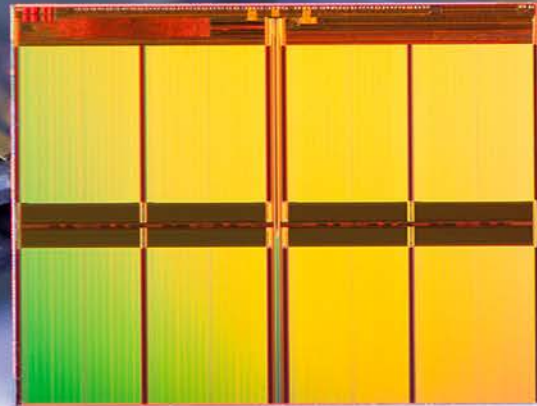


FLASH: Top 10



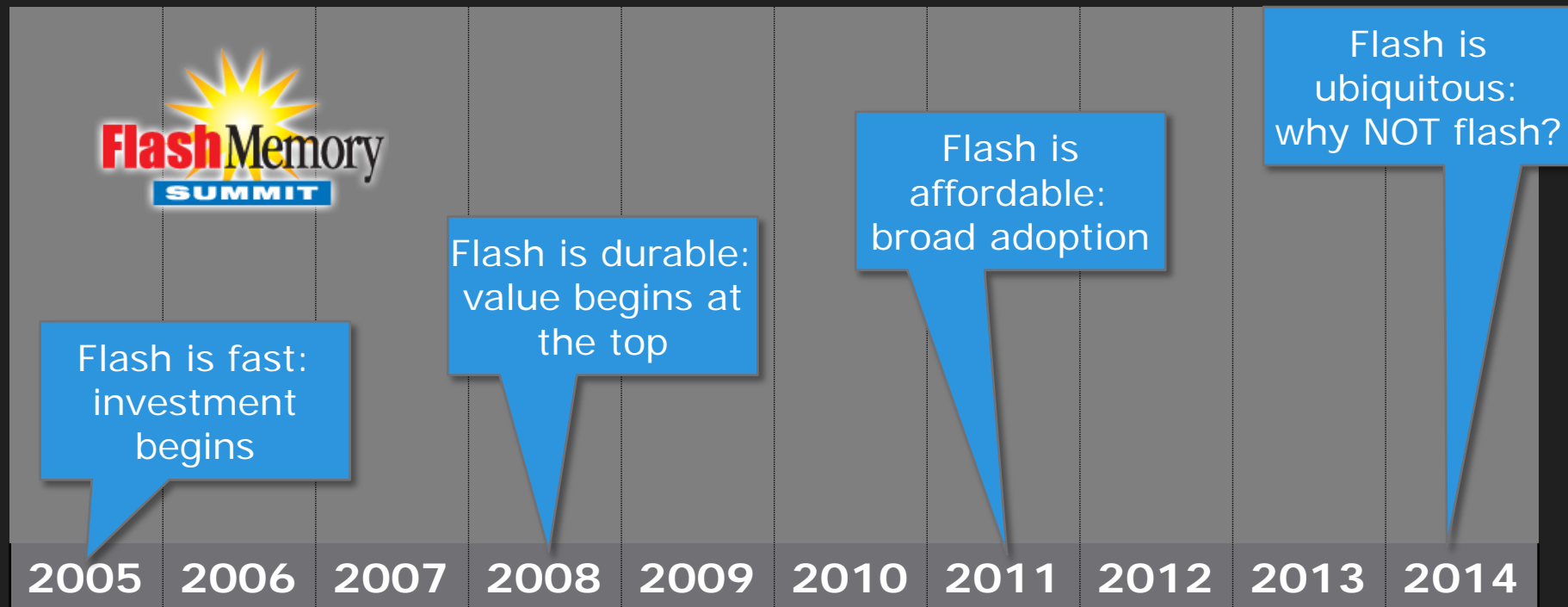
Flash Memory Summit '14

Daniel Cobb – EMC Distinguished Engineer
VP Non-Volatile Memory Strategy

EMC²

EMC's 10 year journey

enabled by the creativity and innovation of flash pioneers



Poll: Where do you think we are?



Feb 2012

the beginning of the end?

The device folks are leading the way

Aug 2014



the end of the beginning!



Top things you MUST know about flash

designing with flash is like walking a Slinky Dog™



- the head enthusiastically seeks new interesting things
- the tail comes along in good time, or things break
- infrastructure designers judiciously manage the tension

managing tension while breaking boundaries

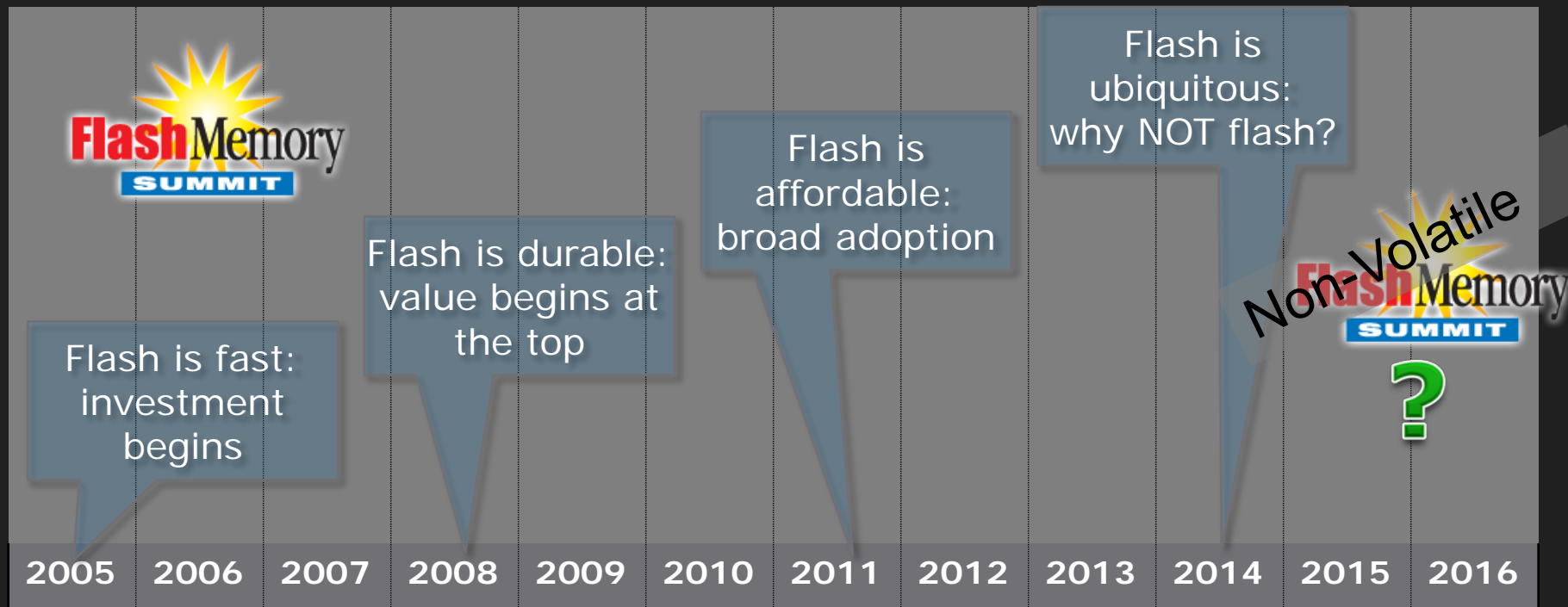


HDD	HDD	DRAM
HDD tiers	SSD	DRAM
dense HDD	affordable SSD	DRAM
HDD optional	SSD tiers	DRAM
dense read SSD	fast write SSD	NG NVM
dense "cold core"	intelligent placement	persistent "hot edge"

The system folks are keeping pace

Flash Memory Summit's 10 year journey

"flash as storage" blurs into "persistent memory"



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