

## Information Technology Fee for Montana State University

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Montana State University IT Infrastructure Replacement Program - MSU-Bozeman Plan										Page 3
	FY 04	FY 05	FY 06	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	FY 13
	Projected	Projected	Projected	Projected	Projected	Projected	Projected	Projected	Projected	Projected
<b>Revenues - MSU Bozeman</b>										
Switch Port Activations	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000
Interest Income	6,665	10,306	4,661		2,812	5,222	4,754	3,173	2,745	1,340
Land Grant OLP	150,000	150,000	330,000	69,863	71,959	74,117	76,341	78,631	80,990	83,420
Tel R&R Contribution Seed	75,000	50,000								
Tel R&R Telephone Structured Wiring		5,883	55,883	55,883	55,883	55,883	55,883	55,883	55,883	55,883
Data Capital Projected balance-include Inventory	333,274									
Oracle Upgrade Financing	78,074	80,081	82,157							
ITC Compensated Balance Transfer	88,982	88,982	88,982							
Student IT Fee Income				903,466	935,088	967,816	1,001,689	1,036,749	1,073,035	1,110,591
ITC General Operating Account	303,146	303,146	303,146	193,146	193,146	193,146	193,146	193,146	193,146	193,146
Institutional Commitment from General Operations				69,863	71,959	74,117	76,341	78,631	80,990	83,420
Contribution Commitment - AES				49,266	50,744	52,266	53,834	55,449	57,112	58,826
Contribution Commitment - ES & Fire Training School				40,206	41,412	42,654	43,934	45,252	46,610	48,008
Contribution Commitment - Current Restricted				190,198	195,904	201,781	207,835	214,070	220,492	227,107
Contribution Commitment - Auxillaries				92,786	95,570	98,437	101,390	104,431	107,564	110,791
<b>Total Revenues</b>	<b>\$1,060,142</b>	<b>\$713,398</b>	<b>\$889,829</b>	<b>\$1,689,677</b>	<b>\$1,739,475</b>	<b>\$1,790,440</b>	<b>\$1,840,147</b>	<b>\$1,890,415</b>	<b>\$1,943,567</b>	<b>\$1,997,531</b>
Student Fee Per Semester				34.93	36.15	37.42	38.73	40.08	41.49	42.94
Percentage Increase				4.27%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%
<b>MSU-Bozeman Expenditures</b>										
<b>Multi-Campus Share of Expenses</b>	\$332,534	\$585,113	\$751,746	\$857,264	\$932,710	\$968,323	\$977,286	\$955,792	\$1,009,845	\$1,063,758
<b>On-Going Replacements &amp; Commitments</b>										
Existing Debt Retirement-Networking-Page 6	70,501	80,360	79,926	79,520	79,118	78,730	78,305	9,925		
Existing Debt Retirement-Network Equipment-Page 7	92,585	92,585								
Existing Debt Retirement-Data Servers-Page 8	17,413									
Networking Debt Retirement-Page 6	31,828	78,657	63,657	89,913	116,168	142,424	168,680	194,936	221,191	247,447
Network Equipment Debt Retirement-Page 7	0	34,660	105,261	138,384	168,914	271,746	309,686	337,622	343,658	340,519
Data Servers Debt Retirement-Page 8	0	50,754	72,951	89,851	104,867	170,501	253,690	278,753	304,198	273,975
Other Data Equipment Debt Retirement-Page 9	0	13,068	16,541	21,160	28,888	29,711	34,685	35,490	33,174	33,441
<b>Total On-Going Replacements</b>	<b>212,328</b>	<b>350,084</b>	<b>338,336</b>	<b>418,827</b>	<b>497,955</b>	<b>693,112</b>	<b>845,045</b>	<b>856,726</b>	<b>902,222</b>	<b>895,382</b>
<b>Potential Enhancements</b>										
New Initiatives Debt Retirement-Page 10	0	60,447	141,397	164,389	188,305	152,376	96,895	99,297	101,754	77,237
<b>Total MSU-Bozeman Expenditures</b>	<b>\$544,861</b>	<b>\$995,643</b>	<b>\$1,231,478</b>	<b>\$1,440,480</b>	<b>\$1,618,970</b>	<b>\$1,813,811</b>	<b>\$1,919,226</b>	<b>\$1,911,814</b>	<b>\$2,013,822</b>	<b>\$2,036,378</b>
<b>Fund Balance</b>	<b>\$515,281</b>	<b>\$233,035</b>	<b>(\$108,614)</b>	<b>\$140,583</b>	<b>\$261,088</b>	<b>\$237,717</b>	<b>\$158,638</b>	<b>\$137,238</b>	<b>\$66,983</b>	<b>\$28,136</b>

## Montana State University - Bozeman IT Infrastructure Program - Assumptions

### Multi-Campus Equipment/Software & MSU-Bozeman Equipment/Software

- \* Project replacement and potential enhancement costs for 10 Years - FY 04 through FY 13
- \* The plan will be updated each year and extended an additional year; zero-base the plan every 5 years
- \* Replacement Cycle - Servers/Printers-4 Yr, UPS-6 Yr, Network Eq-7 Yr, Bldg Wiring-12 Yr, Fiber Backbone, AC, Generator Connection, Halon Repl-18 Yr
- \* Purchases of equipment will be financed over the lifecycle
- \* Assume a borrowing interest rate of 4%
- \* Calculate Consumer Price Index for inflation factor for categories of equipment; use the national CPI floating 10 year average; 2.46% for CY 93 to 02
- \* Calculate Software License Maintenance Renewals at 5% and 8% for SCT, 5% for Windows, Oracle, Legato
- \* Calculate SCT Software License Agreement upgrade to 7x24 - 15%; renegotiate contract at 12/31/04 - 10%
- \* Interest income on fund balance - assume rate of 2%
- \* Student enrollment - use FY 03 level; MSU-Bozeman 10,670
- \* Use FY 02 Actual Network Fee Income \$632,839 per FY 02 FTE Student Enrollment 10,444 to calculate the yield per FTE=\$60.60 per Student FTE (2.424)
- \* Banner Debt Service will be paid in full 11/15/05; Student Fee income for IT Infrastructure is not available until FY 07
- \* Include purchase of extended warranty for the lifecycle of equipment purchased as equipment cost
- \* Include mandatory software purchased with equipment as equipment cost, i.e. Oracle licenses
- \* Add a category for renewal of software purchased with equipment in the IT Infrastructure Program; i.e. SCT License agreement, Oracle License
- \* This program does not include desktop equipment, departmental servers, Smart Podium equipment, Student Lab equipment, nor Telephone System
- \* No personnel costs will be included
- \* If any negative fund balance will result from the formula calculations, adjustments will be made in the plan in the appropriate year to keep the balance positive

Montana State University IT Infrastructure Replacement Program - MSU-Bozeman Networking

	FY 02	FY 03	FY 04	FY 05	FY 06	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	FY 13	Notes	
	Actual	Projected	Projected	Projected	Projected	Projected	Projected	Projected	Projected	Projected	Projected	Projected		
<b>Networking Projects</b>														
Miscellaneous Buildings	\$21,317	\$562	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	Remove old cable/conduit
Tools & Equipment	8,643	1,820												
Inventory Purchases		97,892	(50,029)											
Hamilton Hall-Thinwire to Cat 5E	59,850	4,284												
Linfield Hall-Thinwire to Cat 5E	61,117	91,899												
Leon Johnson-Thinwire to Cat 5E	56,144	174,014	101,800											
Cobleigh Hall-Thinwire to Cat 5E	20,449	109,057	69,265											
Graduate Art Studio New Cat 5E		4,417												
Insect Labs-New Cat 5E		16,054												
Gaines Hall-Thinwire to Cat 6			175,000											No Renovation project will likely be funded by State
Roberts Hall-Thinwire to Cat 6	1,414		82,456											
Reid Hall-Thinwire to Cat 6	656		208,508											
Replace Fiber Backbone													2,524,200	18 Year Life Cycle from year installed in 1995
Replace Building Wiring					233,267	233,267	233,267	233,267	233,267	233,267	233,267	233,267	233,267	12 Year Life Cycle-see schedule below; use average
Total Networking	\$229,590	\$500,000	\$602,000	\$15,000	\$248,267	\$248,267	\$248,267	\$248,267	\$248,267	\$248,267	\$248,267	\$248,267	\$2,772,468	
<b>Amortization Schedule</b>														
Loan Proceeds #1		144,000												
Amortization #1		1,491	22,666	22,732	22,781	22,841	22,903	22,970	23,023					7 Year Loan @ 3.15/2.85%-10/18/02
Loan Proceeds #2		90,000												7 Year Loan @ 3.15/2.85%-10/18/02

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Amortization #2	932	14,166	14,207	14,238	14,275	14,314	14,356	14,389				
Loan Proceeds #3	129,000											7 Year Loan @ 3.15/2.85%- 11/29/02
Amortization #3	891	20,305	20,364	20,408	20,461	20,517	20,577	20,624				
Loan Proceeds #4	137,000											7 Year Loan @ 2.85%-2/13/03
Amortization #4		13,365	23,058	22,500	21,942	21,384	20,826	20,269	9,925			
<b>Subtotal Amortization</b>	<b>\$3,314</b>	<b>\$70,501</b>	<b>\$80,360</b>	<b>\$79,926</b>	<b>\$79,520</b>	<b>\$79,118</b>	<b>\$78,730</b>	<b>\$78,305</b>	<b>\$9,925</b>	<b>\$0</b>	<b>\$0</b>	
Loan Proceeds #5		602,000										
Amortization #5		31,828	63,657	63,657	63,657	63,657	63,657	63,657	63,657	63,657	63,657	12 Year Loans @ 4%
Loan Proceeds #6				248,300								
Amortization #6					26,256	26,256	26,256	26,256	26,256	26,256	26,256	
Loan Proceeds #7					248,300							
Amortization #7						26,256	26,256	26,256	26,256	26,256	26,256	
Loan Proceeds #8						248,300						
Amortization #8							26,256	26,256	26,256	26,256	26,256	
Loan Proceeds #9							248,300					
Amortization #9								26,256	26,256	26,256	26,256	
Loan Proceeds #10								248,300				
Amortization #10									26,256	26,256	26,256	
Loan Proceeds #11									248,300			
Amortization #11										26,256	26,256	
Loan Proceeds #12										248,300		
Amortization #12												26,256
Loan Proceeds #13												2,772,500
Amortization #13												\$2,524,200 is 18 Yr loan; balance is 12 Yr loan
<b>Subtotal Amortization</b>	<b>\$0</b>	<b>\$31,828</b>	<b>\$63,657</b>	<b>\$63,657</b>	<b>\$89,913</b>	<b>\$116,168</b>	<b>\$142,424</b>	<b>\$168,680</b>	<b>\$194,936</b>	<b>\$221,191</b>	<b>\$247,447</b>	
<b>Total Amortization</b>	<b>\$3,314</b>	<b>\$102,330</b>	<b>\$144,017</b>	<b>\$143,583</b>	<b>\$169,432</b>	<b>\$195,287</b>	<b>\$221,154</b>	<b>\$246,985</b>	<b>\$204,861</b>	<b>\$221,191</b>	<b>\$247,447</b>	
<b>Cash Outlay</b>				\$15,000								
<b>Total Amortization &amp; Cash</b>	<b>\$3,314</b>	<b>\$102,330</b>	<b>\$159,017</b>	<b>\$143,583</b>	<b>\$169,432</b>	<b>\$195,287</b>	<b>\$221,154</b>	<b>\$246,985</b>	<b>\$204,861</b>	<b>\$221,191</b>	<b>\$1,667,153</b>	

Includes \$15,000 costs to remove old raceway, conduit, cable and re-finish surfaces - to meet new electrical codes

Existing Investments - 10 Year Life - Building Wiring; 15 Year Life - Fiber Optic Cable

Fiber Optic Cabling - \$1,629,842 \$108,656  
1995-6

Building Wiring - 1995 to 2004-Excluding Network Equipment; Costs do not include contractor costs when part of remodel, renovation or construction

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1996 \$196,477  
1997 598,349  
1998 255,481  
1999 111,329  
2000 45,470  
2001 8,961  
2002 121,225  
2003 492,114  
2004 592,724  
2,422,130

Building Wiring Costs inflated 10 years begin FY 06

\$250,527 \$762,954 \$325,763 \$141,955 \$57,979 \$11,426 \$154,574 \$627,494

<b>Montana State University IT Infrastructure Replacement Program - MSU-Bozeman Network Equipment</b>	<b>Page 6</b>
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	FY 02	FY 03	FY 04	FY 05	FY 06	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	FY 13	
	Actual	Projected	Projected	Projected	Projected	Projected	Projected	Projected	Projected	Projected	Projected	Projected	Notes
<b>Existing Debt Retirement</b>													
Debt Service-Core/IDF Upgrade	\$92,585	\$92,585	\$92,585	\$92,585									
<b>Nework Equipment</b>													
Core/IDF Upgrade							\$410,365						7 years life cycle
Intrusion Detection System	14,970							\$17,746					7 years life cycle
Groovy Network Monitoring	2,704				\$4,082					\$1,102			4 years life cycle
Faust Detection System	3,907				5,408					7,062			4 years life cycle
Internet Traffic Shaping	21,433							25,408					7 years life cycle
Fiber Test Equipment							10,426						7 years life cycle
CiscoWorks - switch & router management				10,800				11,903					4 years life cycle
Cricket Network Monitoring				1,890				2,083					4 years life cycle
Cobleigh - 3rd FI Telecom Room Cisco Switch	3,136												included in Future Bldg Network Replacement
EPS Building-4 Telecom Room Cisco Switches		39,524											included in Future Bldg Network Replacement
Culbertson - Telecom Room Cisco Switches		18,368											included in Future Bldg Network Replacement
Lewis - Telecom Room Cisco Switch & Modules		13,218											included in Future Bldg Network Replacement
Cooley - Telecom Room Cisco Switch		10,892											included in Future Bldg Network Replacement
Miscellaneous Small Bldgs Switch Equipment		8,203	5,000	5,000	5,000	\$5,000	5,000	5,000	\$5,000	5,000	\$5,000	\$5,000	
Building Network Switch Replacement			179,767	179,767	179,767	179,767	179,767	179,767	179,767	179,767	179,767	179,767	179,767 see schedule below; 7 year life cycle; use average
Single Mode Fiber Termination													include in networking
Internet I Router/VPN Switch			25,000							29,636			7 years life cycle
Cisco Switch Maintenance				104,175			112,053			120,528			Cisco maintenance



Renewal													large switch/routers-3 yr life cycle included in Cisco maintenance See New Initiatives for additional wireless equipment
LJ 4006 Switch Maintenance	7,230												
Wireless Access Equipment		3,670											
<b>Total Network Equipment</b>	<b>\$53,380</b>	<b>\$93,873</b>	<b>\$209,767</b>	<b>\$301,632</b>	<b>\$194,257</b>	<b>\$184,767</b>	<b>\$717,611</b>	<b>\$241,907</b>	<b>\$184,767</b>	<b>\$343,095</b>	<b>\$184,767</b>	<b>\$184,767</b>	
<b>Amortization Schedule</b>													
Loan Proceeds #1			209,800										7 year loans @ 4%
Amortization #1				34,660	34,660	34,660	34,660	34,660	34,660	34,660			
Loan Proceeds #2				299,500									\$104,200 is 3 yr; \$10,500 is 4 Yr; balance is 7 yr loan
Amortization #2					70,601	70,601	70,601	33,396	30,530	30,530	30,530		
Loan Proceeds #3					194,300								\$9,500 is 4 yr; balance is 7 year loan
Amortization #3						33,123	33,123	33,123	33,123	30,530	30,530	30,530	
Loan Proceeds #4						184,800							
Amortization #4							30,530	30,530	30,530	30,530	30,530	30,530	
Loan Proceeds #5							717,600						\$112,000 is 3 yr; balance is 7 year loan
Amortization #5								140,037	140,037	140,037	100,048	100,048	
Loan Proceeds #6								239,500					\$11,500 is 4 yr; balance is 7 year loan
Amortization #6									40,806	40,806	40,806	37,667	
Loan Proceeds #7									184,800				
Amortization #7										30,530	30,530	30,530	
Loan Proceeds #8										343,000			\$120,600 is 3 yr; \$8,200 is 4 yr; balance is 7 yr loan
Amortization #8											80,686	80,686	
Loan Proceeds #9											184,800		
Amortization #9												30,530	
Loan Proceeds #10												184,800	
Amortization #10													
<b>Total Amortization-New Loans</b>		\$0	\$0	\$34,660	\$105,261	\$138,384	\$168,914	\$271,746	\$309,686	\$337,622	\$343,658	\$340,519	
<b>Grand Total Expenses</b>		<b>\$92,585</b>	<b>\$92,585</b>	<b>\$127,245</b>	<b>\$105,261</b>	<b>\$138,384</b>	<b>\$168,914</b>	<b>\$271,746</b>	<b>\$309,686</b>	<b>\$337,622</b>	<b>\$343,658</b>	<b>\$340,519</b>	
<b>Bldg Electronics Costs Inflated over 6 years</b>			442,577	81,112	50,700	66,011	53,015	298,406	124,942	524,650	96,154	60,102	
<i>Building Electronics Spent in Wiring Projects</i>		Bldg Wiring	Tel R&R	453446	Total								
	1996	\$53,558	\$10,718		\$64,276								

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	1997	243,619		243,619			
	1998	53,619		53,619			
	1999	70,107		70,107			
	2000	43,821		43,821			
	2001	22,909	34,146	57,054			
	2002	42,686	3,136	45,822			
	2003	188,635	\$69,283	257,918			
	2004	107,990		107,990			
		826,944	47,999	69,283	944,226		
Maintenance on Cisco switches	2001		83,536	83,536			
all to 1/31/05	2002	4,084	7,230	11,314			
Core Upgrade	2001		320,791	320,791	Cisco Works computer	2001	\$6,099 \$8,100
ITC Installation	2001		17,068	17,068	UPS for 6509 Core Switch	2001	1,100 3,101
Single Mode Test Kits	2001		8,000	8,000	Packeteer Software	2002	21,433 23,435
Fiber Launch Cables	2001		795	795	Cisco Intrusion Detection	2002	14,969 16,971
Monitoring PC-Cricket/Webhost	2001		1,515	1,515			

Montana State University IT Infrastructure Replacement Program - MSU-Bozeman Data Servers

	FY 02	FY 03	FY 04	FY 05	FY 06	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	FY 13	Notes
	Actual	Projected	Projected	Projected	Projected	Projected	Projected	Projected	Projected	Projected	Projected	Projected	
<b>Current Debt Service-Servers</b>	\$17,223	\$16,884	\$17,413										
<b>Data Server Equipment</b>													
Netra News Server	2,247				\$3,577				\$3,941				
DNS1 Domain Name #1	1,907				3,202				3,528				
Onyx Primary Domain Controller	2,896				4,292				4,729				
Obsidian Backup Domain Controller - Dione 2	2,896				4,292				4,729				
Topaz Public Softw Distribution	8,744				11,507				12,677				
Ruby Application Server	9,130				12,593				13,874				
What's Down Monitoring	1,206				1,549				1,707				
What's Up Monitoring	1,297				1,649				1,817				
Opal AXP Group Shares, etc					19,179				21,130				Orig purchased 11/27/01
IP4You - DHCP Server		4,961				\$6,570				\$7,240			
Mail 1 E-mail Server #1		3,314				4,754				5,240			
Mail 2 E-mail Server #2		5,656				8,107				8,935			
Stratus Student Web E-Mail		32,914				30,764				33,904			Appls reqr new server; Student Web E-mail Server
Unix Monitoring		3,314				4,754				5,240			
TREX2 Replacement			28,451				\$31,355				\$34,556		Orig purchased 6/24/97
MAIA Replacement			28,451				31,355				34,556		Orig purchased 6/24/97
Jade Replacement			28,919				31,871				35,125		Orig purchased 4/3/98
Gemini Faculty/Staff Accts			80,767				89,013				98,100		Orig purchased 5/25/99; stays UNIX -Allen Porter aps
DNS2 Domain Name #2			6,436				7,094				7,818		Orig purchased 1/25/99
Web 1 Web Access #1			6,436				7,094				7,818		Orig purchased 1/25/99
Web 2 Web Access #2			6,436				7,094				7,818		Orig purchased 1/25/99
Emerald Exchange Server #1				\$24,577				\$27,086				\$29,851	Orig purchased 1/18/01
Tanzanite Exchange #2				24,577				27,086				29,851	Orig purchased 1/18/01
DC1 Windows 2000 Dom Ctr				16,029				17,665				19,469	Orig purchased 3/2/01
DC2 Windows 2000 Dom#2				16,029				17,665				19,469	Orig purchased 3/2/01

New Initiative Replacements						221,357	296,498	85,498	87,601	89,756	91,964	Used total amounts from Other Initiatives spreadsheet
Total Equipment	\$30,322	\$50,159	\$185,897	\$81,211	\$61,841	\$54,949	\$426,232	\$386,000	\$153,630	\$148,160	\$315,547	\$190,603

**Amortization Schedule**

Loan Proceeds #1		185,900											
Amortization #1			50,754	50,754	50,754	50,754							4 Year loans @ 4%
Loan Proceeds #2			81,300										
Amortization #2				22,197	22,197	22,197	22,197						
Loan Proceeds #3				61,900									
Amortization #3					16,900	16,900	16,900	16,900					
Loan Proceeds #4					55,000								
Amortization #4						15,016	15,016	15,016	15,016				
Loan Proceeds #5						426,300							
Amortization #5							116,388	116,388	116,388	116,388			
Loan Proceeds #6								386,000					
Amortization #6									105,386	105,386	105,386	105,386	
Loan Proceeds #7									153,700				
Amortization #7										41,963	41,963	41,963	
Loan Proceeds #8										148,200			
Amortization #8											40,462	40,462	
Loan Proceeds #9											315,600		
Amortization #9												86,165	
Loan Proceeds #10												190,700	
Amortization #10													
<b>Total New Amortization</b>		\$0	\$0	\$50,754	\$72,951	\$89,851	\$104,867	\$170,501	\$253,690	\$278,753	\$304,198	\$273,975	
<b>Total Expense</b>		<b>\$16,884</b>	<b>\$17,413</b>	<b>\$50,754</b>	<b>\$72,951</b>	<b>\$89,851</b>	<b>\$104,867</b>	<b>\$170,501</b>	<b>\$253,690</b>	<b>\$278,753</b>	<b>\$304,198</b>	<b>\$273,975</b>	

<b>Montana State University IT Infrastructure Replacement Program - MSU-Bozeman Other Data Equipment</b>	<b>Page 8</b>
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	FY 02	FY 03	FY 04	FY 05	FY 06	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	FY 13	
	Actual	Actual	Projected	Projected	Projected	Projected	Projected	Projected	Projected	Projected	Projected	Projected	Notes
<b>Other Data Equipment</b>													
HP Laserjet 8150	\$4,595					\$5,189					\$5,859		5 year life cycle
Central Line Printers				\$12,123					\$13,689				5 year life cycle; repl 3 DEC LG12s with 2 printers
Other Operations Equipment	\$3,265	\$3,345	\$3,345	3,428	\$3,512	3,598	\$3,687	\$3,778	3,870	\$3,966	4,063	\$4,163	racks, kvm, etc.; 5 year life cycle
Data Backup System - Super DLT			45,095					50,921					Legato Licenses-\$11,095 included; 5 year cycle
Compaq DLT Mini Library-Jewels						30,507							35,296 purchased 6/4/01 - 6 year life cycle
Powerware UPS Rack Mount Systems - 75%	21,875							18,982					6 year life cycle
Instructor Eval/Exam Scoring Scanner			12,000						13,884				6 year life cycle
Halon Replacement												147,389	Assume 18 yr life; depends if system discharges
Generator Connection - 69%	37,051												Servers+Netwk Eq on Building Generator - 18 year
Liebert AC - 30 Ton - 69%													Original Cost - \$134,777 6/96; paid 464115;18 Yr cycle
Liebert AC - 20 Ton - 100%					28,865								18 year life cycle; used repl cost 4/2/03
<b>Total</b>	<b>\$4,595</b>	<b>\$62,191</b>	<b>\$60,440</b>	<b>\$15,551</b>	<b>\$32,377</b>	<b>\$39,294</b>	<b>\$3,687</b>	<b>\$73,681</b>	<b>\$31,444</b>	<b>\$3,966</b>	<b>\$9,922</b>	<b>\$186,848</b>	
<b>Amortization Schedule</b>													
Loan Proceeds #1			60,500										5 Year Loans @ 4%
Amortization #1				13,068	13,068	13,068	13,068	13,068	2,269				\$12,000 is 6 year loan; balance is 5 year
Loan Proceeds #2			15,600										
Amortization #2				3,473	3,473	3,473	3,473	3,473					
Loan Proceeds #3				32,400									\$18,000 is 18 year loan; balance is 5 year
Amortization #3					4,619	4,619	4,619	4,619	4,619	1,412	1,412		
Loan Proceeds #4					39,300								\$30,500 is 6 year loan; balance is 5 year

**ITEM 119-2004-R0503 Attachments**

Amortization #4	7,727	7,727	7,727	7,727	7,727	5,768				
Loan Proceeds #5	3,700									
Amortization #5		824	824	824	824	824				
Loan Proceeds #6		73,700					\$19,000 is 6 year loan; balance is 5 year			
Amortization #6			15,772	15,772	15,772	15,772				
Loan Proceeds #7			31,500				\$13,900 is 6 year loan; balance is 5 year			
Amortization #7				6,547	6,547	6,547				
Loan Proceeds #8				4,000						
Amortization #8					891	891				
Loan Proceeds #9					10,000					
Amortization #9						2,227				
Loan Proceeds #10						186,900	\$147,400 is 18 year loan; \$35,300 is 6 yr, \$4,100 5 yr			
Amortization #10										
<b>Total Amortization</b>	<b>\$0</b>	<b>\$13,068</b>	<b>\$16,541</b>	<b>\$21,160</b>	<b>\$28,888</b>	<b>\$29,711</b>	<b>\$34,685</b>	<b>\$35,490</b>	<b>\$33,174</b>	<b>\$33,441</b>

Montana State University IT Infrastructure Replacement Program - MSU-Bozeman New Initiatives	Page 9
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	FY 03	FY 04	FY 05	FY 06	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	FY 13	Notes
	Actual	Projected	Projected	Projected	Projected	Projected	Projected	Projected	Projected	Projected	Projected	
<b>New Initiatives</b>												
Critical Server Redundancy - Gemini		\$80,767										Gemini
Gateway Firewall #1		26,000										
Gateway Firewall #2		4,640										
Other Critical Server Redundancy		71,500										Topaz, Opal, Pandora
Cisco Wireless Management - HW/SW		6,100										Maintenance is \$1,820/year
Wireless Authentication Gateway - HW/SW		22,350										Maintenance is \$1,060/year
Wireless Equipment - various buildings		10,000	\$10,246	\$10,498	\$10,756	\$11,021	\$11,292	\$11,570	\$11,854	\$12,146	\$12,445	
DHCP Server Redundancy			6,252									
Single Sign-on Server			30,000									
Portal Initiative			250,000									
Future Initiatives				75,000	76,845	78,735	80,672	82,657	84,690	86,774	88,908	
<b>Total</b>	<b>0</b>	<b>221,357</b>	<b>296,498</b>	<b>85,498</b>	<b>87,601</b>	<b>89,756</b>	<b>91,964</b>	<b>94,227</b>	<b>96,545</b>	<b>98,920</b>	<b>101,353</b>	

**Amortization Schedule**

Loan Proceeds #1	221,400											4 Year Loans @4%
Amortization #1		60,447	60,447	60,447	60,447							
Loan Proceeds #2		296,500										
Amortization #2			80,950	80,599	80,599	80,599						
Loan Proceeds #3			85,500									
Amortization #3				23,343	23,343	23,343	23,343					
Loan Proceeds #4				87,600								
Amortization #4					23,917	23,917	23,917	23,917				
Loan Proceeds #5					89,800							
Amortization #5						24,517	24,517	24,517	24,517			
Loan Proceeds #6						92,000						
Amortization #6							25,118	25,118	25,118	25,118		
Loan Proceeds #7							94,300					
Amortization #7								25,746	25,746	25,746		

Loan Proceeds #8									96,600		
Amortization #8										26,374	26,374
Loan Proceeds #9										98,900	
Amortization #9											27,002
Loan Proceeds #10											101,400
Amortization #10											
<b>Total Amortization</b>	<b>0</b>	<b>\$0</b>	<b>\$60,447</b>	<b>\$141,397</b>	<b>\$164,389</b>	<b>\$188,305</b>	<b>\$152,376</b>	<b>\$96,895</b>	<b>\$99,297</b>	<b>\$101,754</b>	<b>\$77,237</b>



## Information Technology Fee for MSU-Billings

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MSU-Billings Documents

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**MSU-Billings Administrative Computing Resources**

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	FY	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Network Service Fee per SCH ( current 5.45)	\$	.45	\$560,717.80									
Approximate Current Obligations - Some variations year to year												
Banner Operations - ongoing (4%)		\$25,907.00	\$26,943.28	\$28,021.01	\$29,141.85	\$ 30,307.53	\$31,519.83	\$32,780.62	\$ 34,091.84	\$ 35,455.52	\$36,873.74	\$ 38,348.69
Campus Infrastructure - Debt Service		35,000.00	335,000.00	335,000.00	335,000.00	-	-	-	-	-	-	-
MSU Central Debt Service		1,881.00	41,881.00	41,881.00	41,881.00	-	-	-	-	-	-	-
IT Banner support (4%)		60,000.00	62,400.00	64,896.00	67,491.84	70,191.51	72,999.17	75,919.14	78,955.91	82,114.14	85,398.71	88,814.66
Banner		35,000.00	60,332.00	106,157.00	136,389.00	155,534.00	169,222.00	175,683.00	177,309.00	173,409.00	183,216.00	192,998.00
<b>Banner Total</b>		<b>497,788.00</b>	<b>526,556.28</b>	<b>575,955.01</b>	<b>609,903.69</b>	<b>256,033.04</b>	<b>273,741.00</b>	<b>284,382.76</b>	<b>290,356.75</b>	<b>290,978.66</b>	<b>305,488.45</b>	<b>320,161.35</b>
Campus Server (2%)		125,000.00	128,750.00	132,612.50	136,590.88	140,688.60	144,909.26	149,256.54	153,734.23	158,346.26	163,096.65	167,989.55
Campus Infrastructure (2%)		100,000.00	103,000.00	106,090.00	109,272.70	112,550.88	115,927.41	119,405.23	122,987.39	126,677.01	130,477.32	134,391.64
Desktop and Server Security (4%)		20,250.00	21,060.00	21,902.40	22,778.50	23,689.64	24,637.22	25,622.71	26,647.62	27,713.52	28,822.06	29,974.95
Software (Microsoft etc.) (4%)		45,000.00	46,800.00	48,672.00	50,618.88	52,643.64	54,749.38	56,939.36	59,216.93	61,585.61	64,049.03	66,610.99
<b>Infrastructure Total</b>		<b>290,250.00</b>	<b>299,610.00</b>	<b>309,276.90</b>	<b>319,260.95</b>	<b>329,572.75</b>	<b>340,223.27</b>	<b>351,223.83</b>	<b>362,586.17</b>	<b>374,322.40</b>	<b>386,445.06</b>	<b>398,967.12</b>
Internet Services		42,000.00	42,000.00	44,100.00	44,100.00	44,100.00	44,100.00	44,100.00	46,305.00	48,620.25	51,051.26	53,603.83
College of Technology Network Connection		16,260.00	16,260.00	17,073.00	17,073.00	17,073.00	17,073.00	17,073.00	17,073.00	17,073.00	17,073.00	17,073.00
Billings Downtown Network Connection		4,200.00	4,200.00	4,410.00	4,410.00	4,410.00	4,410.00	4,410.00	4,410.00	4,410.00	4,410.00	4,410.00
<b>Network Total</b>		<b>62,460.00</b>	<b>62,460.00</b>	<b>65,583.00</b>	<b>65,583.00</b>	<b>65,583.00</b>	<b>65,583.00</b>	<b>65,583.00</b>	<b>67,788.00</b>	<b>70,103.25</b>	<b>72,534.26</b>	<b>75,086.83</b>
Campus Computers and Printers (3%)		359,375.00	370,156.25	381,260.94	392,698.77	404,479.73	416,614.12	429,112.54	441,985.92	455,245.50	468,902.86	482,969.95
<b>Banner Total</b>		<b>497,788.00</b>	<b>526,556.28</b>	<b>575,955.01</b>	<b>609,903.69</b>	<b>256,033.04</b>	<b>273,741.00</b>	<b>284,382.76</b>	<b>290,356.75</b>	<b>290,978.66</b>	<b>305,488.45</b>	<b>320,161.35</b>
<b>Infrastructure Total</b>		<b>290,250.00</b>	<b>299,610.00</b>	<b>309,276.90</b>	<b>319,260.95</b>	<b>329,572.75</b>	<b>340,223.27</b>	<b>351,223.83</b>	<b>362,586.17</b>	<b>374,322.40</b>	<b>386,445.06</b>	<b>398,967.12</b>
<b>Network Total</b>		<b>62,460.00</b>	<b>62,460.00</b>	<b>65,583.00</b>	<b>65,583.00</b>	<b>65,583.00</b>	<b>65,583.00</b>	<b>65,583.00</b>	<b>67,788.00</b>	<b>70,103.25</b>	<b>72,534.26</b>	<b>75,086.83</b>
<b>Campus Computers and Printers</b>		<b>359,375.00</b>	<b>370,156.25</b>	<b>381,260.94</b>	<b>392,698.77</b>	<b>404,479.73</b>	<b>416,614.12</b>	<b>429,112.54</b>	<b>441,985.92</b>	<b>455,245.50</b>	<b>468,902.86</b>	<b>482,969.95</b>
<b>Total Cost</b>		<b>\$1,209,873.00</b>	<b>\$1,258,782.53</b>	<b>\$1,332,075.85</b>	<b>\$1,387,446.41</b>	<b>\$1,055,668.52</b>	<b>\$1,096,161.39</b>	<b>\$1,130,302.14</b>	<b>\$1,162,716.84</b>	<b>\$1,190,649.81</b>	<b>\$1,233,370.64</b>	<b>\$1,277,185.25</b>
<b>Technology Replacement</b>		<b>\$6.50</b>	<b>\$12.50</b>	<b>\$24.00</b>	<b>\$66.00</b>	<b>\$75.00</b>	<b>\$77.63</b>	<b>\$80.34</b>	<b>\$83.15</b>	<b>\$86.06</b>	<b>\$89.08</b>	<b>\$92.19</b>

<b>Fee per Head</b>											
Banner Share per Student Credit Hour (SCH)	\$0.54	\$1.04	\$1.00	\$1.50	\$2.00	\$2.07	\$2.14	\$2.22	\$2.30	\$2.38	\$2.46
Infrastructure Share per SCH	\$ -	\$ -	\$0.50	\$1.00	\$1.00	\$1.04	\$1.07	\$1.11	\$1.15	\$1.19	\$1.23
Network Share per SCH	\$ -	\$ -	\$0.50	\$1.00	\$1.00	\$1.04	\$1.07	\$1.11	\$1.15	\$1.19	\$1.23
Campus Computer and Printer Share per SCH	\$ -	\$ -	\$ -	\$2.00	\$2.25	\$2.33	\$2.41	\$2.49	\$2.58	\$2.67	\$2.77
<b>Banner + Infrastructure + Network + Computers Fee per SCH</b>	<b>\$ 0.54</b>	<b>\$1.04</b>	<b>\$2.00</b>	<b>\$5.50</b>	<b>\$6.25</b>	<b>\$6.47</b>	<b>\$6.70</b>	<b>\$6.93</b>	<b>\$7.17</b>	<b>\$7.42</b>	<b>\$7.68</b>
Current Estimated Network Services Fee Income	\$560,717.80	\$560,717.80	\$560,717.80	\$280,358.90							
Campus funded	\$352,710.00	\$362,070.00	\$374,859.90	\$384,843.95	\$395,155.75	\$405,806.27	\$416,806.83	\$430,374.17	\$444,425.65	\$458,979.32	\$474,053.95
Annual Balance	\$(241,342.53)	\$(230,028.06)	\$(193,042.15)	\$(162,739.56)	\$(24,712.77)	\$(32,302.12)	\$(32,410.45)	\$27,419.85)	\$(16,629.04)	\$(19,260.36)	\$(21,570.76)
Running Balance	\$858,657.47	\$628,629.40	\$435,587.25	\$272,847.70	\$248,134.93	\$215,832.81	\$183,422.36	\$156,002.51	\$139,373.48	\$120,113.12	\$98,542.36

## **MSU-Billings Assumptions**

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The Network Services Fee would lapse at the end of the 8 years.

-- The new fee created several years ago, whose current name is Technology Replacement Fee, will be increased to the required level.

-- We assume a per Student Credit Hour ( SCH) fee.

-- Assumed SCH for computations are 115600, last year.

-- Due to the flat spot and other accounting actions we assume a 12% discount rate of the fee billed versus collected.

-- After 2007 a 3.5% rate of fee increase is assumed.

-- We have included in the spreadsheet our IT cost of infrastructure; I have also included the commitment the University has made to a portion of that cost.

This gives the students an overall view of our total IT infrastructure cost.

I have a student version and an MSU version of this spreadsheet. The student version went through several different scenarios which were eventually dropped.

**Information Technology Fee for Montana State University-Northern**

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Montana State University - Northern										Page 14
Central Banner Administrative Cost Plan										
	FY04	FY05	FY06	FY07	FY08	FY09	FY10	FY11	FY12	FY13
<b>EXPENSES</b>										
Central Banner Bandwidth Fees & Operations Costs	\$13,162	\$13,162	\$13,162	\$13,162	\$13,162	\$13,162	\$13,162	\$13,162	\$13,162	\$13,162
Central Banner Equipment Debt Service (Seriees F)	21,193	21,233	21,222	0						
Central Banner Campus Debt Service (Series F 1998)	83,146	80,015	81,720	0						
Central Banner Iniatives -New	26,145	46,004	59,105	67,402	73,333	76,133	76,838	75,148	79,398	83,637
Central Banner Operations Costs - MTL's	21,874	22,749	23,659	24,605	25,589	26,613	27,678	28,785	29,936	31,134
<b>Total Central Banner Costs</b>	<b>165,520</b>	<b>183,163</b>	<b>198,868</b>	<b>105,169</b>	<b>112,084</b>	<b>115,908</b>	<b>117,678</b>	<b>117,095</b>	<b>122,496</b>	<b>127,933</b>
<b>REVENUES:</b>										
<b>Network Fee - Per Semester</b>	\$36	\$36	\$36	\$40	\$40	\$40	\$40	\$40	\$40	\$40
Fee Revenue Generated (Using FY03 FTE)	111,492	111,492	111,492	123,880	123,880	123,880	123,880	123,880	123,880	123,880
Campus Funding	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000
<b>Total Funding</b>	<b>\$131,492</b>	<b>\$131,492</b>	<b>\$131,492</b>	<b>\$143,880</b>	<b>\$143,880</b>	<b>\$143,880</b>	<b>\$143,880</b>	<b>\$143,880</b>	<b>\$143,880</b>	<b>\$143,880</b>
<b>Balance</b>	<b>-\$34,028</b>	<b>-\$85,699</b>	<b>-\$153,075</b>	<b>-\$114,364</b>	<b>-\$82,569</b>	<b>-\$54,597</b>	<b>-\$28,394</b>	<b>-\$1,609</b>	<b>\$19,775</b>	<b>\$35,722</b>

## **Assumptions used for MSU-Northern**

The Network Fee is identified and used only for the payment of central Banner costs

Central costs annual inflation factor is 4%

MSU - Northern will address campus infrastructure and life cycle needs in a separate fee proposal

**Information Technology Fee for Montana State University College of Technology - Page 16**

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Montana State University - Great Falls College of Technology										Page 17
IT FEE ANALYSIS										
	FY 04	FY 05	FY 06	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	FY 13
<b>EXPENSES</b>										
Crystal Reports - 3 users upgrade				\$625.12	\$656.38	\$689.19	\$723.65	\$759.84	\$797.83	\$837.72
1/2 of networking costs										
Network circuit costs				8,573.00	8,573.00	8,573.00	8,573.00	8,573.00	8,573.00	8,573.00
Network equipment maintenance				4,578.50	4,578.50	4,578.50	4,578.50	4,578.50	4,578.50	4,578.50
Network Core charges				2,644.50	2,644.50	2,644.50	2,644.50	2,644.50	2,644.50	2,644.50
Network Admin charges				4,938.00	4,938.00	4,938.00	4,938.00	4,938.00	4,938.00	4,938.00
LAN Costs				4,220.00	4,220.00	4,220.00	4,220.00	4,220.00	4,220.00	4,220.00
Forms server - upgrade every 5 years				3,000.00					3,000.00	
Eleven printers upgrade every five years				4,400.00	4,532.00	4,667.96	4,808.00	4,952.24	5,100.81	5,253.83
88 computers-upgrade every three years				30,800.00	31,724.00	32,675.72	33,655.99	34,665.67	35,705.64	36,776.81
faculty and Banner user replacements										
Banner Bond payment	\$33,597.50	\$37,240.00	\$35,752.50							
MSU GF COT Multi-Campus Share 2.56%	11,008.49	19,370.08	24,886.46	28,379.59	30,877.25	32,056.21	32,352.91	31,641.36	33,430.78	35,215.59
	44,605.99	56,610.08	60,638.96	92,158.71	92,743.62	95,043.08	96,494.56	96,973.11	102,989.06	103,037.95
<b>REVENUES: (currently \$2.50/cr or \$30.04/FTE)</b>										
IT Network Fee, @1000 FTE	72,185.10	72,185.10	72,185.10	72,185.10	72,185.10	72,185.10	72,185.10	72,185.10	72,185.10	72,185.10
Balance	27,579.11	15,575.02	11,546.14	(19,973.61)	(20,558.52)	(22,857.98)	(24,309.46)	(24,788.01)	(30,803.96)	(30,852.85)
Increasing fee to \$3/Credit FY 07										
	3	72,185.10	72,185.10	72,185.10	100,678.65	100,678.65	100,678.65	100,678.65	100,678.65	100,678.65
		\$27,579.11	\$15,575.02	\$11,546.14	\$8,519.93	\$7,935.02	\$5,635.57	\$4,184.09	\$3,705.54	(\$2,310.41)
Semester Fee Equivalent				\$36.00						

## Assumptions used for MSU-GF COT IT Life-Cycle Funding Plan

Information Technology Life Cycle funding plan for period of ten years FY 04 thru FY 13. This plan

Replacement Cycle: Desktop Computer - 3 years; Network Servers - 5 years; Printers - 5 years

Hardware components included: Personal Desktop Computers for Faculty and staff; Printers for

Covering half the cost of networking because estimate banner uses that portion; however without a

Computer and Printer inflation factor 3%

	Quantity	Cost New	Total	Divided by	Annual Costs	
Desktop Computer	88	1050	92400	3	30800	
Server	1	3000	3000	1	3000	
Printers	11	2000	22000	5	4400	
LAN Components						
3548 Switches	4	3500	14000	5	2800	
3524 Switches	2	1600	3200	5	640	
4006 Layer 3 Switch	1	25000	25000	5	5000	8440

**Information Technology Fee for Montana State University Multi Campus Plan**

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Montana State University IT Infrastructure Replacement Program-Multi-Campus Plan										Page 20
	FY 04	FY 05	FY 06	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	FY 13
	Projected	Projected	Projected	Projected	Projected	Projected	Projected	Projected	Projected	Projected
<b>Multi-Campus Shared Systems Expenditures</b>										
<b>On-Going Replacements &amp; Commitments</b>										
Oracle & Backup Debt Retirement-Existing	\$78,074	\$80,081	\$82,157							
Banner Equipment Repl Debt Retirement-Page 4	0	177,872	200,233	\$214,047	\$238,838	\$288,445	\$328,998	\$352,450	\$378,303	\$401,537
Banner Software License Maintenance-Page 4	351,945	382,438	401,560	421,638	442,719	464,855	488,098	512,503	538,128	565,035
<b>Total On-Going Replacements</b>	<b>430,019</b>	<b>640,391</b>	<b>683,949</b>	<b>635,685</b>	<b>681,557</b>	<b>753,301</b>	<b>817,096</b>	<b>864,953</b>	<b>916,432</b>	<b>966,572</b>
<b>Potential Enhancements</b>										
New Initiatives Debt Retirement-Page 5	0	79,176	186,745	319,733	360,686	323,474	258,904	169,982	174,159	178,446
Banner Initiatives Maintenance Renewal-Page 5	0	37,077	101,432	153,160	163,899	175,421	187,786	201,056	215,300	230,591
<b>Total Potential Enhancements</b>	<b>0</b>	<b>116,253</b>	<b>288,177</b>	<b>472,894</b>	<b>524,585</b>	<b>498,895</b>	<b>446,690</b>	<b>371,038</b>	<b>389,459</b>	<b>409,037</b>
<b>Total Multi-Campus Shared Systems Cost</b>	<b>\$430,019</b>	<b>\$756,644</b>	<b>\$972,127</b>	<b>\$1,108,578</b>	<b>\$1,206,142</b>	<b>\$1,252,195</b>	<b>\$1,263,786</b>	<b>\$1,235,991</b>	<b>\$1,305,891</b>	<b>\$1,375,609</b>
MSU-Bozeman Share - 77.33%	332,534	585,113	751,746	857,264	932,710	968,323	977,286	955,792	1,009,845	1,063,758
MSU-Billings Share - 14.03%	60,332	106,157	136,389	155,534	169,222	175,683	177,309	173,409	183,216	192,998
MSU-Northern Share - 6.08%	26,145	46,004	59,105	67,402	73,333	76,133	76,838	75,148	79,398	83,637
MSU College of Technology-GF - 2.56%	11,008	19,370	24,886	28,380	30,877	32,056	32,353	31,641	33,431	35,216

Montana State University IT Infrastructure Replacement Program - Banner Equipment Replacement												Page 21
	FY 03	FY 04	FY 05	FY 06	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	FY 13	
	Actual	Projected	Projected	Projected	Projected	Projected	Projected	Projected	Projected	Projected	Projected	Notes
Oracle/Backup Upgrade Debt Service	\$77,008	\$78,074	\$80,081	\$82,157								Funding from Tom Gibson to pay this debt
<b>Equipment Replacement Schedule</b>												Includes 4 Yrs prepaid warranty
Atlas Cluster Web Server-Production				18,323				\$20,194				
Cartman Cluster Web Server-Development	13,528				\$16,783				\$18,496			
Titan Replacement - Tethys - ES45	61,112				69,225				76,292			
Compaq Alpha ES40	55,310											Becomes Banner Backup after Saturn upgrade
Banner Storage System (SAN) - EVA		250,000				\$275,523				\$303,651		
Banner Tape Backup		44,086				48,587				53,547		Includes tapes and Legato license
HP Printer 8100		7,200				7,935				8,745		Enterprise level - ie W-2 forms
Saturn Cluster - Janus & Calypso - ES 47's		350,000				385,732				425,112		Oracle Licenses-4 processors - we already have
Forms/Web Servers												No replacement assuming INF funded
ACOM Check Printers - Bozeman			29,845				\$32,892				\$36,249	Purchased in 1998
ACOM Check Printers - Blgns, No, GF			35,441				39,059				43,047	Purchased in 1998
Citrix Server - IBM Hyperion												No replacement assuming INF funded
EPOS IVR												IVR ends 6/30/03
Digital HA3000 UPS-3 Phase Servers				32,269					36,438			Change to Powerware
Mariner Admin Systems Server			5,774				6,363				7,013	
SAIS Production - Dione	2,589				4,727				5,209			
Pandora - Web based files and reports			10,745					11,842			13,051	Purchased 7/20/01
Internet Native Forms replacement						115,444				127,230		Purchased in FY 04 as Banner Initiative
Web-Enabled Reporting replacement							48,492				53,443	Purchased in FY 05 as Banner Initiative
Banner 7 Message Arch Server - Test & Devl Repl							22,042				24,292	Purchased in FY 05 as Banner Initiative
Banner 7 Message Arch Server - Production Repl							66,125				72,876	Purchased in FY 05 as Banner Initiative
Business Continuity Replacement								259,747				Purchased in FY 06 as Banner Initiative
Powerware UPS - 25%	5,483						6,343					Installed 1/03; paid in 453444; 6 year life
Liebert 30 Ton AC - 31%												Original Cost - \$134,777 6/96; 18 yr life
Electrical Generator Connection - 31%	11,459											Installed 3/03; paid in 453444; 18 year life cycle
<b>Total Equipment Replacement</b>	<b>\$149,481</b>	<b>\$651,286</b>	<b>\$81,805</b>	<b>\$50,592</b>	<b>\$90,734</b>	<b>\$833,220</b>	<b>\$233,159</b>	<b>\$279,941</b>	<b>\$136,435</b>	<b>\$918,285</b>	<b>\$249,972</b>	
<b>Amortization Schedule</b>												
Loan Proceeds #1		651,500										
Amortization #1			177,872	177,872	177,872	177,872						4 Year Loans @ 4%
Loan Proceeds #2			81,900									
Amortization #2				22,360	22,360	22,360	22,360					
Loan Proceeds #3				50,600								
Amortization #3					13,815	13,815	13,815	13,815				
Loan Proceeds #4					90,800							
Amortization #4						24,790	24,790	24,790	24,790			
Loan Proceeds #5						833,200						
Amortization #5							227,480	227,480	227,480	227,480		
Loan Proceeds #6							233,200					\$6,400 is 6 yr loan; balance is 4 yr loan
Amortization #6								62,913	62,913	62,913	62,913	
Loan Proceeds #7								280,000				
Amortization #7									37,267	37,267	37,267	
Loan Proceeds #8									136,500			
Amortization #8										50,644	50,644	
Loan Proceeds #9										918,300		
Amortization #9											250,714	
Loan Proceeds #10											250,000	

Montana State University IT Infrastructure Replacement Program - Banner Initiatives												Page 22
	FY 03	FY 04	FY 05	FY 06	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	FY 13	
	Actual	Projected	Projected	Projected	Projected	Projected	Projected	Projected	Projected	Projected	Projected	Notes
<b>New Banner Initiatives Proposed</b>												
Internet Native Forms-Proof of Concept		\$27,500										Oracle Internet Dev'l Suite 5 license + training class
Internet Native Forms Production		243,400										5 Servers+Load balance switch+Oracle lic+ Dev'l Suite
Web-Enabled Reporting-Proof of Concept		18,900										plus Win 2000 licenses plus 1st year SW maint
Web-Enabled Reporting-Production			\$128,960									Oracle Internet Dev'l Suite 5 licenses + web training
Banner 7 - Messaging - Test & Devl			81,560									4 Servers+Oracle lic + 1st year SW maint + WIN 2000
Banner 7 - Production			183,120									Announced at SUMMIT-03 new arch; rough estimates
Business Continuity/Disaster Recovery				\$487,049								Server, oper sys, software, 1st yr maint
Oracle Site License												MSU-Billings-place Alpha ES40 after Saturn upgrade 9 Servers, Upgr ES40, Oracle, Tape, Disk,Circuit
Future Banner Initiatives					\$150,000	\$153,690	\$157,471	\$161,345	\$165,314	\$169,380	\$173,547	Oracle cost \$1.566 million+\$344K reqr 22%/yr renewal
												Leave out - too expensive missed special discount
<b>Total New Initiatives</b>		\$289,800	\$393,640	\$487,049	\$150,000	\$153,690	\$157,471	\$161,345	\$165,314	\$169,380	\$173,547	
<b>Amortization Schedule</b>												
Loan Proceeds #1		290,000										4 Year Loans @ 4%
Amortization #1			79,176	79,176	79,176	79,176						
Loan Proceeds #2			394,000									
Amortization #2				107,570	107,570	107,570	107,570					
Loan Proceeds #3				487,100								
Amortization #3					132,988	132,988	132,988	132,988				
Loan Proceeds #4					150,000							
Amortization #4						40,953	40,953	40,953	40,953			
Loan Proceeds #5						153,700						
Amortization #5							41,963	41,963	41,963	41,963		
Loan Proceeds #6							157,500					
Amortization #6								43,001	43,001	43,001	43,001	
Loan Proceeds #7								161,400				
Amortization #7									44,065	44,065	44,065	
Loan Proceeds #8									165,300			
Amortization #8										45,130	45,130	
Loan Proceeds #9										169,400		
Amortization #9											46,250	
Loan Proceeds #10											173,600	
Amortization #10												
<b>Total Amortization</b>		\$0	\$79,176	\$186,745	\$319,733	\$360,686	\$323,474	\$258,904	\$169,982	\$174,159	\$178,446	
<b>Software License Renewals on Initiatives</b>												
Banner Internet Native Forms												
Oracle 9i/DS - POC - 5 licenses - 8%			5,346	5,774	6,236	6,734	7,273	7,855	8,483	9,162	9,895	
Oracle SW License Maint - 8%			20,196	21,812	23,557	25,441	27,476	29,675	32,049	34,612	37,381	
WIN 2000 Advanced Server SW Lic-5%			2,625	2,756	2,894	3,039	3,191	3,350	3,518	3,694	3,878	
Oracle 9i/DS - 5 licenses - 8%			5,346	5,774	6,236	6,734	7,273	7,855	8,483	9,162	9,895	
Web Enabled Reporting												
Oracle 9i/DS - POC- 4 licenses - 8%			3,564	3,849	4,157	4,490	4,849	5,237	5,656	6,108	6,597	
Oracle 9i/DS - 3 licenses - 8%				16,157	17,449	18,845	20,353	21,981	23,740	25,639	27,690	
WIN 2000 Advanced Server SW Lic-5%				2,100	2,205	2,315	2,431	2,553	2,680	2,814	2,955	
Banner 7 Messaging Arch												
Oper Sys licenses-Test/Devl - 5%				3,150	3,308	3,473	3,647	3,829	4,020	4,221	4,432	
Message SW Maint Test/Devl - 8%				11,405	11,975	12,574	13,202	13,863	14,556	15,284	16,048	
Oper Sys licenses - 5%				22,176	23,285	24,449	25,671	26,955	28,303	29,718	31,204	
Message SW Maint - 8%				6,480	6,804	7,144	7,501	7,876	8,270	8,684	9,118	
Disaster/Business Continuity												
Oracle SW License Maint - 8%					30,413	32,846	35,473	38,311	41,376	44,686	48,261	

**Montana State University IT Infrastructure Program - Multi Campus Assumptions**

Multi-Campus Equipment/Software & MSU-Bozeman Equipment/Software

- \* Project replacement and potential enhancement costs for 10 Years - FY 04 through FY 13
- \* The plan will be updated each year and extended an additional year; zero-base the plan every 5 years
- \* Replacement Cycle - Servers/Printers-4 Yr, UPS-6 Yr, Network Eq-7 Yr, Bldg Wiring-12 Yr, Fiber Backbone, AC, Generator Connection, Halon Repl-18 Yr
- \* Purchases of equipment will be financed over the lifecycle
- \* Assume a borrowing interest rate of 4%
- \* Calculate Consumer Price Index for inflation factor for categories of equipment; use the national CPI floating 10 year average; 2.46% for CY 93 to 02
- \* Calculate Software License Maintenance Renewals at 5% and 8% for SCT, 5% for Windows, Oracle, Legato
- \* Calculate SCT Software License Agreement upgrade to 7x24 - 15%; renegotiate contract at 12/31/04 - 10%
- \* Interest income on fund balance - assume rate of 2%
- \* Student enrollment - use FY 03 level; MSU-Bozeman 10,670
- \* Use FY 02 Actual Expenditures for calculating campus shares
- \* Use FY 02 Actual Network Fee Income \$632,839 per FY 02 FTE Student Enrollment 10,444 to calculate the yield per FTE=\$60.60 per Student FTE (2.424)
- \* Banner Debt Service will be paid in full 11/15/05; Student Fee income for IT Infrastructure is not available until FY 07
- \* Include purchase of extended warranty for the lifecycle of equipment purchased as equipment cost
- \* Include mandatory software purchased with equipment as equipment cost, i.e. Oracle licenses
- \* Add a category for renewal of software purchased with equipment in the IT Infrastructure Program; i.e. SCT License agreement, Oracle License
- \* This program does not include desktop equipment, departmental servers, Smart Podium equipment, Student Lab equipment, nor Telephone System
- \* No personnel costs will be included