

4. Ability to alter the checkpoint frequency *during* a run:
- | | | |
|--------------------------------|------------|-------|
| Number of eligible batch jobs: | | _____ |
| x average savings per job | Clock time | _____ |
| Savings: | Clock time | _____ |

Category 2 -- On-Line:

5. Savings from reductions in on-line down time (because batch and on-line work can process concurrently)

Number of affected on-line applications		_____
x average down-time per month:	On-line time	_____
Time Savings:	On-line time	_____
x \$ per on-line hour:		_____
\$ Savings:		_____

6. Cost of loosing on-line updates when shared DB2, IMS, MQSeries and/or VSAM resources must be restored to an initial state to allow a failed batch job to re-run from the beginning. (The elimination of this cost represents a savings)

Number of lost updates per month		_____
Cost per lost update:		_____
Savings:		_____

Totals:

Category 1 - Batch:	Total (1 through 4)	Clock time _____	CPU: _____	(a)
		\$/ CPU Hr: _____		
		\$ Total: _____		(b)
Category 2 - On-line:	Total (5 and 6)		\$ Total: _____	(c)

Savings per Month

Total \$ Savings (b + c):	_____	\$ per Month
Clock time savings: (a)	_____	Hours per month

Prepared for Sample Organization_____

Date February 27, 2001_____

Assumptions:

Number of batch jobs: 1128

Average batch job length: Wall Clock time 20 minutes CPU: 8 minutes

Maximum batch job length Wall Clock time 8 hours CPU: 2 hours

Number of protected resources: 300
(e.g. DB2, IMS, MQSeries and VSAM)

Average size: 100,000 rows, records or segments

Maximum size 24,000,000 rows, records or segments

Category 1 -- Batch:

1. Reductions in the number of backups required. Without restart capability DB2, IMS, MQSeries and/or VSAM resources must be backed up so they can be restored to their initial state when failed jobs must re-run from the beginning:

Number of backups: 3000

x duration of average backup: Clock time 5 minutes CPU: 10 seconds

Savings: Clock time 250 hours CPU: 8.3 hours

2. Ability to restart from near the point of failure rather than from the beginning:

Number of batch abends: 20

x half the average job length: Clock time 10min CPU: 4 min

Savings: Clock time 3.3 hrs CPU: 1.3 hrs

3. Ability to run batch jobs concurrently with other batch and online work that access the same protected resources (instead of single threading):

Number of affected batch jobs: 800 (a)

Average # of jobs per protected resource: 3 (b)

Average batch job length: 20 min (c)

Savings: Clock time 177 hours a c ((b-1) / b)

CPU time 4.4 hours (a c ((b-1)/b)) / 40

4.	Ability to alter the checkpoint frequency <i>during</i> a run:			
	Number of restartable batch jobs:			40
	x average savings per job	Clock time		6 minutes
	Savings:	Clock time		4 hours

Category 2 -- On-Line:

5. Savings from reductions in on-line down time (because batch and online work can process concurrently)

	Number of affected on-line applications			100
	x average down-time per month:	On-line time		3 min
	Time Savings:	On-line time		5 hours
	x \$ per on-line hour:			\$2,000
	\$ Savings:			\$10,000

6. Cost of loosing on-line updates when shared DB2, IMS, MQSeries and/or VSAM resources must be restored to an initial state to allow a failed batch job to re-run from the beginning. (The elimination of this cost represents a savings)

	Number of lost updates per month			200
	Cost per lost update:			\$30
	Savings:			6000

Totals:

Category 1 - Batch:	Total (1 through 4)	Clock time	434.3	CPU:	14.0	(a)
		\$ / CPU Hr:			\$2000	
		\$ Total:			\$28,000	(b)
Category 2 - On-line:	Total (5 and 6)	\$ Total:			\$16,000	(c)

Savings per Month

Total \$ Savings (b + c):	\$44,000	\$ per Month
Clock time savings: (a)	434.3	Hours per month