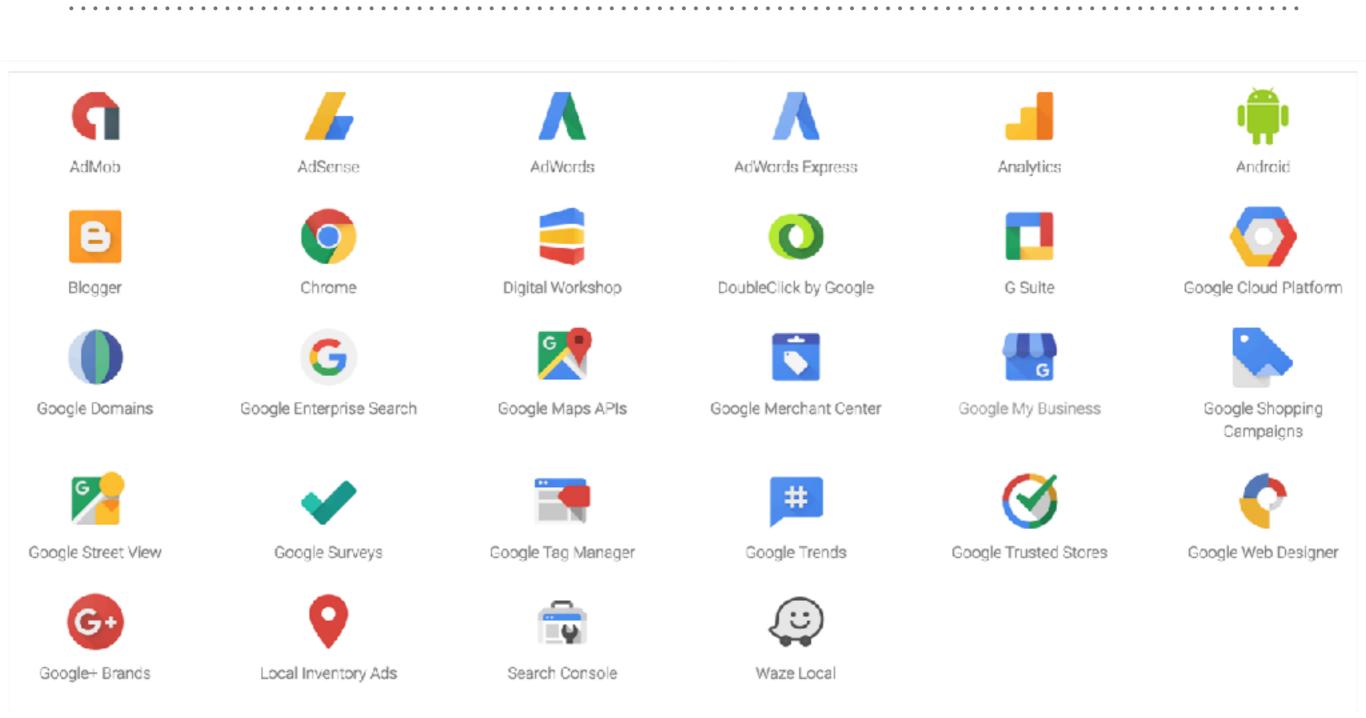


HOW GOOGLE SCALABILITY

AYUTH MANGMESAP

GOOGLE'S PRODUCTS



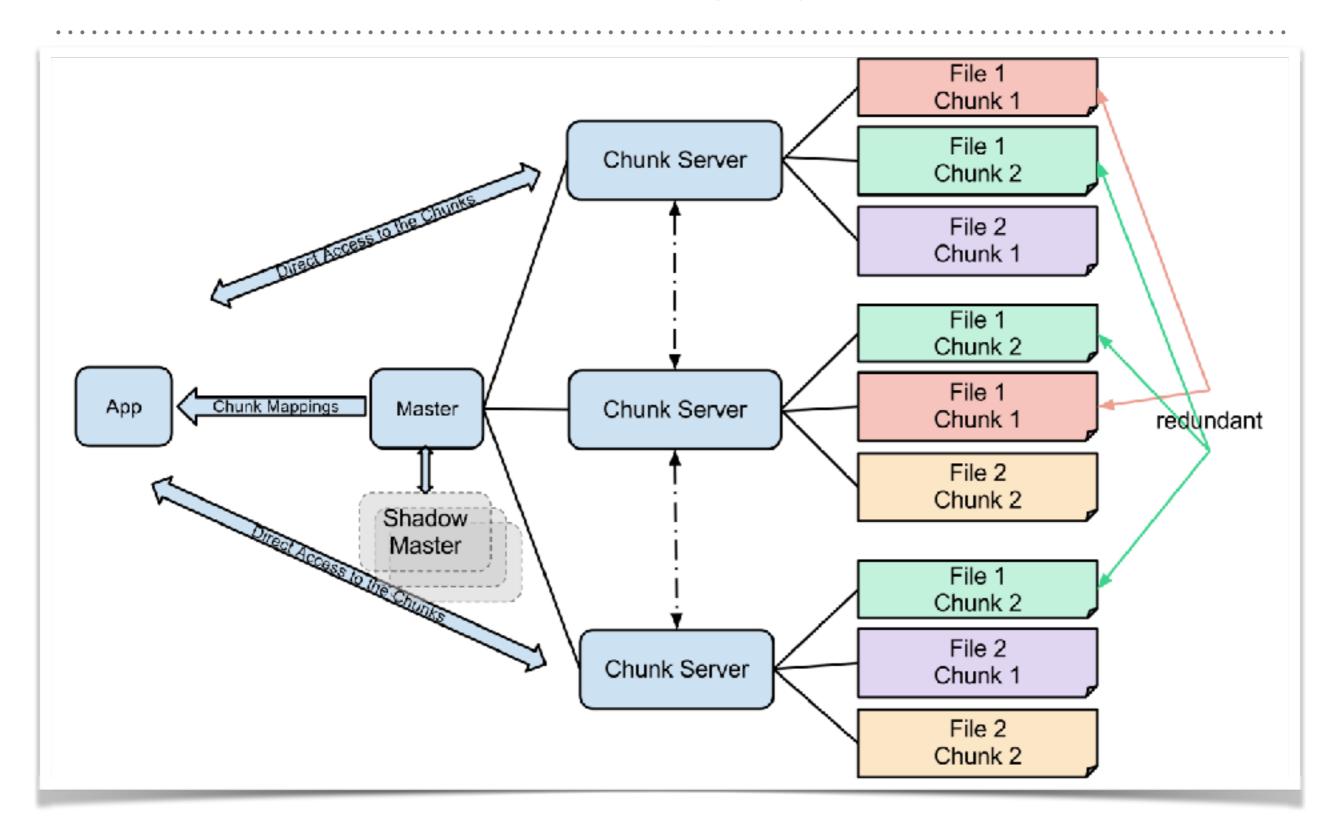
SEARCH ENGINE STATS IN 2017

Search Engine	Searches per day
Google	4,464,000,000
Bing	873,964,000
Baidu	583,520,803
Yahoo	536,101,505
Other (AOL, Ask etc)	128,427,264

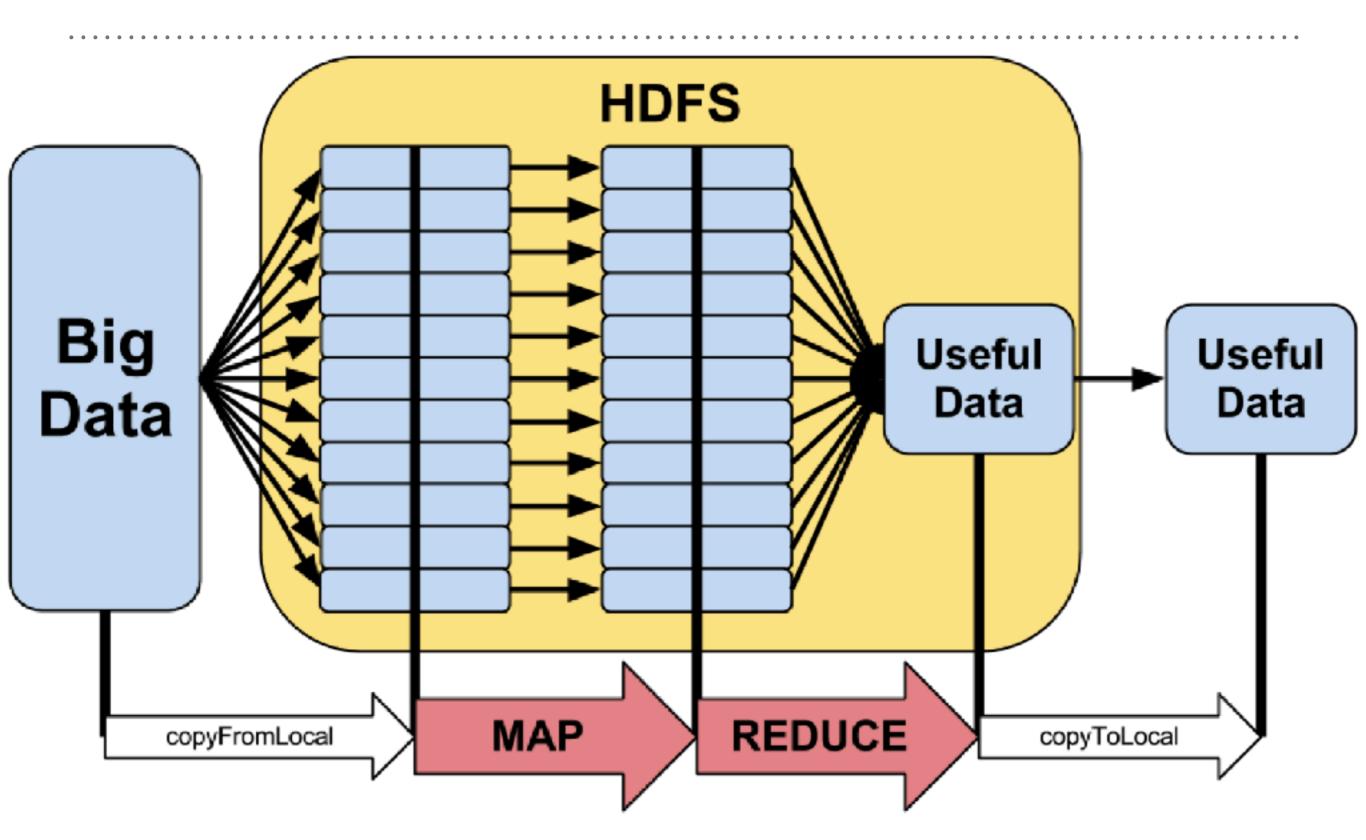
WHICH TECHNIQUES THEY USED?



FIRST: THE GOOGLE FILE SYSTEM (GFS)



SECOND: MAPREDUCE



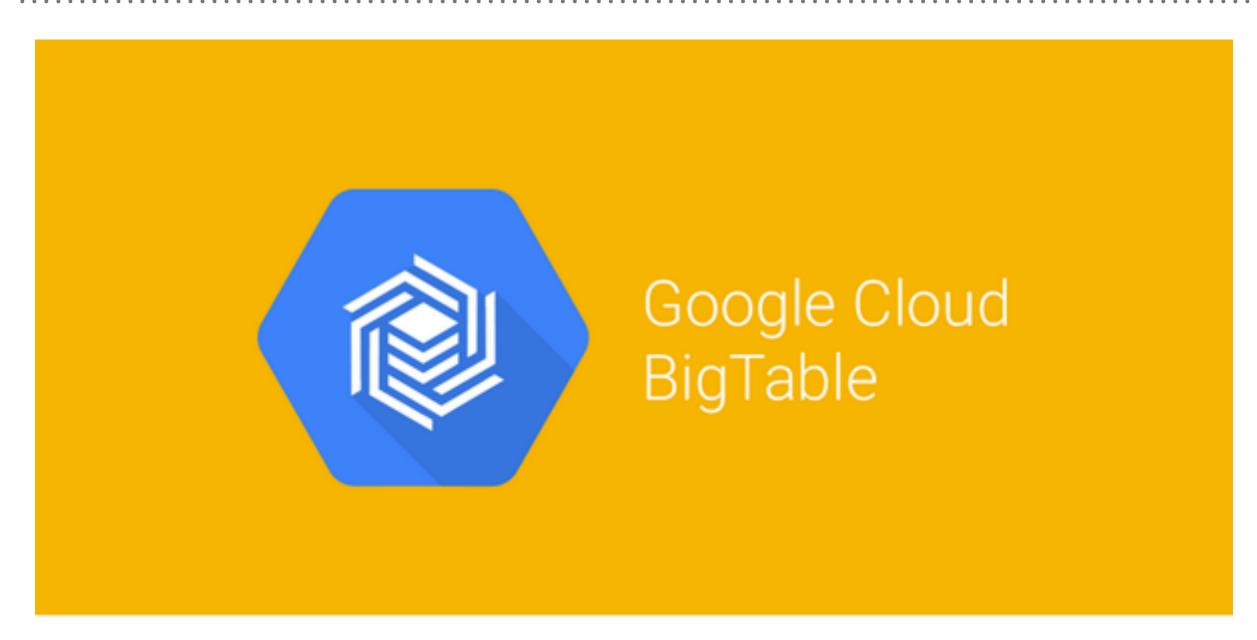
SECOND: MAPREDUCE EXAMPLE (CONT)

Input

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() , 1)
() , 1)
() , 2)

, 1)

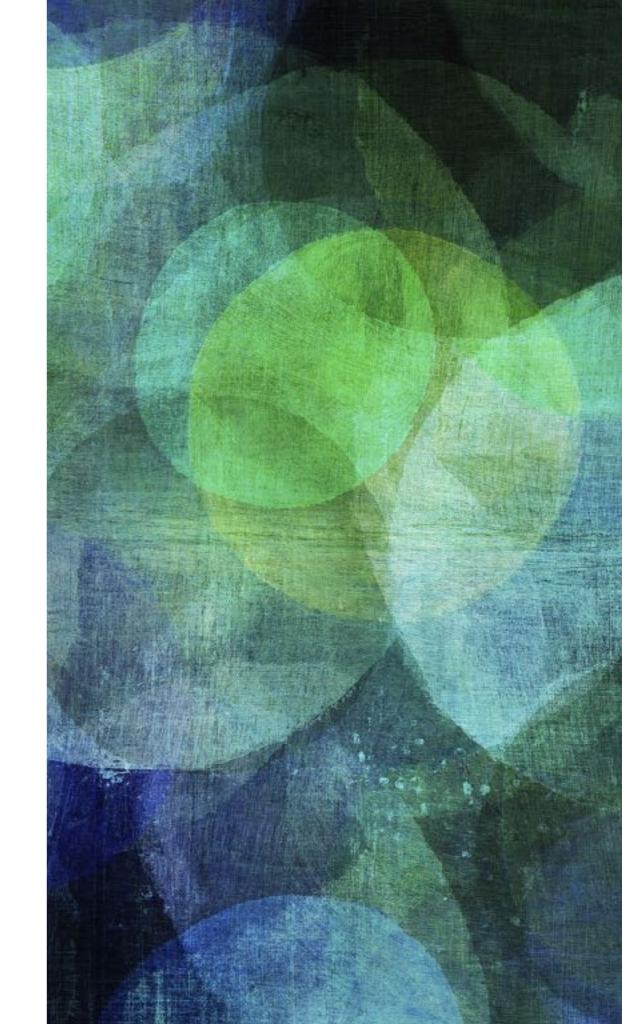
THIRD: THE BIGTABLE



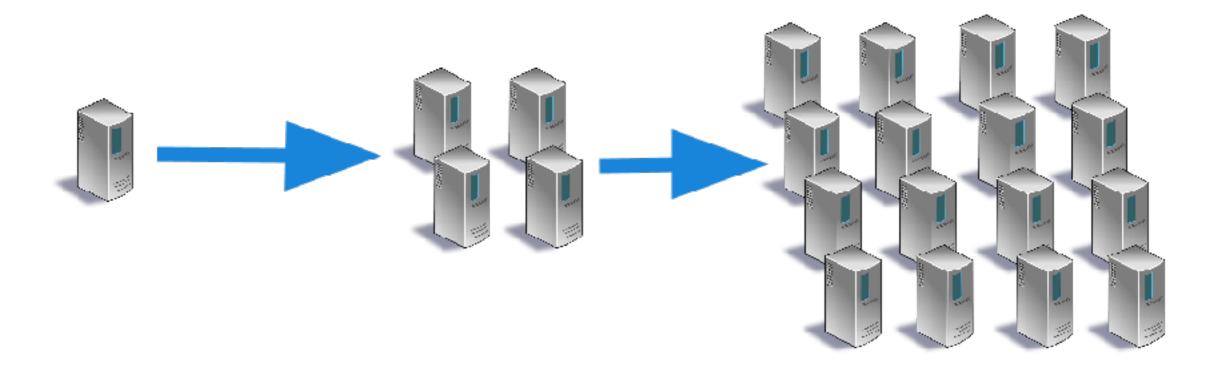


MAP TO THIS COURSE

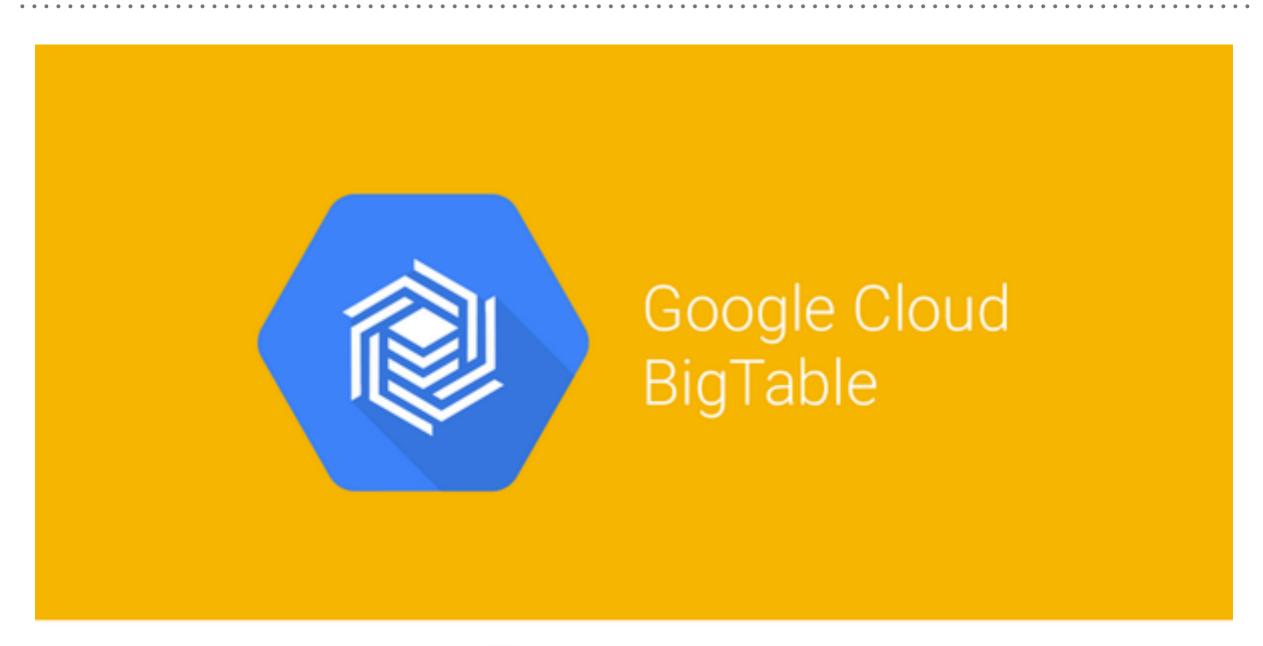
Operating System 2



HORIZONTAL SCALING

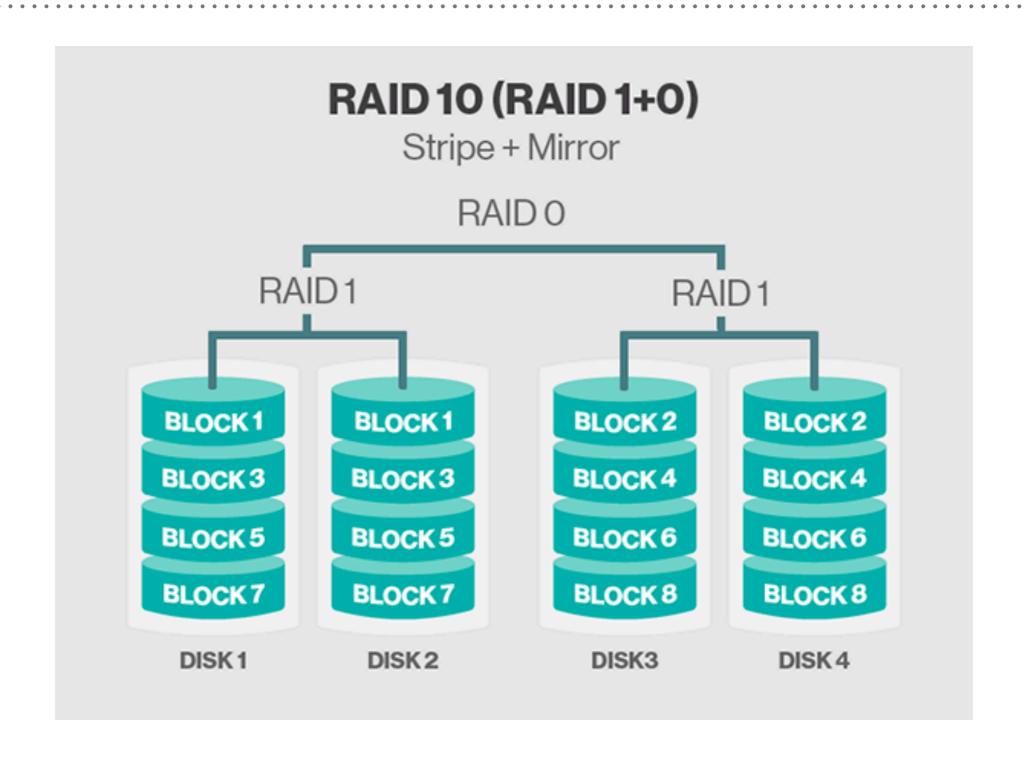


NOSQL

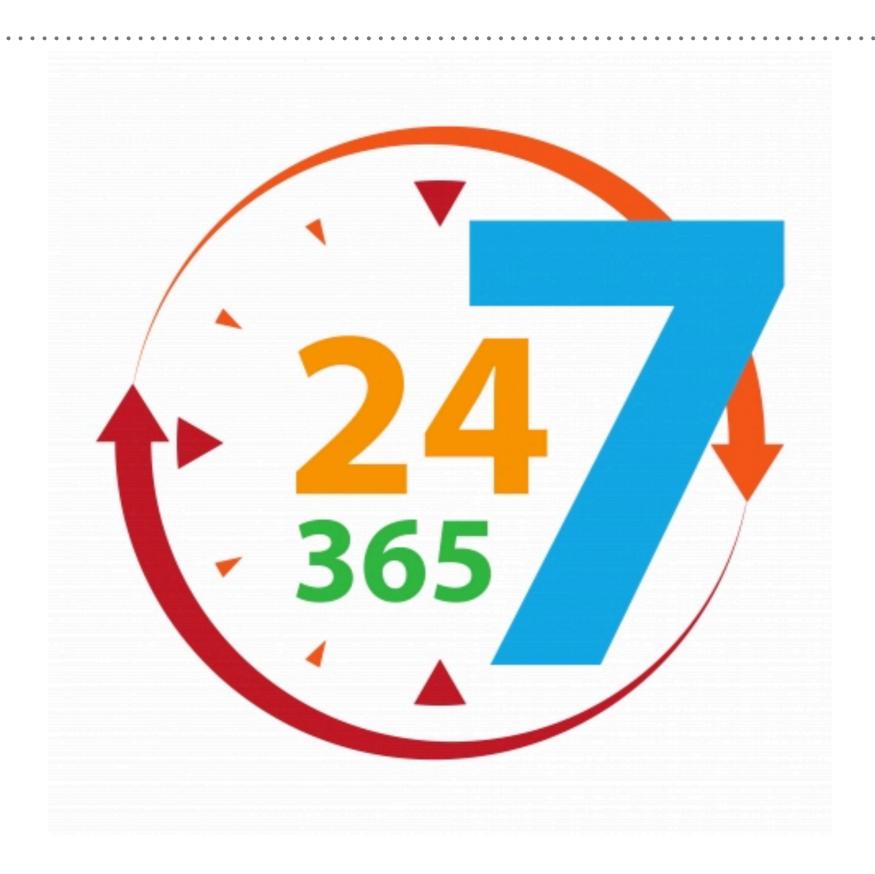




RAID AND DATA PARTITIONING



HIGH AVAILABILITY



HIGH RELIABILITY

