

## App Server



```
T->BeginTx();  
buffer = T->Get(fileKey);  
// update buffer;  
T->Put(fileKey, buffer)  
status = T->EndTx();
```

TX start pos = #1

Commit record:  
reads: fileKey  
writes: fileKey

## *Transaction Model:*

1. Assume the transaction participants are collaborative and will honestly add read/write set in commit record. Or:
2. Use ZKP or secure computation hardware for verifiable transaction computation.

