

1. abstraction:DatanodeInfo
2. crash point:before read
3. bug type:local semantic bug
4. timing:crash

```
1  /* system-version:hdfs-1.0.3
2    * crash point:org.apache.hadoop.hdfs.DFSClient#updateBlockInfo
3    * need calling contex: three caller, only one cause bugs
4    */
5  DatanodeInfo primaryNode = last.getLocations()[0];//crash point
```