

Compression Method	Compression Rate
SGD	1
Gradient Sparsification ($k=0.02$)	225
Natural Compression	4
1-Bit SGD	32
Sparse Gradient ($R=90\%$)	7.4
TernGrad	16
Top-K ($k=10$)	306.3
vqSGD ($s=200$)	7.7
EFsignSGD	-
FetchSGD	-
MemSGD ($k=10$)	306.3