SUMMARY YEAR 1
PROPOSAL BUDGET FOR NSF USE ONLY

ORGANIZATION	<u> </u>				USE ONL	
		PRO	POSAL	NO.	DURATIO	ON (months
Purdue Research Foundation		L			Proposed	Granted
PRINCIPAL INVESTIGATOR / PROJECT DIRECTOR		ΑV	/ARD N	Ο.		
Ahmed K Elmagarmid						
A. SENIOR PERSONNEL: PI/PD, Co-Pl's, Faculty and Other Senior Associates	F	SF Funde erson-mo	d S.	Dan	Funds	Funds
(List each separately with title, A.7. show number in brackets)	CAL	ACAD	SUMR	p	uested By roposer	granted by NS (if different)
1. Ahmed K Elmagarmid - Professor	0.00	0.00	0.00	\$	0	\$
2. Arif Ghafoor - Professor	0.00	0.00	0.00		0	
3. John T Korb - Facilities Director	0.00	0.00	0.00		0	
4. Kihong Park - Professor	0.00	0.00	0.00		0	
5. Eugene H Spafford - Professor		0.00			0	
6. (0) OTHERS (LIST INDIVIDUALLY ON BUDGET JUSTIFICATION PAGE)		0.00			0	
7. (5) TOTAL SENIOR PERSONNEL (1 - 6)	0.00	0.00	0.00		0	
B. OTHER PERSONNEL (SHOW NUMBERS IN BRACKETS)						
1. (0) POST DOCTORAL ASSOCIATES		0.00			0	
2. (0) OTHER PROFESSIONALS (TECHNICIAN, PROGRAMMER, ETC.)	0.00	0.00	0.00		0	
3. (0) GRADUATE STUDENTS					0	
4. (0) UNDERGRADUATE STUDENTS					0	
5. (0) SECRETARIAL - CLERICAL (IF CHARGED DIRECTLY)					0	
6. (0) OTHER					0	
TOTAL SALARIES AND WAGES (A + B)					0	
C. FRINGE BENEFITS (IF CHARGED AS DIRECT COSTS)					0	
TOTAL SALARIES, WAGES AND FRINGE BENEFITS (A + B + C)	NO 45 5	0 \			0	
D. EQUIPMENT (LIST ITEM AND DOLLAR AMOUNT FOR EACH ITEM EXCEED	- + - ,	- /				
ATM backbone switch	\$		0,000			
ATM workgroup switch \$7000 x 3			1,000			
Database compute engine			5,000			
Others (See Budget Comments Page)		29	9,700		40 = =00	
TOTAL EQUIPMENT				4	105,700	
E. TRAVEL 1. DOMESTIC (INCL. CANADA AND U.S. POSSESSIONS)				4	0	
E. TRAVEL 1. DOMESTIC (INCL. CANADA AND U.S. POSSESSIONS)				4	0	
E. TRAVEL 1. DOMESTIC (INCL. CANADA AND U.S. POSSESSIONS) 2. FOREIGN					0	
E. TRAVEL 1. DOMESTIC (INCL. CANADA AND U.S. POSSESSIONS) 2. FOREIGN F. PARTICIPANT SUPPORT COSTS 1. STIPENDS \$ 0					0	
E. TRAVEL 1. DOMESTIC (INCL. CANADA AND U.S. POSSESSIONS) 2. FOREIGN F. PARTICIPANT SUPPORT COSTS 1. STIPENDS 2. TRAVEL 0					0	
E. TRAVEL 1. DOMESTIC (INCL. CANADA AND U.S. POSSESSIONS) 2. FOREIGN F. PARTICIPANT SUPPORT COSTS 1. STIPENDS 2. TRAVEL 3. SUBSISTENCE					0	
E. TRAVEL 1. DOMESTIC (INCL. CANADA AND U.S. POSSESSIONS) 2. FOREIGN F. PARTICIPANT SUPPORT COSTS 1. STIPENDS 2. TRAVEL 0					0	
E. TRAVEL 1. DOMESTIC (INCL. CANADA AND U.S. POSSESSIONS) 2. FOREIGN F. PARTICIPANT SUPPORT COSTS 1. STIPENDS \$ 2. TRAVEL 3. SUBSISTENCE 1. DOMESTIC (INCL. CANADA AND U.S. POSSESSIONS) 0 0 0 0 0					0	
E. TRAVEL 1. DOMESTIC (INCL. CANADA AND U.S. POSSESSIONS) 2. FOREIGN F. PARTICIPANT SUPPORT COSTS 1. STIPENDS \$ 2. TRAVEL 3. SUBSISTENCE 4. OTHER (0) TOTAL PARTICIPANT COSTS					0	
E. TRAVEL 1. DOMESTIC (INCL. CANADA AND U.S. POSSESSIONS) 2. FOREIGN F. PARTICIPANT SUPPORT COSTS 1. STIPENDS \$ 2. TRAVEL 3. SUBSISTENCE 4. OTHER 1. DOMESTIC (INCL. CANADA AND U.S. POSSESSIONS) 0 0 0 0 0 0 0 0 0 0 0 0 0					0	
E. TRAVEL 1. DOMESTIC (INCL. CANADA AND U.S. POSSESSIONS) 2. FOREIGN F. PARTICIPANT SUPPORT COSTS 1. STIPENDS 0 2. TRAVEL 0 3. SUBSISTENCE 0 4. OTHER 0 (0) TOTAL PARTICIPANT COSTS G. OTHER DIRECT COSTS					0	
E. TRAVEL 1. DOMESTIC (INCL. CANADA AND U.S. POSSESSIONS) 2. FOREIGN F. PARTICIPANT SUPPORT COSTS 1. STIPENDS \$					0 11,899	
E. TRAVEL 1. DOMESTIC (INCL. CANADA AND U.S. POSSESSIONS) 2. FOREIGN F. PARTICIPANT SUPPORT COSTS 1. STIPENDS \$ 2. TRAVEL 3. SUBSISTENCE 4. OTHER (①) TOTAL PARTICIPANT COSTS G. OTHER DIRECT COSTS 1. MATERIALS AND SUPPLIES 2. PUBLICATION COSTS/DOCUMENTATION/DISSEMINATION					0 0 11,899 0	
E. TRAVEL 1. DOMESTIC (INCL. CANADA AND U.S. POSSESSIONS) 2. FOREIGN F. PARTICIPANT SUPPORT COSTS 1. STIPENDS \$ 2. TRAVEL 3. SUBSISTENCE 4. OTHER (①) TOTAL PARTICIPANT COSTS G. OTHER DIRECT COSTS 1. MATERIALS AND SUPPLIES 2. PUBLICATION COSTS/DOCUMENTATION/DISSEMINATION 3. CONSULTANT SERVICES					0 0 11,899 0 0	
E. TRAVEL 1. DOMESTIC (INCL. CANADA AND U.S. POSSESSIONS) 2. FOREIGN F. PARTICIPANT SUPPORT COSTS 1. STIPENDS \$ 2. TRAVEL 3. SUBSISTENCE 4. OTHER (①) TOTAL PARTICIPANT COSTS G. OTHER DIRECT COSTS 1. MATERIALS AND SUPPLIES 2. PUBLICATION COSTS/DOCUMENTATION/DISSEMINATION 3. CONSULTANT SERVICES 4. COMPUTER SERVICES					0 0 11,899 0 0 8,000	
E. TRAVEL 1. DOMESTIC (INCL. CANADA AND U.S. POSSESSIONS) 2. FOREIGN F. PARTICIPANT SUPPORT COSTS 1. STIPENDS \$ 2. TRAVEL 3. SUBSISTENCE 4. OTHER (①) TOTAL PARTICIPANT COSTS G. OTHER DIRECT COSTS 1. MATERIALS AND SUPPLIES 2. PUBLICATION COSTS/DOCUMENTATION/DISSEMINATION 3. CONSULTANT SERVICES 4. COMPUTER SERVICES 5. SUBAWARDS					0 0 11,899 0 0 8,000	
E. TRAVEL 1. DOMESTIC (INCL. CANADA AND U.S. POSSESSIONS) 2. FOREIGN F. PARTICIPANT SUPPORT COSTS 1. STIPENDS \$ 2. TRAVEL 3. SUBSISTENCE 4. OTHER (0) TOTAL PARTICIPANT COSTS G. OTHER DIRECT COSTS 1. MATERIALS AND SUPPLIES 2. PUBLICATION COSTS/DOCUMENTATION/DISSEMINATION 3. CONSULTANT SERVICES 4. COMPUTER SERVICES 5. SUBAWARDS 6. OTHER TOTAL OTHER DIRECT COSTS					0 0 11,899 0 0 8,000 0 40,000	
E. TRAVEL 1. DOMESTIC (INCL. CANADA AND U.S. POSSESSIONS) 2. FOREIGN F. PARTICIPANT SUPPORT COSTS 1. STIPENDS \$ 0 2. TRAVEL 0 3. SUBSISTENCE 0 4. OTHER 0 (0) TOTAL PARTICIPANT COSTS G. OTHER DIRECT COSTS 1. MATERIALS AND SUPPLIES 2. PUBLICATION COSTS/DOCUMENTATION/DISSEMINATION 3. CONSULTANT SERVICES 4. COMPUTER SERVICES 5. SUBAWARDS 6. OTHER TOTAL OTHER DIRECT COSTS H. TOTAL DIRECT COSTS (A THROUGH G)					0 0 11,899 0 0 8,000 0 40,000 59,899	
E. TRAVEL 1. DOMESTIC (INCL. CANADA AND U.S. POSSESSIONS) 2. FOREIGN F. PARTICIPANT SUPPORT COSTS 1. STIPENDS \$ 0 2. TRAVEL 0 3. SUBSISTENCE 0 4. OTHER 0 (0) TOTAL PARTICIPANT COSTS G. OTHER DIRECT COSTS 1. MATERIALS AND SUPPLIES 2. PUBLICATION COSTS/DOCUMENTATION/DISSEMINATION 3. CONSULTANT SERVICES 4. COMPUTER SERVICES 5. SUBAWARDS 6. OTHER TOTAL OTHER DIRECT COSTS H. TOTAL DIRECT COSTS (A THROUGH G)					0 0 11,899 0 0 8,000 40,000 59,899 465,599	
E. TRAVEL 1. DOMESTIC (INCL. CANADA AND U.S. POSSESSIONS) 2. FOREIGN F. PARTICIPANT SUPPORT COSTS 1. STIPENDS \$ 0 2. TRAVEL 3. SUBSISTENCE 4. OTHER (0) TOTAL PARTICIPANT COSTS G. OTHER DIRECT COSTS 1. MATERIALS AND SUPPLIES 2. PUBLICATION COSTS/DOCUMENTATION/DISSEMINATION 3. CONSULTANT SERVICES 4. COMPUTER SERVICES 5. SUBAWARDS 6. OTHER TOTAL OTHER DIRECT COSTS H. TOTAL DIRECT COSTS (A THROUGH G) 1. INDIRECT COSTS (F&A)(SPECIFY RATE AND BASE) % of MTDC (Rate: 52.00, Base: 59899)					0 0 11,899 0 0 8,000 40,000 59,899 465,599	
E. TRAVEL 1. DOMESTIC (INCL. CANADA AND U.S. POSSESSIONS) 2. FOREIGN F. PARTICIPANT SUPPORT COSTS 1. STIPENDS \$ 2. TRAVEL 3. SUBSISTENCE 4. OTHER (①) TOTAL PARTICIPANT COSTS G. OTHER DIRECT COSTS 1. MATERIALS AND SUPPLIES 2. PUBLICATION COSTS/DOCUMENTATION/DISSEMINATION 3. CONSULTANT SERVICES 4. COMPUTER SERVICES 5. SUBAWARDS 6. OTHER TOTAL OTHER DIRECT COSTS H. TOTAL DIRECT COSTS (A THROUGH G) I. INDIRECT COSTS (F&A)(SPECIFY RATE AND BASE) % of MTDC (Rate: 52.00, Base: 59899) TOTAL INDIRECT COSTS (F&A)					0 0 11,899 0 0 8,000 40,000 59,899 465,599	
E. TRAVEL 1. DOMESTIC (INCL. CANADA AND U.S. POSSESSIONS) 2. FOREIGN F. PARTICIPANT SUPPORT COSTS 1. STIPENDS \$ 2. TRAVEL 3. SUBSISTENCE 4. OTHER (①) TOTAL PARTICIPANT COSTS G. OTHER DIRECT COSTS 1. MATERIALS AND SUPPLIES 2. PUBLICATION COSTS/DOCUMENTATION/DISSEMINATION 3. CONSULTANT SERVICES 4. COMPUTER SERVICES 5. SUBAWARDS 6. OTHER TOTAL OTHER DIRECT COSTS H. TOTAL DIRECT COSTS (A THROUGH G) 1. INDIRECT COSTS (F&A)(SPECIFY RATE AND BASE) % of MTDC (Rate: 52.00, Base: 59899) TOTAL INDIRECT COSTS (F&A) J. TOTAL DIRECT AND INDIRECT COSTS (H + I)	S SEE GPO	G II.D.7.	.)		0 0 11,899 0 0 8,000 40,000 59,899 465,599 31,147 496,746 0	
E. TRAVEL 1. DOMESTIC (INCL. CANADA AND U.S. POSSESSIONS) 2. FOREIGN F. PARTICIPANT SUPPORT COSTS 1. STIPENDS 2. TRAVEL 3. SUBSISTENCE 4. OTHER (S SEE GPO	G II.D.7.	.)		0 0 11,899 0 0 8,000 40,000 59,899 465,599 31,147 496,746	\$
E. TRAVEL 1. DOMESTIC (INCL. CANADA AND U.S. POSSESSIONS) 2. FOREIGN F. PARTICIPANT SUPPORT COSTS 1. STIPENDS 2. TRAVEL 3. SUBSISTENCE 4. OTHER (0 0 11,899 0 0 8,000 40,000 59,899 465,599 31,147 496,746 0	\$
E. TRAVEL 1. DOMESTIC (INCL. CANADA AND U.S. POSSESSIONS) 2. FOREIGN F. PARTICIPANT SUPPORT COSTS 1. STIPENDS 2. TRAVEL 3. SUBSISTENCE 4. OTHER (0) TOTAL PARTICIPANT COSTS G. OTHER DIRECT COSTS 1. MATERIALS AND SUPPLIES 2. PUBLICATION COSTS/DOCUMENTATION/DISSEMINATION 3. CONSULTANT SERVICES 4. COMPUTER SERVICES 5. SUBAWARDS 6. OTHER TOTAL OTHER DIRECT COSTS H. TOTAL DIRECT COSTS (A THROUGH G) I. INDIRECT COSTS (F&A)(SPECIFY RATE AND BASE) % of MTDC (Rate: 52.00, Base: 59899) TOTAL INDIRECT COSTS (F&A) J. TOTAL DIRECT AND INDIRECT COSTS (H + I) K. RESIDUAL FUNDS (IF FOR FURTHER SUPPORT OF CURRENT PROJECTS L. AMOUNT OF THIS REQUEST (J) OR (J MINUS K) M. COST SHARING PROPOSED LEVEL \$ 147,613 AGREED LE PI / PD TYPED NAME & SIGNATURE* DATE			IT\$	\$ 4	0 0 11,899 0 0 8,000 40,000 59,899 465,599 31,147 496,746 0	\$
E. TRAVEL 1. DOMESTIC (INCL. CANADA AND U.S. POSSESSIONS) 2. FOREIGN F. PARTICIPANT SUPPORT COSTS 1. STIPENDS \$ 2. TRAVEL 3. SUBSISTENCE 4. OTHER (0) TOTAL PARTICIPANT COSTS G. OTHER DIRECT COSTS 1. MATERIALS AND SUPPLIES 2. PUBLICATION COSTS/DOCUMENTATION/DISSEMINATION 3. CONSULTANT SERVICES 4. COMPUTER SERVICES 5. SUBAWARDS 6. OTHER TOTAL OTHER DIRECT COSTS H. TOTAL DIRECT COSTS (A THROUGH G) 1. INDIRECT COSTS (F&A)(SPECIFY RATE AND BASE) % of MTDC (Rate: 52.00, Base: 59899) TOTAL INDIRECT COSTS (F&A) J. TOTAL DIRECT AND INDIRECT COSTS (H + I) K. RESIDUAL FUNDS (IF FOR FURTHER SUPPORT OF CURRENT PROJECTS L. AMOUNT OF THIS REQUEST (J) OR (J MINUS K) M. COST SHARING PROPOSED LEVEL \$ 147,613 AGREED LE	VEL IF DII	FEREN	T\$ FOR I	\$ 4	0 0 11,899 0 0 8,000 40,000 59,899 465,599 31,147 496,746 0 496,746	
E. TRAVEL 1. DOMESTIC (INCL. CANADA AND U.S. POSSESSIONS) 2. FOREIGN F. PARTICIPANT SUPPORT COSTS 1. STIPENDS \$ 2. TRAVEL 3. SUBSISTENCE 4. OTHER (0) TOTAL PARTICIPANT COSTS G. OTHER DIRECT COSTS 1. MATERIALS AND SUPPLIES 2. PUBLICATION COSTS/DOCUMENTATION/DISSEMINATION 3. CONSULTANT SERVICES 4. COMPUTER SERVICES 5. SUBAWARDS 6. OTHER TOTAL OTHER DIRECT COSTS H. TOTAL DIRECT COSTS (A THROUGH G) II. INDIRECT COSTS (F&A)(SPECIFY RATE AND BASE) % of MTDC (Rate: 52.00, Base: 59899) TOTAL INDIRECT COSTS (F&A) J. TOTAL DIRECT AND INDIRECT COSTS (H + I) K. RESIDUAL FUNDS (IF FOR FURTHER SUPPORT OF CURRENT PROJECTS L. AMOUNT OF THIS REQUEST (J) OR (J MINUS K) M. COST SHARING PROPOSED LEVEL \$ 147,613 AGREED LE PI / PD TYPED NAME & SIGNATURE* DATE	VEL IF DII	FEREN	T \$ FOR I	\$ 4	0 0 11,899 0 8,000 0 40,000 59,899 465,599 31,147 496,746 0 496,746	

** D- Equipment

ATM backbone switch (Amount: \$ 30000)

ATM workgroup switch \$7000 x 3 (Amount: \$ 21000)

Database compute engine (Amount: \$ 55000) Experimental storage server (Amount: \$ 20000) Gigabit Ethernet switch (Amount: \$ 12000)

MPEG-2 encoder (Amount: \$ 23000)

Other Permanent Equipment (Amount: \$ 38700)

RAID Storage Server (Amount: \$ 18000) Terrabyte HSM (Amount: \$ 110000)

WFQ & RSVP router \$25000 x 2 (Amount: \$ 50000)

Workstation \$14000 x 2 (Amount: \$ 28000)

** G-6 Other Maintenance

SUMMARY PROPOSAL BUDGET

YEAR 2

FOR NSF USE ONLY

ORGANIZATION PROPOS	AL NO.	DURATIO	N (months)
Purdue Research Foundation			Granted
PRINCIPAL INVESTIGATOR / PROJECT DIRECTOR AWAR	NO.		
Ahmed K Elmagarmid			
A. SENIOR PERSONNEL: PI/PD, Co-PI's, Faculty and Other Senior Associates NSF Funded Person-mos.	-	Funds	Funds
(List each separately with title, A.7. show number in brackets) CAL ACAD SU	ИR	equested By proposer	granted by NSF (if different)
1. Ahmed K Elmagarmid - Professor 0.00 0.00 0.	00 \$	0	\$
2. Arif Ghafoor - Professor 0.00 0.00 0.		0	•
3. John T Korb - Facilities Director 0.00 0.00 0.		0	
4. Kihong Park - Professor 0.00 0.00 0.		0	
5. Eugene H Spafford - Professor 0.00 0.00 0.		0	
6. (0) OTHERS (LIST INDIVIDUALLY ON BUDGET JUSTIFICATION PAGE) 0.00 0.00 0.00		0	
7. (5) TOTAL SENIOR PERSONNEL (1 - 6) 0.00 0.00 0.		0	
B. OTHER PERSONNEL (SHOW NUMBERS IN BRACKETS)		U	
	00	0	
	שט	0	
3. (0) GRADUATE STUDENTS		0	
4. (0) UNDERGRADUATE STUDENTS		0	
5. (0) SECRETARIAL - CLERICAL (IF CHARGED DIRECTLY)		0	
6. (0) OTHER		0	
TOTAL SALARIES AND WAGES (A + B)		0	
C. FRINGE BENEFITS (IF CHARGED AS DIRECT COSTS)		0	
TOTAL SALARIES, WAGES AND FRINGE BENEFITS (A + B + C)		0	
D. EQUIPMENT (LIST ITEM AND DOLLAR AMOUNT FOR EACH ITEM EXCEEDING \$5,000.)			
ATM backbone switch \$ 30,0	00		
ATM workgroup switch \$7000 x 3 21,0	00		
Database compute engine 55,0	00		
Others (See Budget Comments Page) 202,0			
TOTAL EQUIPMENT		308,000	
E. TRAVEL 1. DOMESTIC (INCL. CANADA AND U.S. POSSESSIONS)		0	
2. FOREIGN		0	
F. PARTICIPANT SUPPORT COSTS			
1. STIPENDS \$			
2. TRAVEL0			
3. SUBSISTENCE			
4. OTHER0			
(()) TOTAL PARTICIPANT COSTS		0	
G. OTHER DIRECT COSTS		Ū	
1. MATERIALS AND SUPPLIES		11,899	
2. PUBLICATION COSTS/DOCUMENTATION/DISSEMINATION		0	
		0	
3. CONSULTANT SERVICES		3,000	
4. COMPUTER SERVICES			
5. SUBAWARDS		40.000	
6. OTHER		40,000	
TOTAL OTHER DIRECT COSTS		54,899	
H. TOTAL DIRECT COSTS (A THROUGH G)		362,899	
I. INDIRECT COSTS (F&A)(SPECIFY RATE AND BASE)			
% of MTDC (Rate: 52.00, Base: 54899)			
		28,547	
TOTAL INDIRECT COSTS (F&A)			
TOTAL INDIRECT COSTS (F&A) J. TOTAL DIRECT AND INDIRECT COSTS (H + I)		391,446	
TOTAL INDIRECT COSTS (F&A)		391,446 0	
TOTAL INDIRECT COSTS (F&A) J. TOTAL DIRECT AND INDIRECT COSTS (H + I)	\$	391,446	\$
TOTAL INDIRECT COSTS (F&A) J. TOTAL DIRECT AND INDIRECT COSTS (H + I) K. RESIDUAL FUNDS (IF FOR FURTHER SUPPORT OF CURRENT PROJECTS SEE GPG II.D.7.j.)	\$	391,446 0	\$
TOTAL INDIRECT COSTS (F&A) J. TOTAL DIRECT AND INDIRECT COSTS (H + I) K. RESIDUAL FUNDS (IF FOR FURTHER SUPPORT OF CURRENT PROJECTS SEE GPG II.D.7.j.) L. AMOUNT OF THIS REQUEST (J) OR (J MINUS K) M. COST SHARING PROPOSED LEVEL \$ 155,080 AGREED LEVEL IF DIFFERENT \$		391,446 0	\$
TOTAL INDIRECT COSTS (F&A) J. TOTAL DIRECT AND INDIRECT COSTS (H + I) K. RESIDUAL FUNDS (IF FOR FURTHER SUPPORT OF CURRENT PROJECTS SEE GPG II.D.7.j.) L. AMOUNT OF THIS REQUEST (J) OR (J MINUS K) M. COST SHARING PROPOSED LEVEL \$ 155,080 AGREED LEVEL IF DIFFERENT \$ PI / PD TYPED NAME & SIGNATURE* DATE FO	R NSF	391,446 0 391,446	
TOTAL INDIRECT COSTS (F&A) J. TOTAL DIRECT AND INDIRECT COSTS (H + I) K. RESIDUAL FUNDS (IF FOR FURTHER SUPPORT OF CURRENT PROJECTS SEE GPG II.D.7.j.) L. AMOUNT OF THIS REQUEST (J) OR (J MINUS K) M. COST SHARING PROPOSED LEVEL \$ 155,080 AGREED LEVEL IF DIFFERENT \$ PI / PD TYPED NAME & SIGNATURE* DATE FO	R NSF	391,446 0 391,446 USE ONLY	

** D- Equipment

ATM backbone switch (Amount: \$ 30000)

ATM workgroup switch \$7000 x 3 (Amount: \$ 21000)

Database compute engine (Amount: \$ 55000) Experimental storage server (Amount: \$ 20000)

Gigabit Ethernet switch \$12000 x 2 (Amount: \$ 24000)

MPEG-2 encoder (Amount: \$ 23000)

Other permanent equipment (Amount: \$ 39000)

RAID storage servier (Amount: \$ 18000)

WFQ & RSVP router \$25000 x 2 (Amount: \$ 50000)

Workstation \$14000 x 2 (Amount: \$ 28000)

SUMMARY YEAR 3
PROPOSAL BUDGET FOR NSF USE ONLY

DRGANIZATION			POSAL	NO. DURATIO		N (months)	
Purdue Research Foundation					Proposed	Granted	
INCIPAL INVESTIGATOR / PROJECT DIRECTOR AWARD N			/ARD N	0.			
Ahmed K Elmagarmid							
A. SENIOR PERSONNEL: PI/PD, Co-PI's, Faculty and Other Senior Ass	sociates	NSF Funde Person-mo	d s.	Funds		Funds	
(List each separately with title, A.7. show number in brackets)	C	AL ACAD		pro	ested By poser	granted by NSF (if different)	
1. Ahmed K Elmagarmid - Professor	0.	.00 0.00	0.00	\$	0	\$	
2. Arif Ghafoor - Professor		00.0			0	•	
3. John T Korb - Facilities Director		0.00			0		
4. Kihong Park - Professor		00.00			0		
5. Eugene H Spafford - Professor		00.0			0		
6. (0) OTHERS (LIST INDIVIDUALLY ON BUDGET JUSTIFICATION		0.00			0		
7. (5) TOTAL SENIOR PERSONNEL (1 - 6)		00.00			0		
B. OTHER PERSONNEL (SHOW NUMBERS IN BRACKETS)	0.	0.00	0.00		U		
	0	00 0 00	0.00		0		
		.00 0.00 .00 0.00					
2. (0) OTHER PROFESSIONALS (TECHNICIAN, PROGRAMMER,	E1C.) U .	.00 0.00	0.00		0		
3. (0) GRADUATE STUDENTS					0		
4. (0) UNDERGRADUATE STUDENTS					0		
5. (0) SECRETARIAL - CLERICAL (IF CHARGED DIRECTLY)					0		
6. (0) OTHER					0		
TOTAL SALARIES AND WAGES (A + B)					0		
C. FRINGE BENEFITS (IF CHARGED AS DIRECT COSTS)					0		
TOTAL SALARIES, WAGES AND FRINGE BENEFITS (A + B + C)					0		
D. EQUIPMENT (LIST ITEM AND DOLLAR AMOUNT FOR EACH ITEM	EXCEEDING \$5						
ATM backbone switch		\$ 3	0,000				
ATM workgroup switch \$7000 x 2		1	4,000				
Gigabit Ethernet switch		1:	2,000				
Others (See Budget Comments Page)			8,200				
TOTAL EQUIPMENT				2	44,200		
E. TRAVEL 1. DOMESTIC (INCL. CANADA AND U.S. POSSE	SSIONS)				0		
2. FOREIGN							
F. PARTICIPANT SUPPORT COSTS							
1. STIPENDS \$							
2. TRAVEL							
3. SUBSISTENCE — 0							
4. OTHER							
(0) TOTAL PARTICIPANT COSTS					0		
G. OTHER DIRECT COSTS							
1. MATERIALS AND SUPPLIES							
					12.516		
2 PUBLICATION COSTS/DOCUMENTATION/DISSEMINATION					12,516		
2. PUBLICATION COSTS/DOCUMENTATION/DISSEMINATION 3. CONSULTANT SERVICES					0		
3. CONSULTANT SERVICES					0		
CONSULTANT SERVICES COMPUTER SERVICES					0 0 3,000		
CONSULTANT SERVICES COMPUTER SERVICES SUBAWARDS					0 0 3,000 0		
3. CONSULTANT SERVICES 4. COMPUTER SERVICES 5. SUBAWARDS 6. OTHER					0 0 3,000 0 40,000		
3. CONSULTANT SERVICES 4. COMPUTER SERVICES 5. SUBAWARDS 6. OTHER TOTAL OTHER DIRECT COSTS					0 0 3,000 0 40,000 55,516		
3. CONSULTANT SERVICES 4. COMPUTER SERVICES 5. SUBAWARDS 6. OTHER TOTAL OTHER DIRECT COSTS H. TOTAL DIRECT COSTS (A THROUGH G)					0 0 3,000 0 40,000		
3. CONSULTANT SERVICES 4. COMPUTER SERVICES 5. SUBAWARDS 6. OTHER TOTAL OTHER DIRECT COSTS H. TOTAL DIRECT COSTS (A THROUGH G) I. INDIRECT COSTS (F&A)(SPECIFY RATE AND BASE)					0 0 3,000 0 40,000 55,516		
3. CONSULTANT SERVICES 4. COMPUTER SERVICES 5. SUBAWARDS 6. OTHER TOTAL OTHER DIRECT COSTS H. TOTAL DIRECT COSTS (A THROUGH G) I. INDIRECT COSTS (F&A)(SPECIFY RATE AND BASE) % of MTDC (Rate: 52.00, Base: 55516)				2	0 3,000 0 40,000 55,516 99,716		
3. CONSULTANT SERVICES 4. COMPUTER SERVICES 5. SUBAWARDS 6. OTHER TOTAL OTHER DIRECT COSTS H. TOTAL DIRECT COSTS (A THROUGH G) I. INDIRECT COSTS (F&A)(SPECIFY RATE AND BASE) % of MTDC (Rate: 52.00, Base: 55516) TOTAL INDIRECT COSTS (F&A)				2	0 0 3,000 0 40,000 55,516 99,716		
3. CONSULTANT SERVICES 4. COMPUTER SERVICES 5. SUBAWARDS 6. OTHER TOTAL OTHER DIRECT COSTS H. TOTAL DIRECT COSTS (A THROUGH G) I. INDIRECT COSTS (F&A)(SPECIFY RATE AND BASE) % of MTDC (Rate: 52.00, Base: 55516) TOTAL INDIRECT COSTS (F&A) J. TOTAL DIRECT AND INDIRECT COSTS (H + I)				2	0 0 3,000 0 40,000 55,516 99,716 28,868 28,584		
3. CONSULTANT SERVICES 4. COMPUTER SERVICES 5. SUBAWARDS 6. OTHER TOTAL OTHER DIRECT COSTS H. TOTAL DIRECT COSTS (A THROUGH G) I. INDIRECT COSTS (F&A)(SPECIFY RATE AND BASE) % of MTDC (Rate: 52.00, Base: 55516) TOTAL INDIRECT COSTS (F&A) J. TOTAL DIRECT AND INDIRECT COSTS (H + I) K. RESIDUAL FUNDS (IF FOR FURTHER SUPPORT OF CURRENT P	ROJECTS SEE	GPG II.D.7.	.)	3	0 0 3,000 0 40,000 55,516 99,716 28,868 28,584 0		
3. CONSULTANT SERVICES 4. COMPUTER SERVICES 5. SUBAWARDS 6. OTHER TOTAL OTHER DIRECT COSTS H. TOTAL DIRECT COSTS (A THROUGH G) I. INDIRECT COSTS (F&A)(SPECIFY RATE AND BASE) % of MTDC (Rate: 52.00, Base: 55516) TOTAL INDIRECT COSTS (F&A) J. TOTAL DIRECT AND INDIRECT COSTS (H + I) K. RESIDUAL FUNDS (IF FOR FURTHER SUPPORT OF CURRENT PL. AMOUNT OF THIS REQUEST (J) OR (J MINUS K)	ROJECTS SEE	GPG II.D.7.	.)	3	0 0 3,000 0 40,000 55,516 99,716 28,868 28,584	\$	
3. CONSULTANT SERVICES 4. COMPUTER SERVICES 5. SUBAWARDS 6. OTHER TOTAL OTHER DIRECT COSTS H. TOTAL DIRECT COSTS (A THROUGH G) I. INDIRECT COSTS (F&A)(SPECIFY RATE AND BASE) % of MTDC (Rate: 52.00, Base: 55516) TOTAL INDIRECT COSTS (F&A) J. TOTAL DIRECT AND INDIRECT COSTS (H + I) K. RESIDUAL FUNDS (IF FOR FURTHER SUPPORT OF CURRENT PL. AMOUNT OF THIS REQUEST (J) OR (J MINUS K)	ROJECTS SEE		IT\$	3 \$ 3	0 0 3,000 0 40,000 55,516 99,716 28,868 28,584 0 28,584	\$	
3. CONSULTANT SERVICES 4. COMPUTER SERVICES 5. SUBAWARDS 6. OTHER TOTAL OTHER DIRECT COSTS H. TOTAL DIRECT COSTS (A THROUGH G) I. INDIRECT COSTS (F&A)(SPECIFY RATE AND BASE) % of MTDC (Rate: 52.00, Base: 55516) TOTAL INDIRECT COSTS (F&A) J. TOTAL DIRECT AND INDIRECT COSTS (H + I) K. RESIDUAL FUNDS (IF FOR FURTHER SUPPORT OF CURRENT PL. AMOUNT OF THIS REQUEST (J) OR (J MINUS K) M. COST SHARING PROPOSED LEVEL \$ 162,362 AG PI / PD TYPED NAME & SIGNATURE*			IT\$	3 \$ 3	0 0 3,000 0 40,000 55,516 99,716 28,868 28,584 0	\$	
3. CONSULTANT SERVICES 4. COMPUTER SERVICES 5. SUBAWARDS 6. OTHER TOTAL OTHER DIRECT COSTS H. TOTAL DIRECT COSTS (A THROUGH G) I. INDIRECT COSTS (F&A)(SPECIFY RATE AND BASE) % of MTDC (Rate: 52.00, Base: 55516) TOTAL INDIRECT COSTS (F&A) J. TOTAL DIRECT AND INDIRECT COSTS (H + I) K. RESIDUAL FUNDS (IF FOR FURTHER SUPPORT OF CURRENT PL. AMOUNT OF THIS REQUEST (J) OR (J MINUS K) M. COST SHARING PROPOSED LEVEL\$ 162,362 AG	REED LEVEL IF	DIFFEREN	IT \$ FOR N	2 3 \$ 3	0 0 3,000 0 40,000 55,516 99,716 28,868 28,584 0 28,584		
3. CONSULTANT SERVICES 4. COMPUTER SERVICES 5. SUBAWARDS 6. OTHER TOTAL OTHER DIRECT COSTS H. TOTAL DIRECT COSTS (A THROUGH G) I. INDIRECT COSTS (F&A)(SPECIFY RATE AND BASE) % of MTDC (Rate: 52.00, Base: 55516) TOTAL INDIRECT COSTS (F&A) J. TOTAL DIRECT AND INDIRECT COSTS (H + I) K. RESIDUAL FUNDS (IF FOR FURTHER SUPPORT OF CURRENT PL. AMOUNT OF THIS REQUEST (J) OR (J MINUS K) M. COST SHARING PROPOSED LEVEL \$ 162,362 AG PI / PD TYPED NAME & SIGNATURE*	REED LEVEL IF	DIFFEREN	IT \$ FOR N	2 3 \$ 3	0 0 3,000 0 40,000 55,516 99,716 28,868 28,584 0 28,584 E ONLY		

** D- Equipment

ATM backbone switch (Amount: \$ 30000)

ATM workgroup switch \$7000 x 2 (Amount: \$ 14000)

Gigabit Ethernet switch (Amount: \$ 12000) Other permanent equipment (Amount: \$ 28200)

Terrabyte HSM (Amount: \$ 110000)

WFQ & RSVP router \$25000 x 2 (Amount: \$ 50000)

SUMMARY YEAR 4
PROPOSAL BUDGET FOR NSF USE ONLY

ORGANIZATION F			PRO	POSAL	NO.	DURATIO	ON (months)
Purdue Research Foundation						Proposed	Granted
PRINCIPAL INVESTIGATOR / PROJECT DIRECTOR			ΑW	/ARD N	1 O.		
Ahmed K Elmagarmid							
A. SENIOR PERSONNEL: PI/PD, Co-PI's, Faculty and Other Senior Ass (List each separately with title, A.7. show number in brackets)			F Funderson-mos	d s. SUMR	Requ	unds Jested By Oposer	Funds granted by NSF (if different)
1. Ahmed K Elmagarmid - Professor				0.00	\$	0	
2. Arif Ghafoor - Professor				0.00		0	•
3. John T Korb - Facilities Director				0.00		0	
4. Kihong Park - Professor				0.00		0	
5. Eugene H Spafford - Professor				0.00		0	
6. (0) OTHERS (LIST INDIVIDUALLY ON BUDGET JUSTIFICATION				0.00		0	
7. (5) TOTAL SENIOR PERSONNEL (1 - 6)				0.00		0	
B. OTHER PERSONNEL (SHOW NUMBERS IN BRACKETS)	U	.00	0.00	0.00			
1. (0) POST DOCTORAL ASSOCIATES	0	ΛΛ	Λ ΛΛ	0.00		0	
2. (0) OTHER PROFESSIONALS (TECHNICIAN, PROGRAMMER,				0.00		0	
	E1C.) U	.00	U.UU	0.00			
3. (0) GRADUATE STUDENTS						0	
4. (0) UNDERGRADUATE STUDENTS						0	
5. (0) SECRETARIAL - CLERICAL (IF CHARGED DIRECTLY)						0	
6. (0) OTHER						0	
TOTAL SALARIES AND WAGES (A + B)						0	
C. FRINGE BENEFITS (IF CHARGED AS DIRECT COSTS)						0	
TOTAL SALARIES, WAGES AND FRINGE BENEFITS (A + B + C)						0	
D. EQUIPMENT (LIST ITEM AND DOLLAR AMOUNT FOR EACH ITEM	EXCEEDING \$	5,000.					
Permanent equipment		\$	8	8,000			
TOTAL EQUIPMENT						8,000	
E. TRAVEL 1. DOMESTIC (INCL. CANADA AND U.S. POSSES	SSIONS)					0	
2. FOREIGN						0	
F. PARTICIPANT SUPPORT COSTS							
1. STIPENDS $\$$							
2. TRAVEL0							
3. SUBSISTENCE — 0							
4. OTHER							
(0) TOTAL PARTICIPANT COSTS						0	
G. OTHER DIRECT COSTS							
1. MATERIALS AND SUPPLIES						15,060	
2. PUBLICATION COSTS/DOCUMENTATION/DISSEMINATION						0	
3. CONSULTANT SERVICES						0	
4. COMPUTER SERVICES						3,000	
5. SUBAWARDS						0	
6. OTHER						40,000	
TOTAL OTHER DIRECT COSTS						58,060	
H. TOTAL DIRECT COSTS (A THROUGH G)						66,060	
I. INDIRECT COSTS (F&A)(SPECIFY RATE AND BASE)						00,000	
% of MTDC (Rate: 52.00, Base: 58060)							
TOTAL INDIRECT COSTS (F&A)						30,191	
J. TOTAL DIRECT AND INDIRECT COSTS (H + I)						96,251	
K. RESIDUAL FUNDS (IF FOR FURTHER SUPPORT OF CURRENT PROJECTS SEE GPG II.D.7.j.)						0,231	
L. AMOUNT OF THIS REQUEST (J) OR (J MINUS K)	.552515 522	J, U	ر. ۰. ت	•/	\$	96,251	s
1=0 <0<	REED LEVEL II	E DIE	EDEN	IT ¢	Ψ	<i>></i> ∪9 <i>43</i> 1	Ψ
PI / PD TYPED NAME & SIGNATURE*	DATE	ווט ו	LIXLIX		JSE III	SE ONLY	
Ahmed K Elmagarmid	DAIL	IN.	UDIDE			E VERIFI	CATION
ORG. REP. TYPED NAME & SIGNATURE*	DATE		hecked		e Of Rate		Initials - ORG
ONO. NEI . TITED IVAIVIE & SIGNATURE	DAIL			Dat	_ U. Mall	. 5001	

** G-6 Other Maintenance SUMMARY PROPOSAL BUDGET

YEAR 5
FOR NSF USE ONLY

ORGANIZATION	ZATION PROPOSAL				NO. DURATIO		N (months)
Purdue Research Foundation				Propos		Granted	
PRINCIPAL INVESTIGATOR / PROJECT DIRECTOR		AWARD N			NO.		
Ahmed K Elmagarmid							
A. SENIOR PERSONNEL: PI/PD, Co-PI's, Faculty and Other Senior As	sociates	NS Pe	SF Funde	d	Funds		Funds
(List each separately with title, A.7. show number in brackets)			ACAD		Req pı	uested By roposer	granted by NSF (if different)
1. Ahmed K Elmagarmid - Professor		-	0.00		\$	0	\$
2 Arif Ghafoor - Professor			0.00		· ·	0	Ť
3. John T Korb - Facilities Director			0.00			0	
4. Kihong Park - Professor			0.00			0	
5. Eugene H Spafford - Professor			0.00			0	
6. (0) OTHERS (LIST INDIVIDUALLY ON BUDGET JUSTIFICATIO			0.00			0	
7. (5) TOTAL SENIOR PERSONNEL (1 - 6)	U	7.00	0.00	0.00		0	
B. OTHER PERSONNEL (SHOW NUMBERS IN BRACKETS)	0		0.00	0.00		•	
1. (0) POST DOCTORAL ASSOCIATES			0.00			0	
2. (0) OTHER PROFESSIONALS (TECHNICIAN, PROGRAMMER,	ETC.) (J	0.00	0.00	0.00		0	
3. (0) GRADUATE STUDENTS						0	
4. (0) UNDERGRADUATE STUDENTS						0	
5. (()) SECRETARIAL - CLERICAL (IF CHARGED DIRECTLY)						0	
6. (0) OTHER						0	
TOTAL SALARIES AND WAGES (A + B)						0	
C. FRINGE BENEFITS (IF CHARGED AS DIRECT COSTS)						0	
TOTAL SALARIES, WAGES AND FRINGE BENEFITS (A + B + C)						0	
D. EQUIPMENT (LIST ITEM AND DOLLAR AMOUNT FOR EACH ITEM	EXCEEDING \$	5,000	.)				
,			•				
TOTAL FOLIBMENT						0	
TOTAL EQUIPMENT E. TRAVEL 1. DOMESTIC (INCL. CANADA AND U.S. POSSESSIONS)						0	
E. TRAVEL 1. DOMESTIC (INCL. CANADA AND U.S. POSSE 2. FOREIGN	3310113)					0	
Z. FOREIGN							
E. DADTIQIDANT QUIDDODT QOOTO							
F. PARTICIPANT SUPPORT COSTS 4 CTUPENDS 6							
1. STIPENDS \$							
Z. TRAVEL							
3. SUBSISTENCE							
4. OTHER							
(0) TOTAL PARTICIPANT COSTS						0	
G. OTHER DIRECT COSTS							
1. MATERIALS AND SUPPLIES						5,411	
2. PUBLICATION COSTS/DOCUMENTATION/DISSEMINATION						0	
3. CONSULTANT SERVICES						0	
4. COMPUTER SERVICES						3,000	
5. SUBAWARDS						0	
6. OTHER						40,000	
TOTAL OTHER DIRECT COSTS							
H. TOTAL DIRECT COSTS (A THROUGH G)						48,411 48,411	
I. INDIRECT COSTS (A THROUGH G) I. INDIRECT COSTS (F&A)(SPECIFY RATE AND BASE)						70,711	
% of MTDC (Rate: 52.00, Base: 48411)						25 172	
TOTAL INDIRECT COSTS (F&A)						25,173 73,594	
J. TOTAL DIRECT AND INDIRECT COSTS (H + I)						73,584	
K. RESIDUAL FUNDS (IF FOR FURTHER SUPPORT OF CURRENT P	KOJECTS SEE	: GPG	II.D.7.j	.)	•	72.504	•
L. AMOUNT OF THIS REQUEST (J) OR (J MINUS K)					\$	73,584	\$
	REED LEVEL I	IF DIF	FEREN				
PI / PD TYPED NAME & SIGNATURE*	DATE			FOR N	NSF US	SE ONLY	
Ahmed K Elmagarmid		+				TE VERIFIC	
ORG. REP. TYPED NAME & SIGNATURE*	DATE	Date 0	Checked	Date	e Of Rat	e Sheet	Initials - ORG

** G-6 Other Maintenance

PROPOSAL BUDGET FOR NSF USE ONLY ORGANIZATION PROPOSAL NO. **DURATION** (months) **Purdue Research Foundation** Proposed Granted PRINCIPAL INVESTIGATOR / PROJECT DIRECTOR AWARD NO. Ahmed K Elmagarmid Funds Requested By proposer Funds granted by NSF (if different) NSF Funded Person-mos. A. SENIOR PERSONNEL: PI/PD, Co-PI's, Faculty and Other Senior Associates (List each separately with title, A.7. show number in brackets) CAL ACAD SUMR 0.00 0.00 0.00 \$ 0 | \$ 1. Ahmed K Elmagarmid - Professor 2. Arif Ghafoor - Professor 0.00 | 0.00 | 0.00 0 3. John T Korb - Facilities Director 0.00 | 0.00 | 0.00 0 4. Kihong Park - Professor 0.00 | 0.00 | 0.00 0 5. Eugene H Spafford - Professor 0.00 0.00 0.00 0) OTHERS (LIST INDIVIDUALLY ON BUDGET JUSTIFICATION PAGE) 0.00 | 0.00 | 0.00 0 0.00 0.00 0.00 7. (5) TOTAL SENIOR PERSONNEL (1 - 6) 0 B. OTHER PERSONNEL (SHOW NUMBERS IN BRACKETS) 1. (**0**) POST DOCTORAL ASSOCIATES 0.00 | 0.00 | 0.00 0 (1) OTHER PROFESSIONALS (TECHNICIAN, PROGRAMMER, ETC.) 0.00 0.00 0.00 0 0 (1) GRADUATE STUDENTS 0 4. (**0**) UNDERGRADUATE STUDENTS 5. (**0**) SECRETARIAL - CLERICAL (IF CHARGED DIRECTLY) 0 6. (**0**) OTHER 0 0 TOTAL SALARIES AND WAGES (A + B) C. FRINGE BENEFITS (IF CHARGED AS DIRECT COSTS) 0 TOTAL SALARIES, WAGES AND FRINGE BENEFITS (A + B + C) 0 D. EQUIPMENT (LIST ITEM AND DOLLAR AMOUNT FOR EACH ITEM EXCEEDING \$5,000.) 965,900 965,900 **TOTAL EQUIPMENT** E. TRAVEL 1. DOMESTIC (INCL. CANADA AND U.S. POSSESSIONS) 0 2. FOREIGN 0 F. PARTICIPANT SUPPORT COSTS 0 1. STIPENDS 0 2. TRAVEL 0 3 SUBSISTENCE 0 4. OTHER (**0**) TOTAL PARTICIPANT COSTS 0 G. OTHER DIRECT COSTS 56,785 1. MATERIALS AND SUPPLIES 2. PUBLICATION COSTS/DOCUMENTATION/DISSEMINATION 0 3. CONSULTANT SERVICES 0 4. COMPUTER SERVICES 20,000 5. SUBAWARDS 0 6. OTHER 200,000 276,785 TOTAL OTHER DIRECT COSTS H. TOTAL DIRECT COSTS (A THROUGH G) 1,242,685 I. INDIRECT COSTS (F&A)(SPECIFY RATE AND BASE) 143,928 TOTAL INDIRECT COSTS (F&A) J. TOTAL DIRECT AND INDIRECT COSTS (H + I) 1,386,613 K. RESIDUAL FUNDS (IF FOR FURTHER SUPPORT OF CURRENT PROJECTS SEE GPG II.D.7.j.) 0 \$ 1,386,613 | \$ L. AMOUNT OF THIS REQUEST (J) OR (J MINUS K) M. COST SHARING PROPOSED LEVEL \$ 814,599 AGREED LEVEL IF DIFFERENT \$ PI / PD TYPED NAME & SIGNATURE* DATE FOR NSF USE ONLY Ahmed K Elmagarmid INDIRECT COST RATE VERIFICATION ORG. REP. TYPED NAME & SIGNATURE* DATE Date Checked Date Of Rate Sheet Initials - ORG

SUMMARY

Cumulative

Budget Justification Page

This project requests networking, database, and video hardware to create an experimental quality-of-service testbed for multimedia computing environment. The project will support (through cost sharing) a director and full-time technician, who will be responsible for the specification, installation, operation, and maintenance of all equipment purchased by the project. Full details of the equipment justification are given in the proposal.