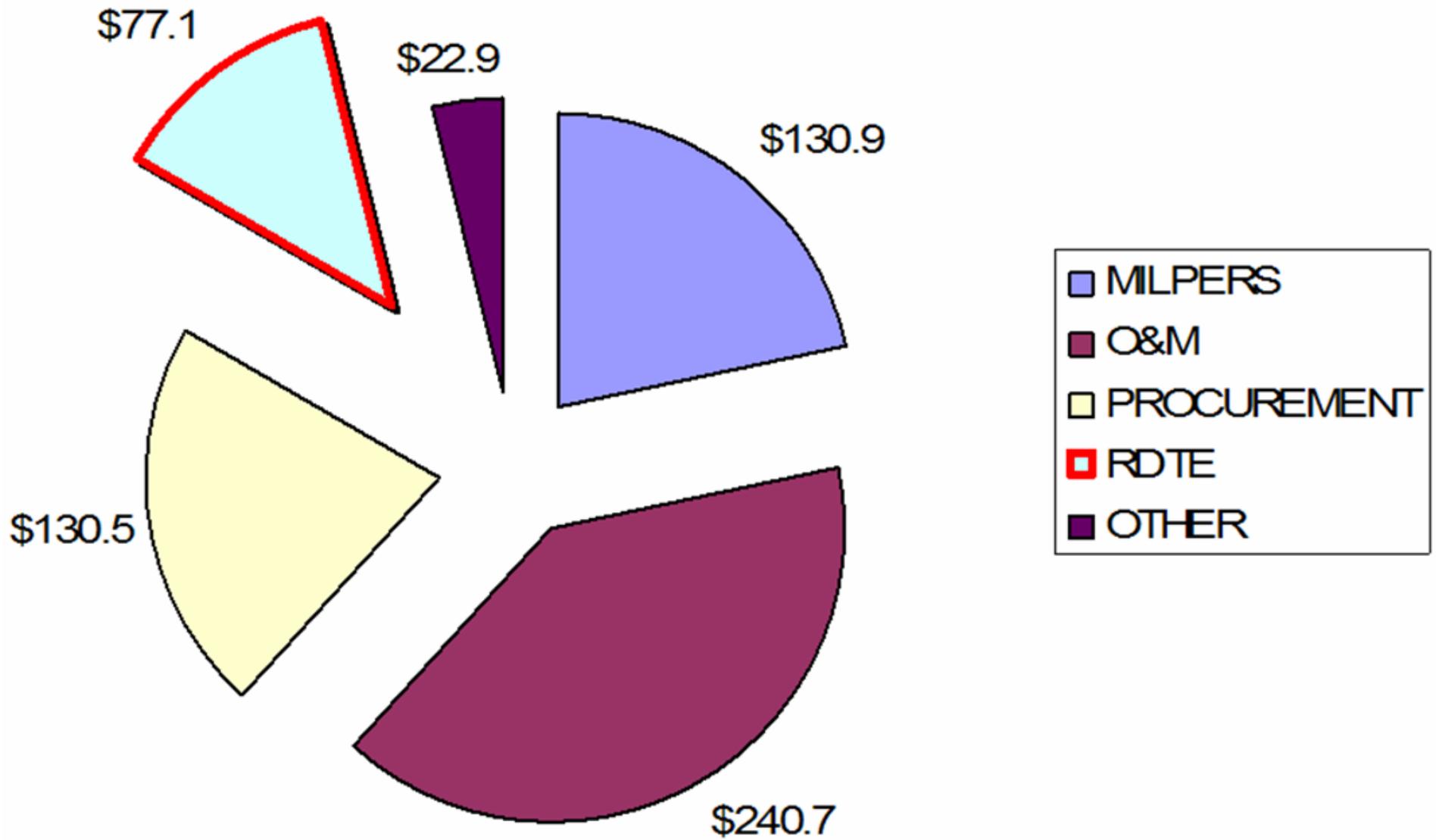
Capability Development Document (CDD)

Capability Production Document (CPD)

*Validated & approved by requirements Validation Authority*

Relationship to Joint Capabilities Integration & Development System

# President's DoD Budget Authority FY07 (\$601.9B)



# FY 2007 RDT&E President's Budget Request

DDR&E/AS&C Transition Programs are Highly Leveraged across Service and Agency Budgets  
 Less than 1% of RDT&E each year

(BA6 + BA7 = \$27.23B)

Components (All RDT&E)	\$B
USA	10.9
USAF	24.4
USN/USMC	16.9
Def Agency & SOCOM	20.8

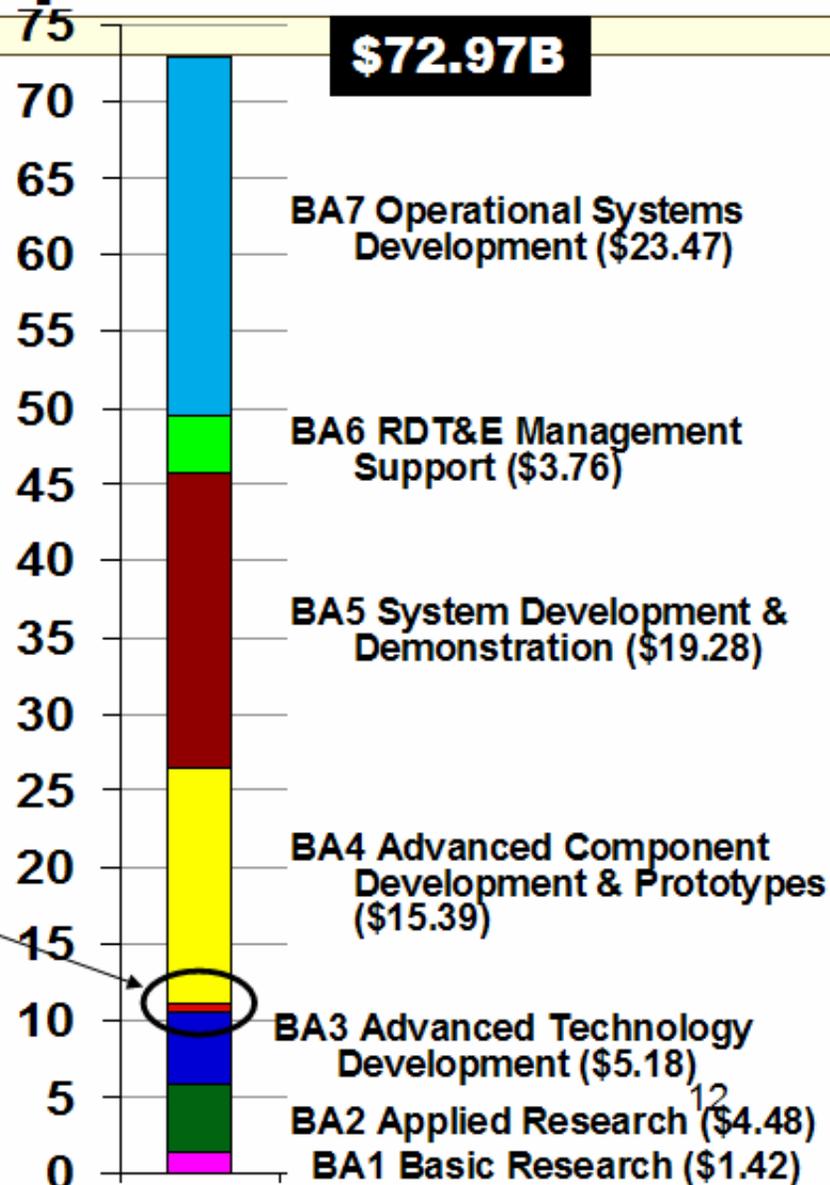
Development (BA4 + BA5 = \$34.66B)

**DDR&E/AS&C Total is \$0.553 B**

(Includes USJFCOM \$0.220B)

Technology Base (BA1 + 2) = \$5.90B

Science and Technology (BA1 + BA2 + BA3 = \$11.08B)  
**15% of RDT&E**

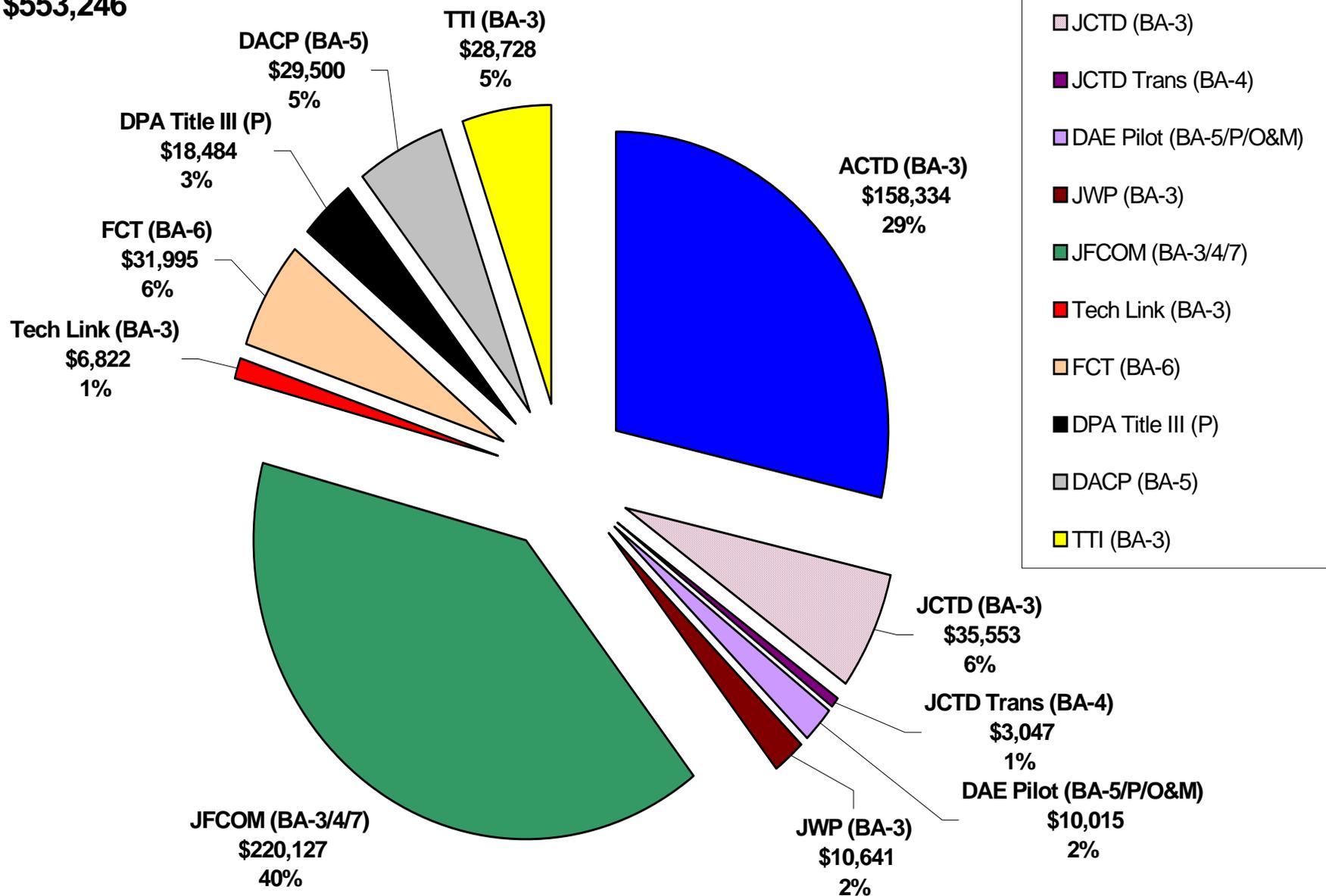


# FY 2007 AS&C Direct Resource Oversight

Total PresBud (\$000)

**\$553,246**

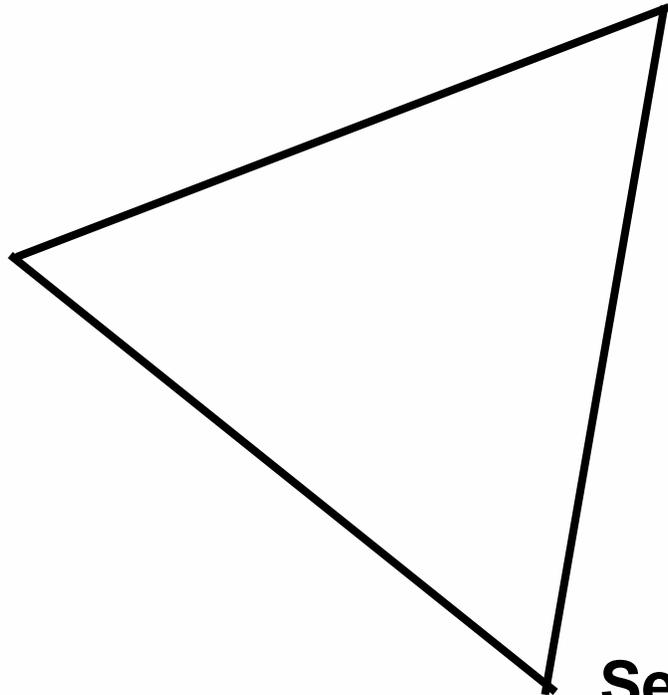
FY 2007 PBR (Feb 2006)



**COCOMS  
Warfighters  
(end-users)**

**AS&C/JCTD  
Scientists**

**Service  
Sponsors  
(buyers)**



# UNIFIED COMMAND PLAN

THE WORLD WITH COMMANDERS' AREAS OF RESPONSIBILITY



# 3. C2?

- **Command and Control solution?**
- **Aligning incentives**
- **End-user issues**



# 4. End-User Issues

- **control**
- **mission and pressures**
- **misaligned incentives**
- **management commitment**
- **technology champion**
- **complementary goods**



# 5. Case Studies

- **Civilian**

- CASE (technology with org externalities)
- HTAs (technology with org externalities)
- QWERTY (indirect network technology)
- **RFID (direct and indirect network technology with org ext)**

- **Military**

- NMCI (direct network technology with org ext)
- **RFID (direct and indirect network technology with org ext)**



# 6. Graphs

## **(1) Situation One**

- there are no externalities to complicate the situation
- buyer is the same as the end-user

## **(2) Situation Two**

- there are organizational externalities involved
- each end-user's benefit is determined only by his/her own adoption decision, but some external benefits accrue to the organization as more end-users adopt

## **(3) Situation Three**

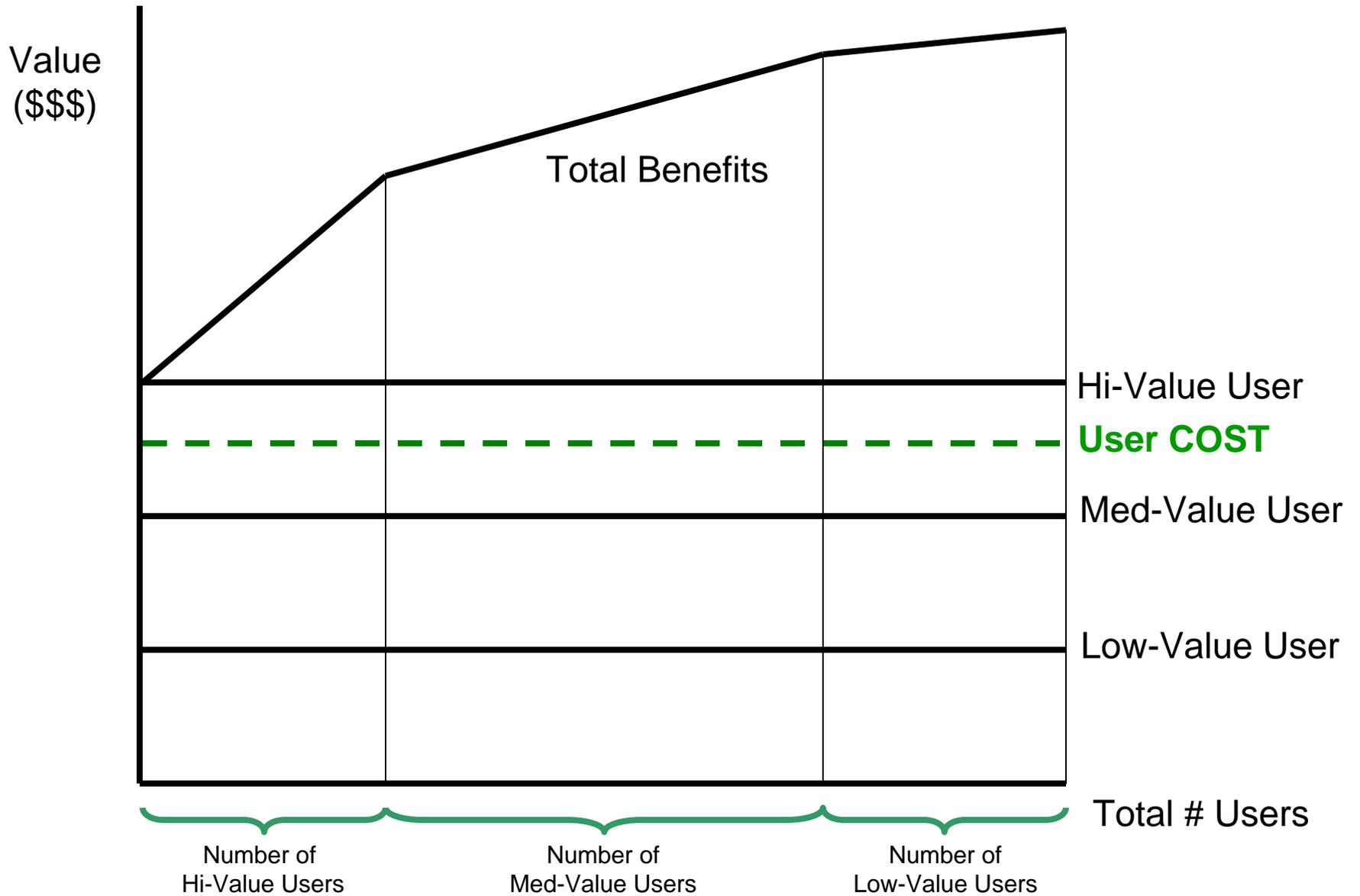
- there are direct network externalities involved (value depends on size of user-base)
- buyer and the end-user are different entities

## **(4) Situation Four**

- there are indirect network externalities involved (value depends on number of complementary goods available which affects the size of the user-base)
- buyer and the end-user are different entities



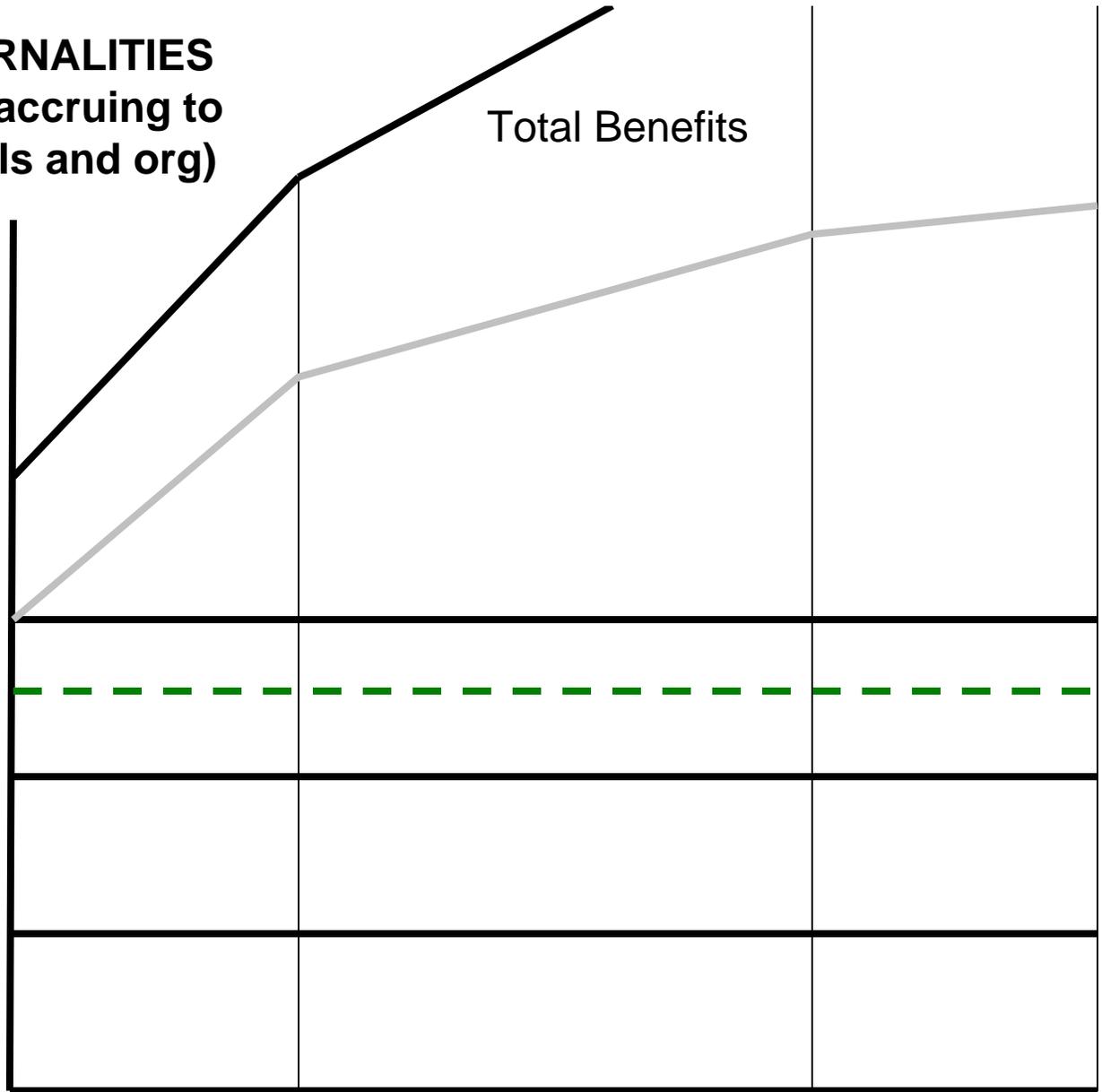
# (1) NO EXTERNALITIES



**(2) EXTERNALITIES**  
**(benefits accruing to**  
**individuals and org)**

Value  
(\$\$\$)

Total Benefits



Hi-Value User

**User COST**

Med-Value User

Low-Value User

Total # Users

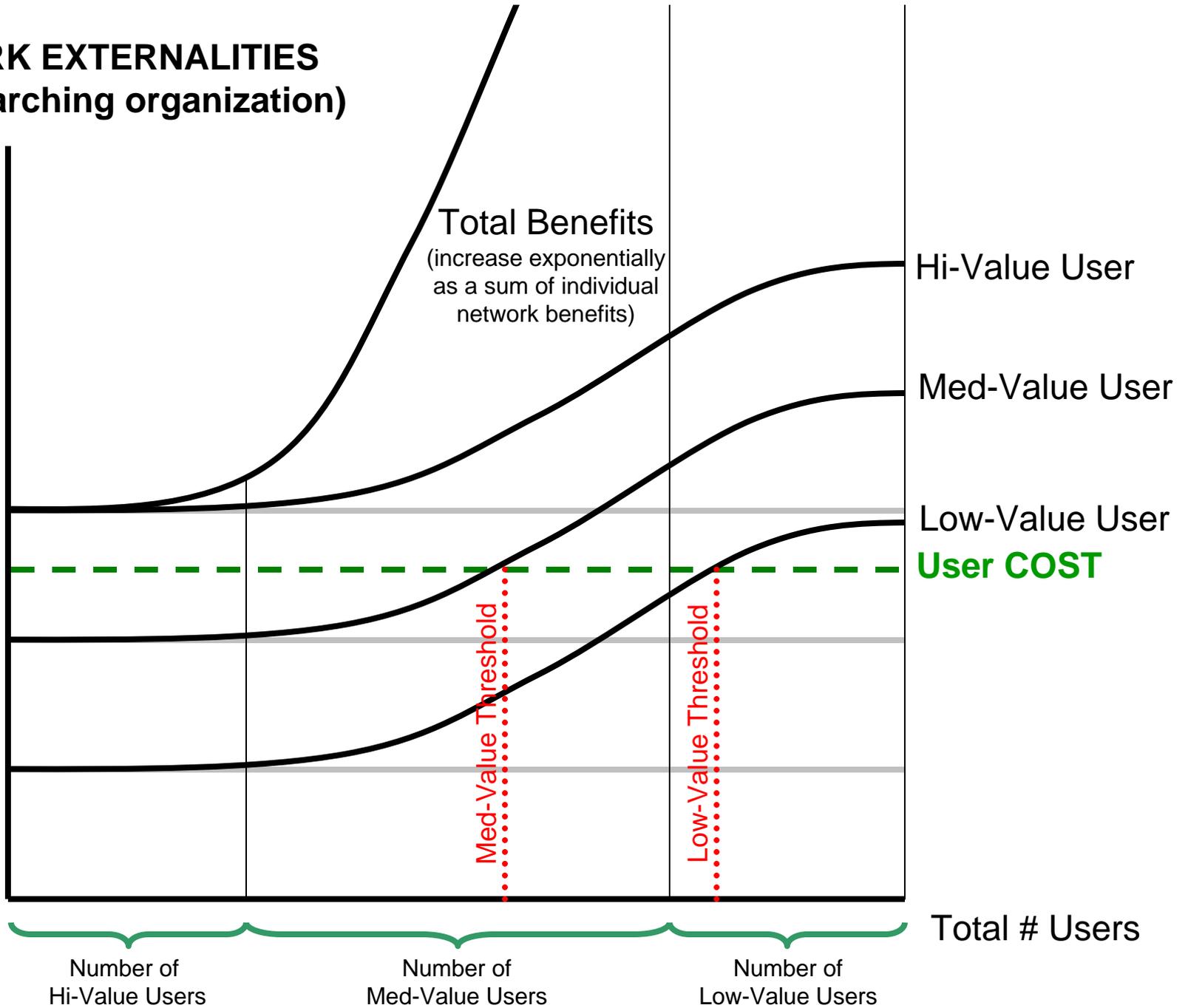
Number of  
Hi-Value Users

Number of  
Med-Value Users

Number of  
Low-Value Users

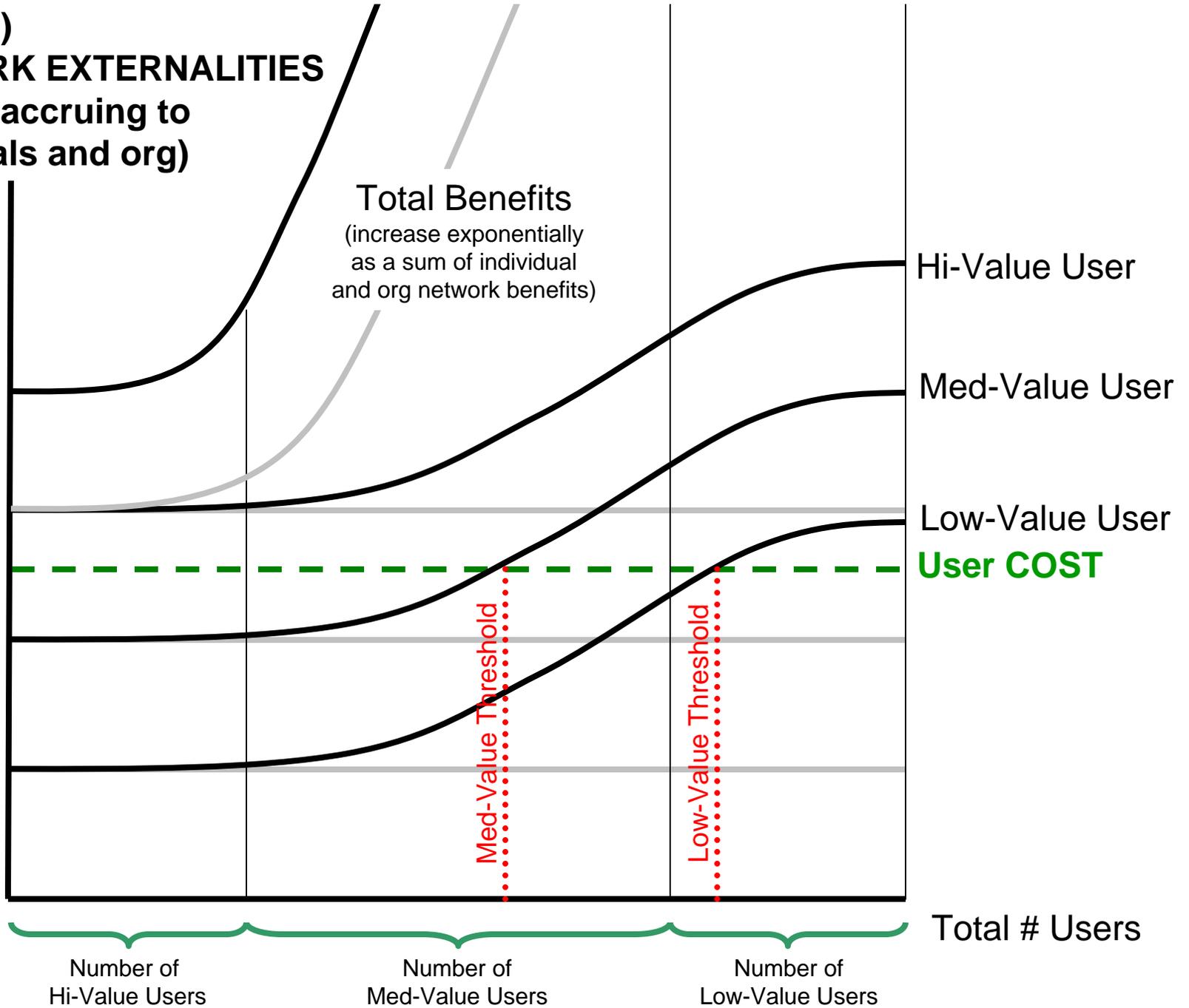
# NETWORK EXTERNALITIES (no overarching organization)

Value  
(\$\$\$)



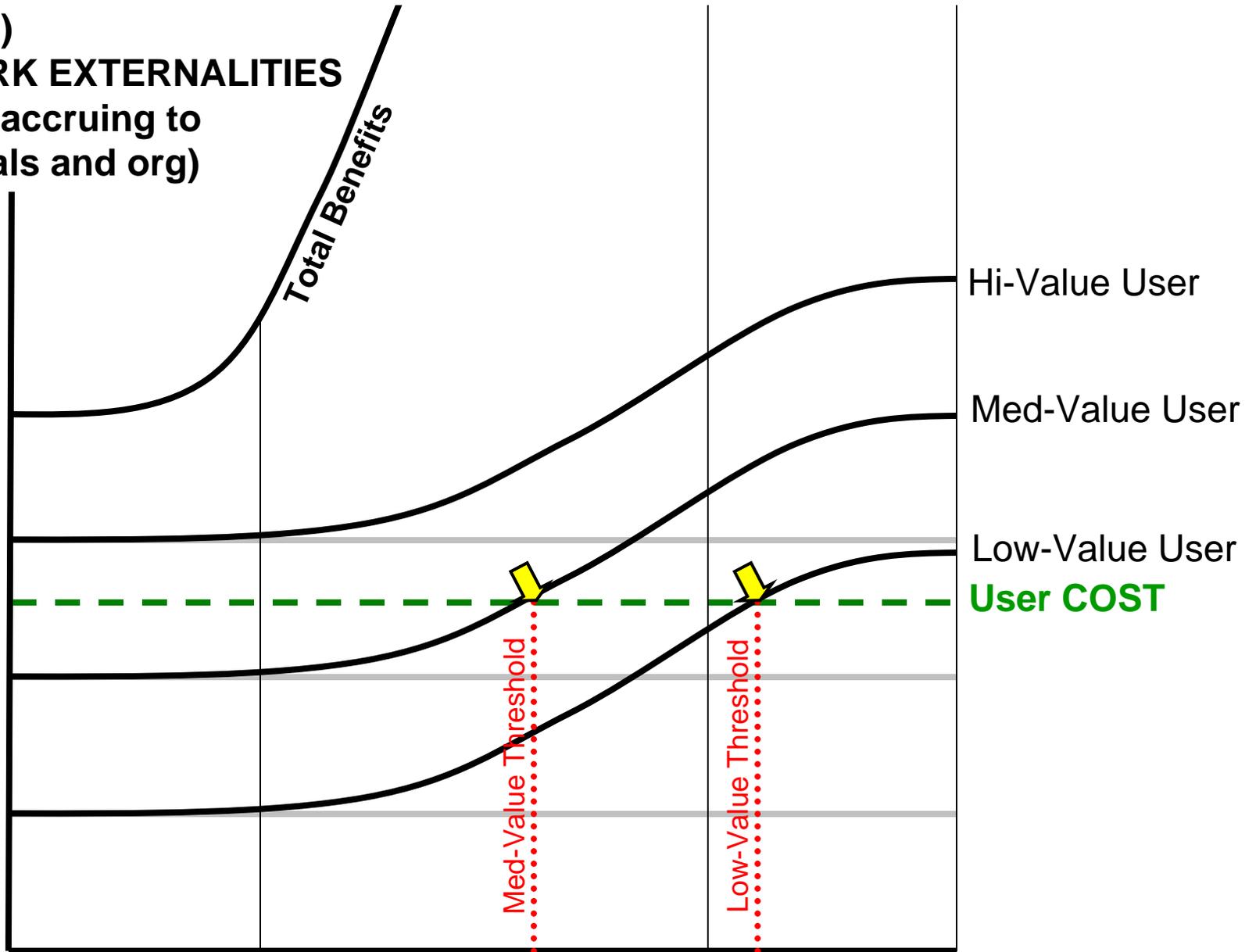
**(3) and (4)**  
**NETWORK EXTERNALITIES**  
**(benefits accruing to individuals and org)**

Value  
(\$\$\$)



(3) and (4)  
**NETWORK EXTERNALITIES**  
(benefits accruing to individuals and org)

Value  
(\$\$\$)



Hi-Value User  
Med-Value User  
Low-Value User  
**User COST**

Number of Hi-Value Users      Number of Med-Value Users      Number of Low-Value Users      Total # Users

# Recap: End-User Issues

- **control**
- **mission and pressures**
- **misaligned incentives**
- **management commitment**
- **technology champion**
- **complementary goods**



# Conclusion

1. **Coordination**
2. **Complications**
3. **Command and Control?**
4. **End-User Issues**
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6. **Graphs**





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**Questions?**