

Merriam-Webster SINCE 1828 Dictionary bait and switch

bait and switch

noun

Simple Definition of BAIT AND SWITCH Popularity: Bottom 40% of words

: a selling method in which a customer is attracted by the advertisement of a low-priced product but then is encouraged to buy a more expensive one

Source: Merriam-Webster's Learner's Dictionary

Full Definition of BAIT AND SWITCH

- 1 : a sales tactic in which a customer is attracted by the advertisement of a low-priced item but is then encouraged to buy a higher-priced one
- 2 : the ploy of offering a person something desirable to gain favor (as political support) then thwarting expectations with something less desirable

See **bait and switch** defined for English-language learners



Trends in HPC for Seismic Exploration

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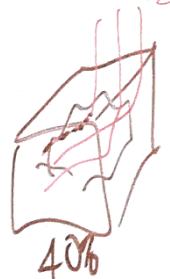




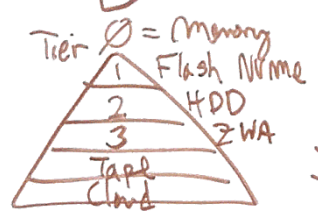
A
 Connected System
 IIOT (RTAP)
 "Streaming"
 1MB - 10MB



Energizing
 4ms
 120ms



New Data Agility



HW ✓
 SW ✗
 ROI (downturn)

Future New Data Model/Op
 Opt metadata — workflows — ~~ETL~~



Models

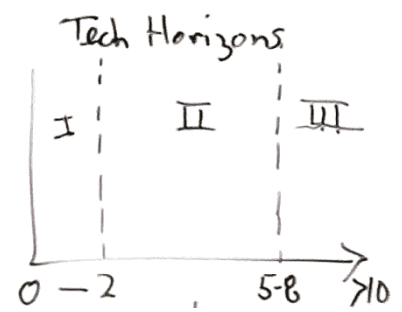
Treat everything as HPDA (Data Analytics)

V. Complex System Integration

Upgrade in place multiple versions "Containers"

New Data Stack Tech

- MLgo
- 3 Storage Life Cycle
- 1 Admin
- 4 Network/Conn/Fabrics
- 5 Viz/Collaboration

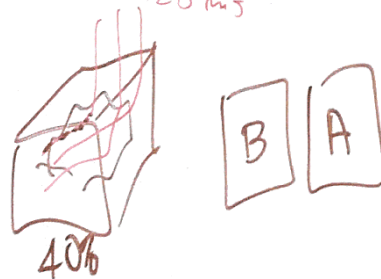


So, I was talking to Earl Dodd this week...



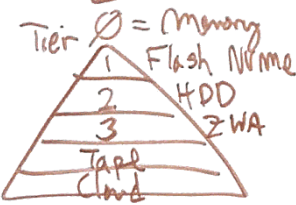
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Future New Data Model/Op
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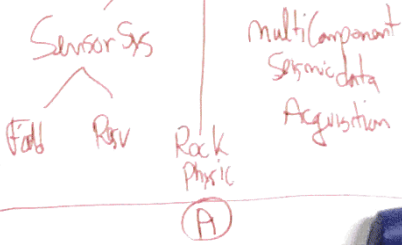
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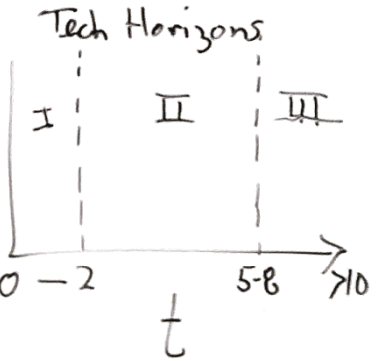
New Data Model/Op Tech

New Data Models

Treat everything as HPDA (Data Analytics)



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Market trends
Cloud Computing
Processors
Fabrics
Storage
Workflow

Market Trends

- ▶ Resource Consolidation; delays etc.
- ▶ Virtual or Remote computing is much better than it was just a year ago but adoption is still slower than expected
- ▶ Competition returns! AMD? SGI/HPE? Cray? IBM Even?
- ▶ Scale-up gets interesting again
- ▶ “Lord, please let there be another oil boom...”



Cloud Computing...



Cloud Computing...

...Still mostly hot air and vapor.

Processors

- ▶ Moore's Law is still alive and well. Probably for the next ~~40~~ 9 years (Intel)
- ▶ 2016 release of Xeon Phi Knight's Landing, "Winter is coming"
- ▶ Nvidia continues to dominate (for now),
- ▶ IBM OpenPOWER
- ▶ Specialty processors (FPGA, Automata, TI, others)
- ▶ Virtualization (VMware, Docker)
- ▶ Scale-up (Cray, ScaleMP, SGI, IBM LinuxOne)
- ▶ AMD Zen, resurgent?

Fabrics

- ▶ Ethernet
- ▶ Infiniband
- ▶ Omni-Path/OPA

Storage

- ▶ RAM/NAND
- ▶ NVMe (gen 2) and HUGE working memory
- ▶ Flash cache
- ▶ File Systems (GPFS, Stornext, Lustre, glustre, HDFS and many, many more)
- ▶ “Flash for the price of spinning disk” sooner rather than later

Workflow

- ▶ You might not have a performance problem
- ▶ Volume, Velocity, Variety, Value
- ▶ Data movement
- ▶ Services, Tools, Risk

Coming soon...

- ▶ Administration
- ▶ Storage
- ▶ Fabrics
- ▶ Algorithms
- ▶ Collaboration and Visualization

Caveats, Credits & Thank You

- ▶ “It’s hard to make predictions, especially about the future.”
- ▶ Funk’s Law - “A million of anything, is a lot.”
- ▶ Denham’s Addendum - “A billion of anything is a whole lot.”
- ▶ “Originality is the act of forgetting where you heard it.” - Gallagher

- ▶ Scott Denham - Cray Computers
- ▶ Earl Dodd - Ideas & Machines
- ▶ Addison Snell - Intersect360 Research
- ▶ Deepak Khosla - X-ISS
- ▶ Benzi Galili - ScaleMP
- ▶ Others who wisely chose to remain anonymous 😊