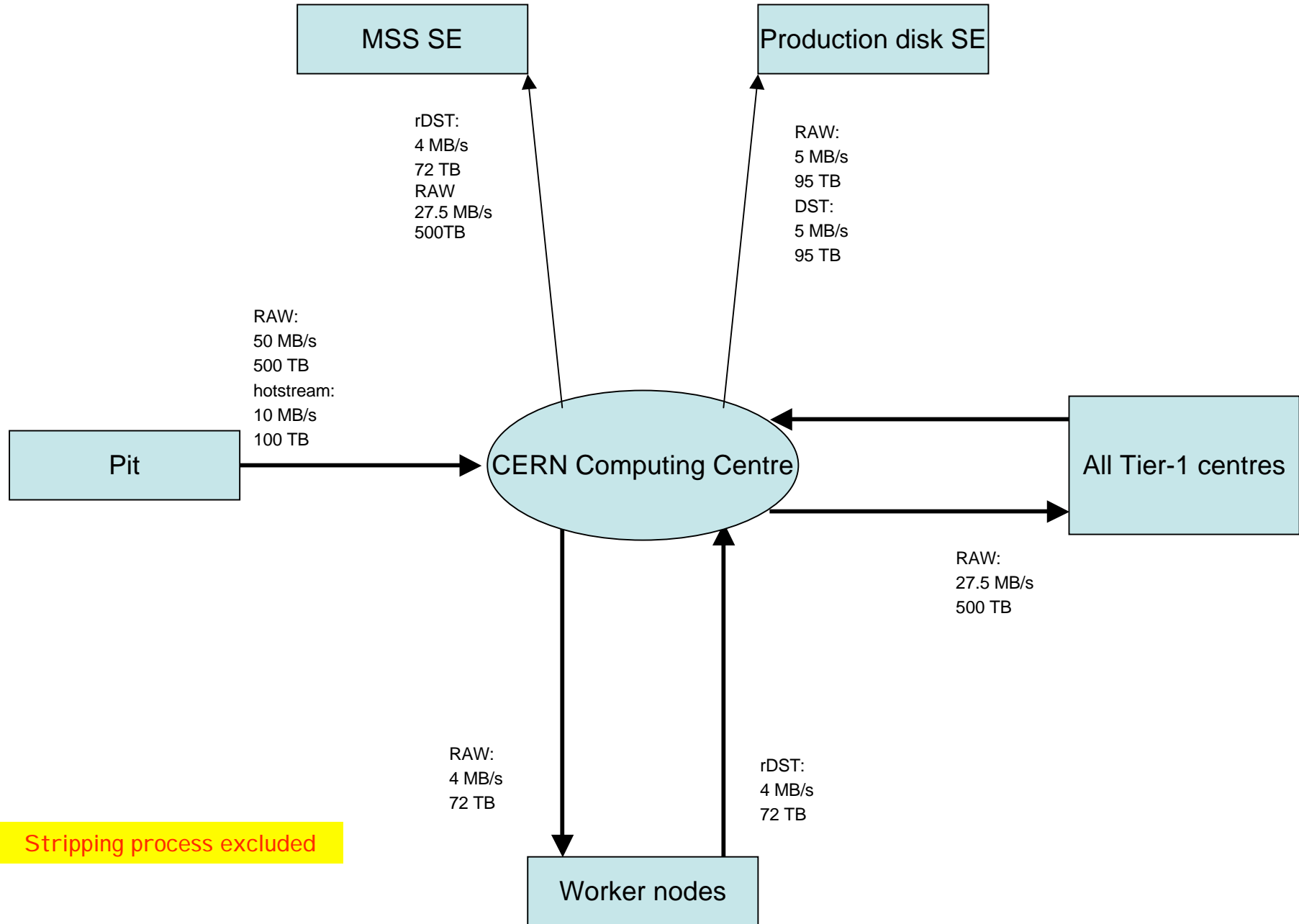
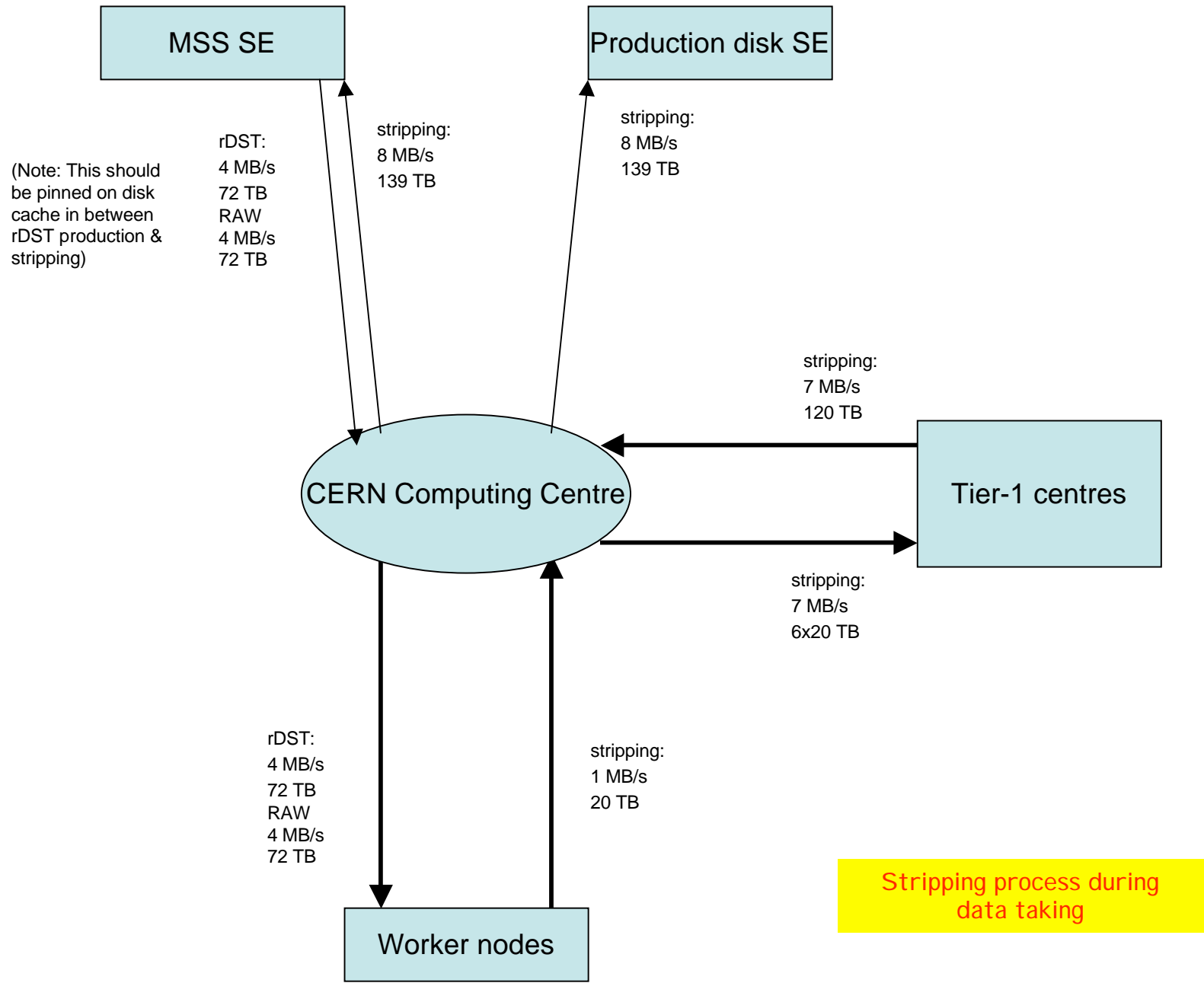


# LHCb Computing Model - A Pictorial Guide

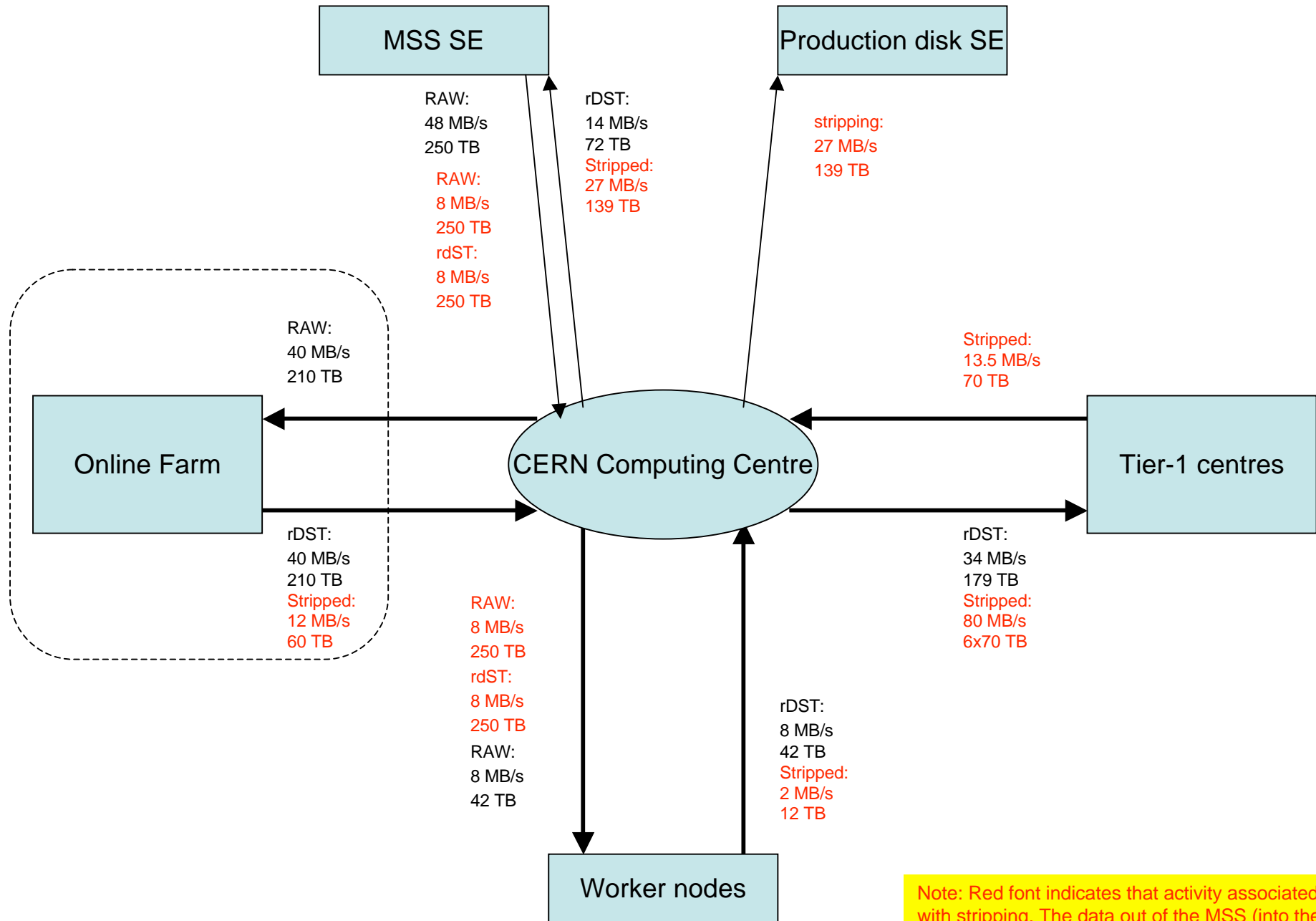


# CERN Data taking (7-months)





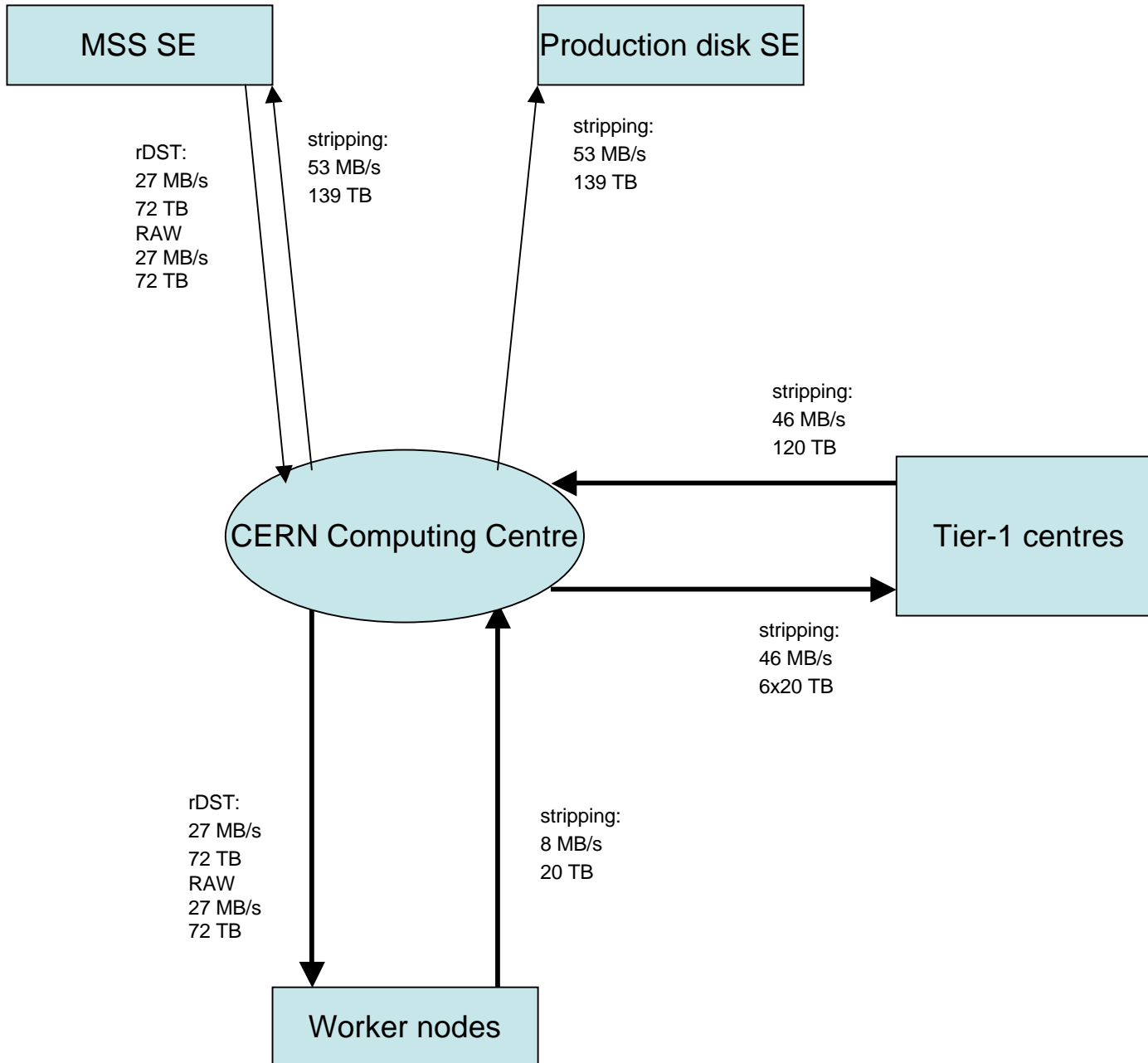
# CERN Reprocessing (2 months)



Note: Red font indicates that activity associated with stripping. The data out of the MSS (into the worker nodes) is assumed to be pinned on the disk cache from the reconstruction until stripped

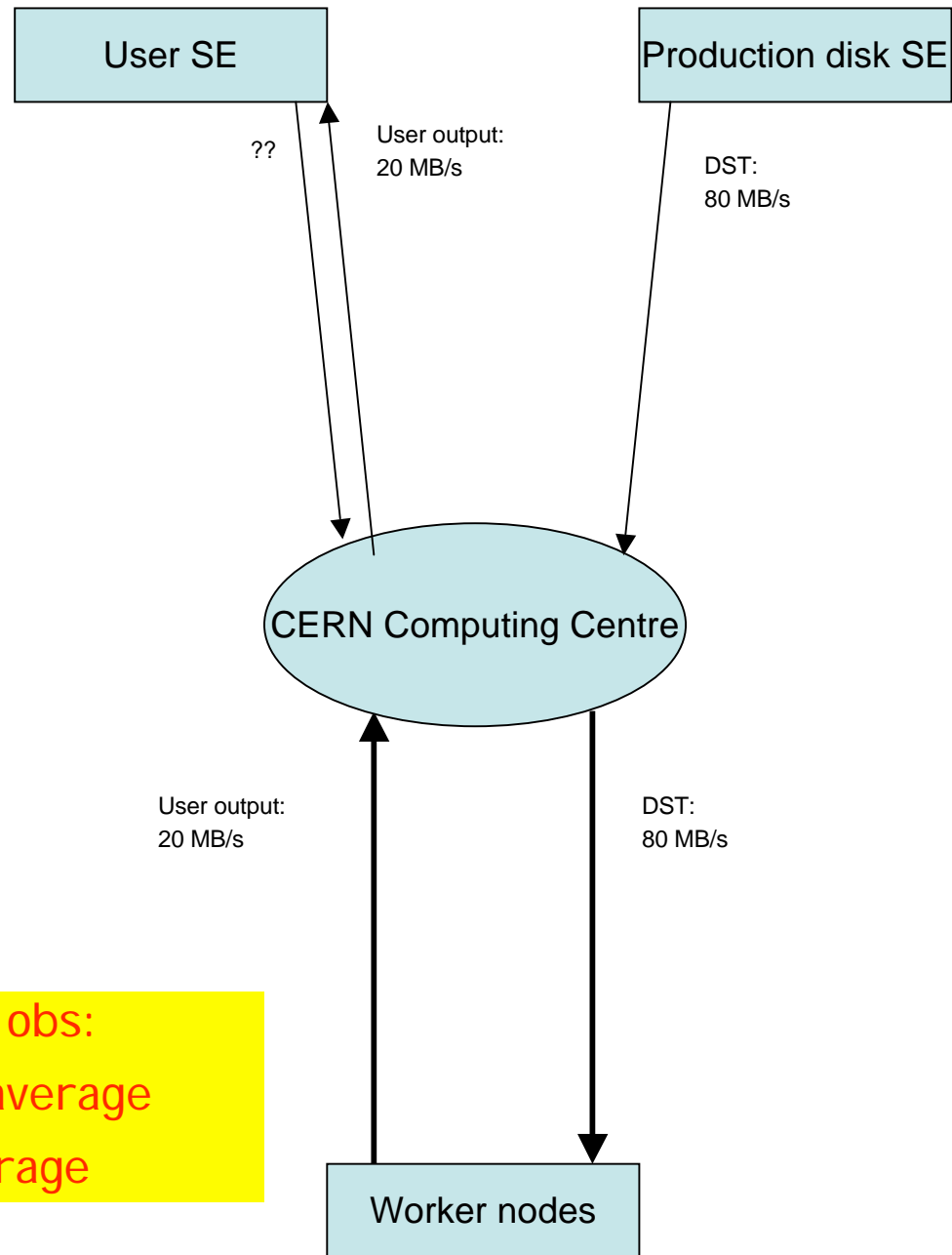
# CERN Stripping

(1 month - twice a year)



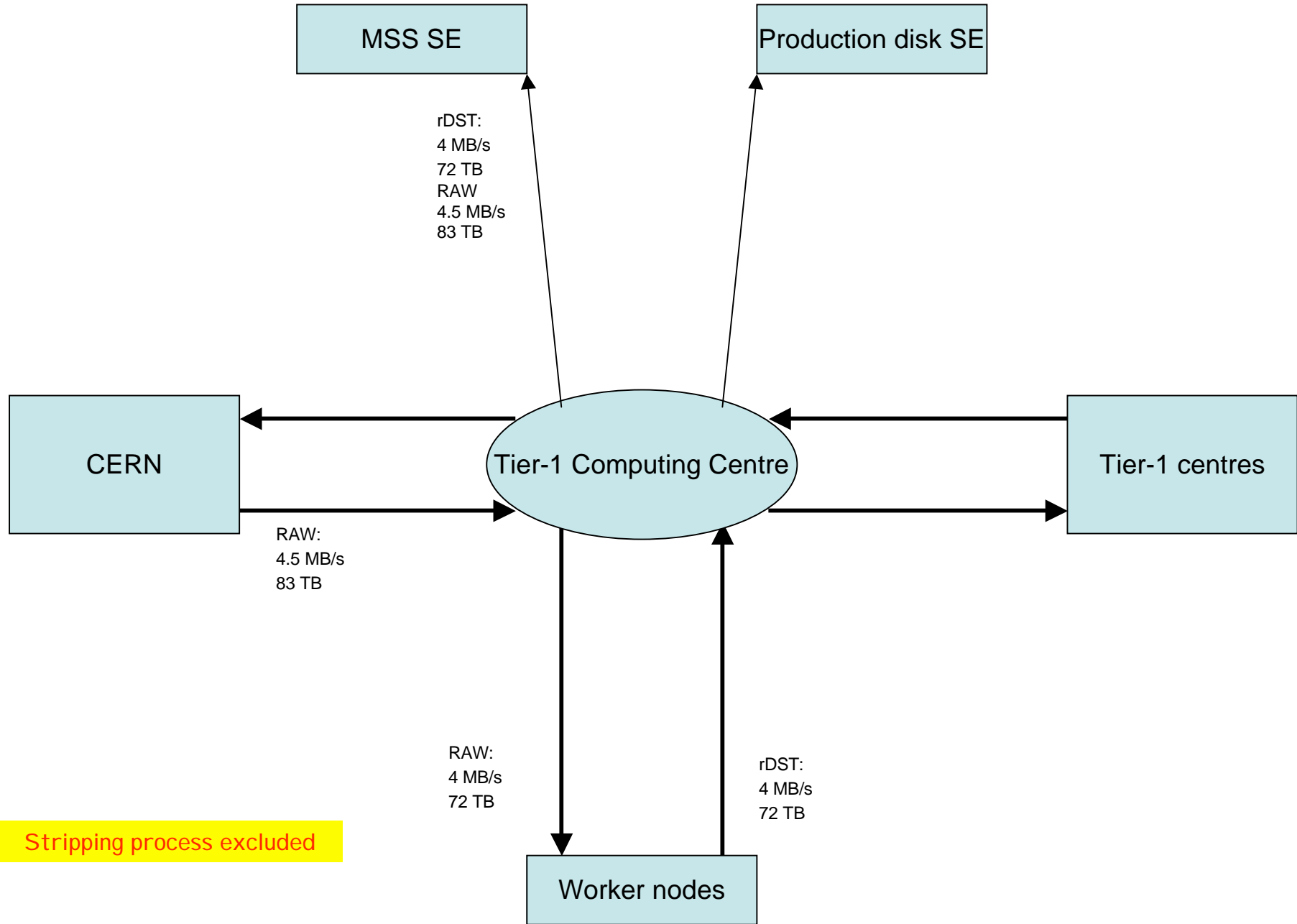


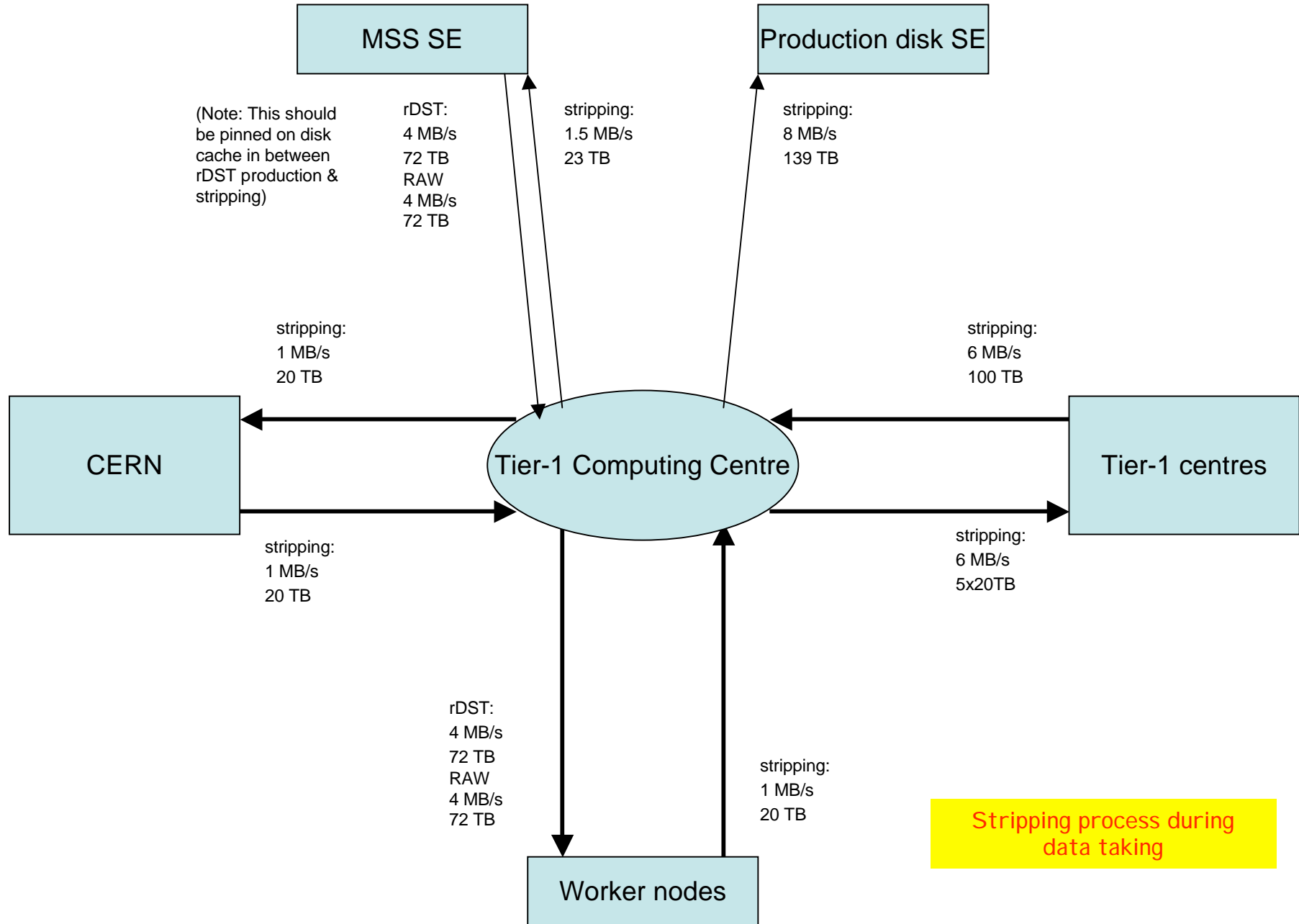
# CERN Analysis



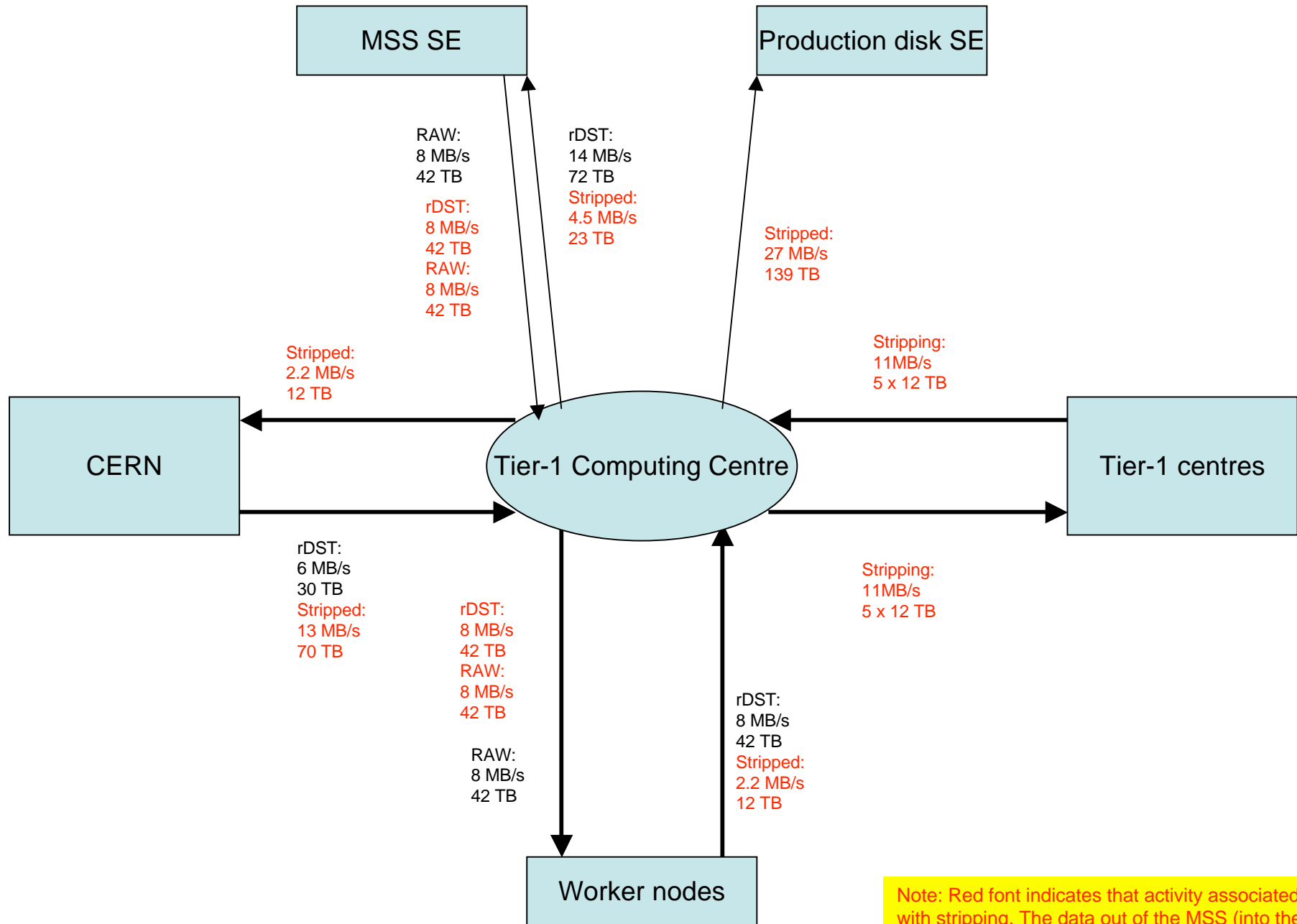
~35 concurrent jobs:  
2.3 MB/s input on average  
0.6 MB/s on average

**“Typical” Tier-1 Data taking  
(7-months)**





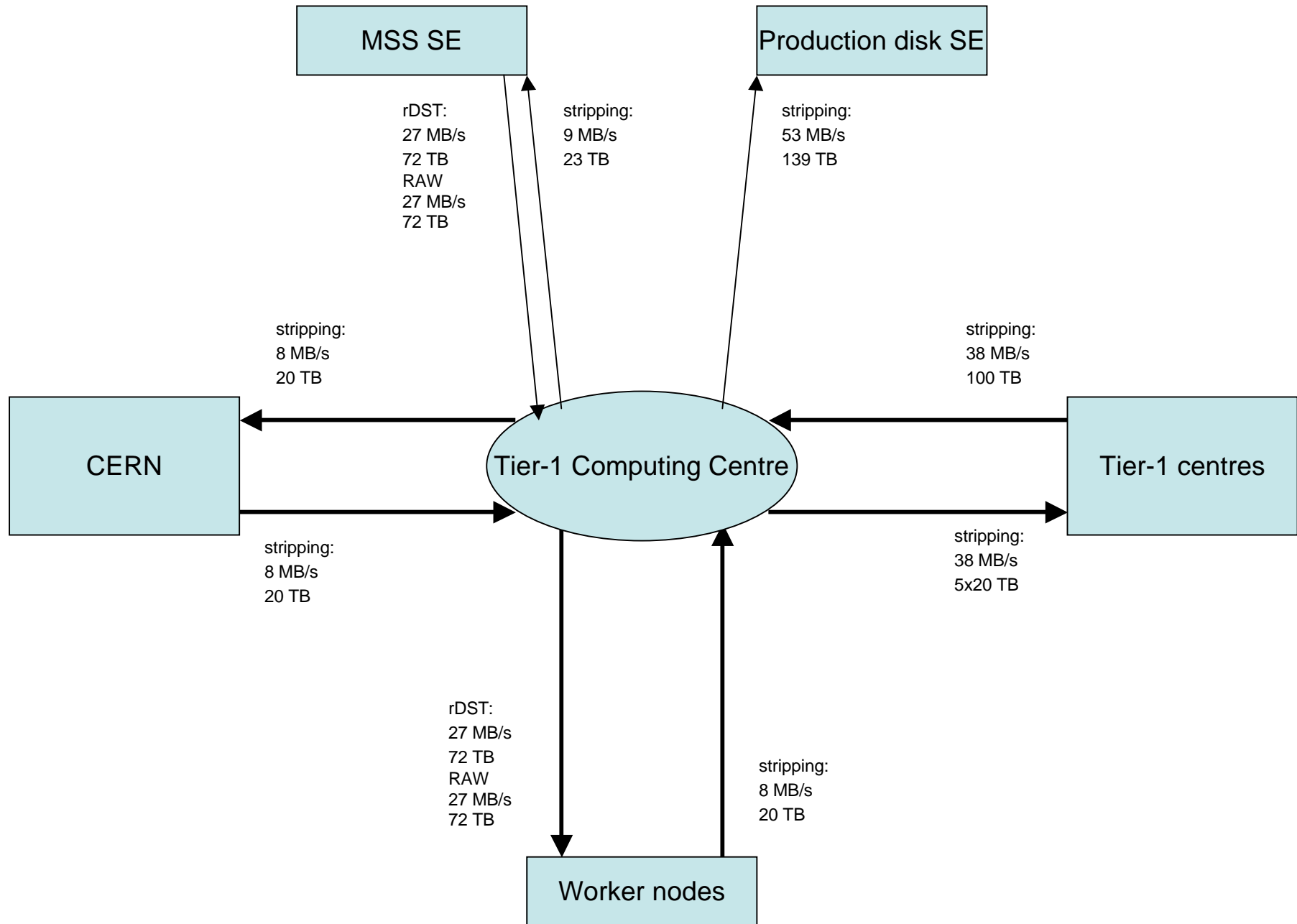
# “Typical” Tier-1 Reprocessing (2-months)



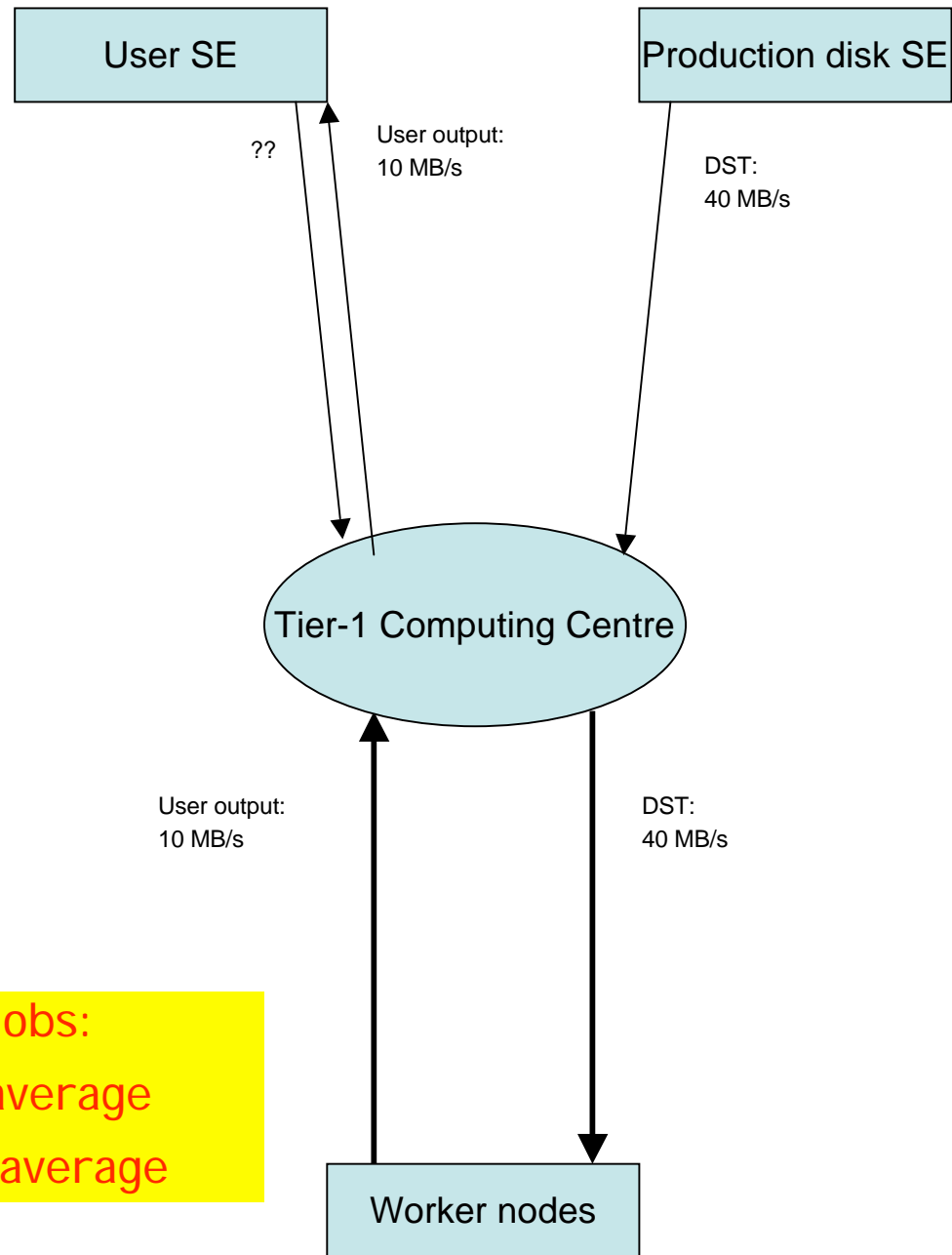
Note: Red font indicates that activity associated with stripping. The data out of the MSS (into the worker nodes) is assumed to be pinned on the disk cache from the reconstruction until stripped

**“Typical” Tier-1 Stripping  
(1 month - twice a year)**





# “Typical” Tier-1 Analysis



~18 concurrent jobs:  
2.3 MB/s input on average  
0.6 MB/s output on average



	Typical	GridKa	IN2P3	CNAF	SaRA	RAL	PIC
<b>Reprocessing</b>							
rDST from CERN (TB)	30.0	27.0	48.6	25.2	41.4	27.0	12.6
rate (MB/s)	5.7	5.1	9.2	4.8	7.9	5.1	2.4
Stripping from CERN	70.0	70.0	70.0	70.0	70.0	70.0	70.0
rate	13.3	13.3	13.3	13.3	13.3	13.3	13.3
RAW to WN	42.0	37.8	68.0	35.3	58.0	37.8	17.6
rate	8.0	7.2	12.9	6.7	11.0	7.2	3.4
Strip: RAW to WN	42.0	37.8	68.0	35.3	58.0	37.8	17.6
rate	8.0	7.2	12.9	6.7	11.0	7.2	3.4
Strip: rDST to WN	42.0	37.8	68.0	35.3	58.0	37.8	17.6
rate	8.0	7.2	12.9	6.7	11.0	7.2	3.4
rDST from WN	42.0	37.8	68.0	35.3	58.0	37.8	17.6
rate	8.0	7.2	12.9	6.7	11.0	7.2	3.4
Strip: DST out of WN	12.0	10.8	19.4	10.1	16.6	10.8	5.0
rate	2.3	2.1	3.7	1.9	3.2	2.1	1.0
Strip: DST to other T1	60.0	54.0	97.2	50.4	82.8	54.0	25.2
rate	11.4	10.3	18.5	9.6	15.8	10.3	4.8
Strip: DST from other T1	60.0	61.2	52.6	61.9	55.4	61.2	67.0
rate	11.4	11.6	10.0	11.8	10.5	11.6	12.7
Strip: DST to prod disk SE	139.0	139.0	139.0	139.0	139.0	139.0	139.0
rate	26.4	26.4	26.4	26.4	26.4	26.4	26.4
rDST to MSS	71.5	64.4	115.8	60.1	98.7	64.4	30.0
rate	13.6	12.2	22.0	11.4	18.8	12.2	5.7
Strip: DST to MSS	23.2	20.9	37.5	19.5	32.0	20.9	9.7
rate	4.4	4.0	7.1	3.7	6.1	4.0	1.9
RAW out pf MSS	42.0	37.8	68.0	35.3	58.0	37.8	17.6
rate	8.0	7.2	12.9	6.7	11.0	7.2	3.4
Strip: RAW out of MSS	42.0	37.8	68.0	35.3	58.0	37.8	17.6
rate	8.0	7.2	12.9	6.7	11.0	7.2	3.4
Strip: rDST out of MSS	42.0	37.8	68.0	35.3	58.0	37.8	17.6
rate	8.0	7.2	12.9	6.7	11.0	7.2	3.4
Strip: DST to CERN	11.7	10.5	18.9	9.8	16.1	10.5	4.9
rate	2.2	2.0	3.6	1.9	3.1	2.0	0.9

	Typical	GridKa	IN2P3	CNAF	SaRA	RAL	PIC
<b>Stripping</b>							
RAW into WN (out of MSS) (TB)	71.5	64.4	115.8	60.1	98.7	64.4	30.0
rate (MB/s)	27.2	24.5	44.1	22.9	37.5	24.5	11.4
rDST into WN (out of MSS)	71.5	64.4	115.8	60.1	98.7	64.4	30.0
rate	27.2	24.5	44.1	22.9	37.5	24.5	11.4
DST out of WN	20.0	18.0	32.4	16.8	27.6	18.0	8.4
rate	7.6	6.8	12.3	6.4	10.5	6.8	3.2
DST out to T1	100.0	90.0	162.0	84.0	138.0	90.0	42.0
rate	38.1	34.2	61.6	32.0	52.5	34.2	16.0
DST in from T1	100.0	102.0	87.6	103.2	92.4	102.0	111.6
rate	38.1	38.8	33.3	39.3	35.2	38.8	42.5
DST to prod disk SE	139.0	139.0	139.0	139.0	139.0	139.0	139.0
rate	52.9	52.9	52.9	52.9	52.9	52.9	52.9
DST to MSS	23.2	20.9	37.5	19.5	32.0	20.9	9.7
rate	8.8	7.9	14.3	7.4	12.2	7.9	3.7
DST to CERN	20.0	18.0	32.4	16.8	27.6	18.0	8.4
rate	7.6	6.8	12.3	6.4	10.5	6.8	3.2
DST in from CERN	20.0	20.0	20.0	20.0	20.0	20.0	20.0
rate	7.6	7.6	7.6	7.6	7.6	7.6	7.6
<b>Analysis</b>							
rate: out of production disk SE	40.0	36.0	64.8	33.6	55.2	36.0	16.8
rate: into WN	40.0	36.0	64.8	33.6	55.2	36.0	16.8
rate: out of WN	10.0	9.0	16.2	8.4	13.8	9.0	4.2
rate: to user disk SE	10.0	9.0	16.2	8.4	13.8	9.0	4.2