



CONTINUOUSLY BUILDING,
RELEASING AND DEPLOYING
SOFTWARE:

THE REVENGE OF THE
MACHINES!



YOAV LANDMAN



@_yoav_

cee tee oh @ JFrog

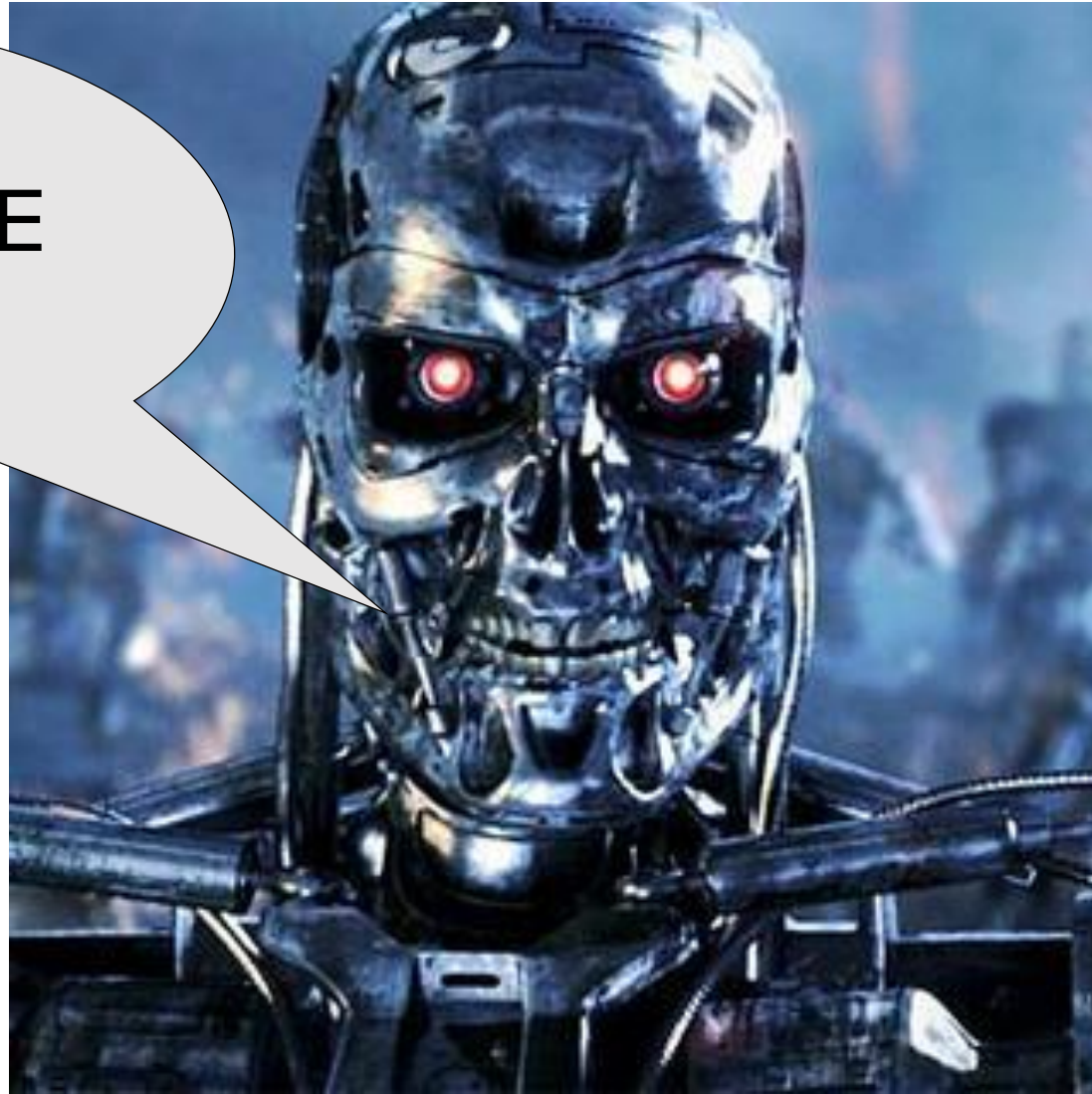
github.com/yoav



REVENGE?



I CAN HAS
CHEEZBURGE
R?



THE SINGULARITY IS NEAR

1 The accelerating pace of change ...



2 ... and exponential growth in computing power ...

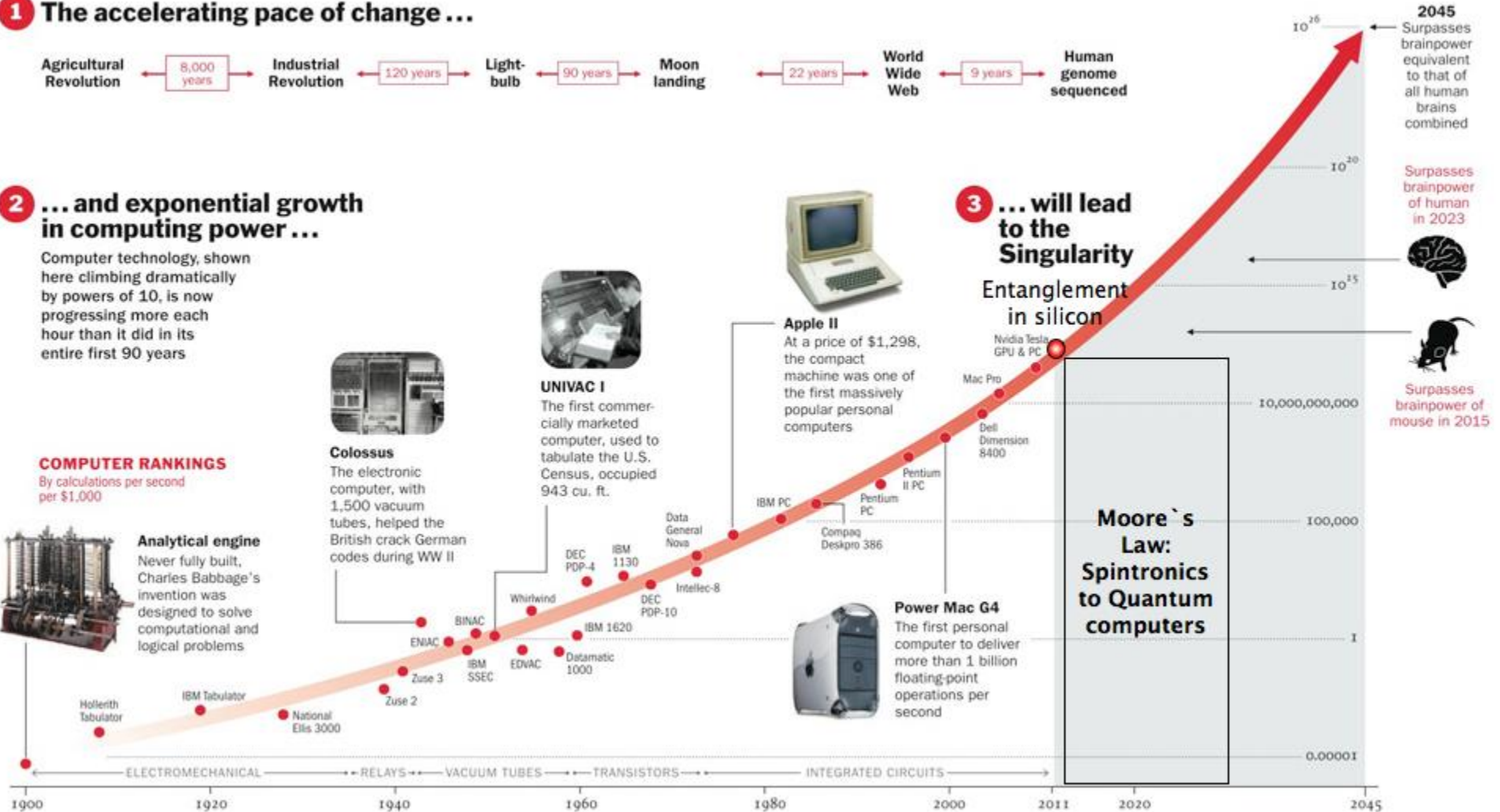
Computer technology, shown here climbing dramatically by powers of 10, is now progressing more each hour than it did in its entire first 90 years

COMPUTER RANKINGS

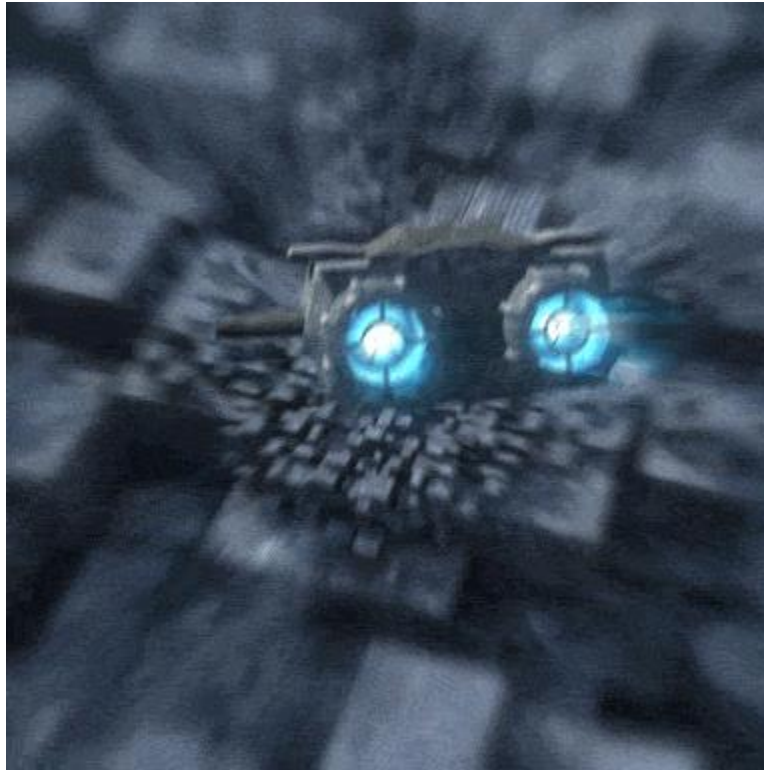
By calculations per second per \$1,000



Analytical engine
Never fully built, Charles Babbage's invention was designed to solve computational and logical problems



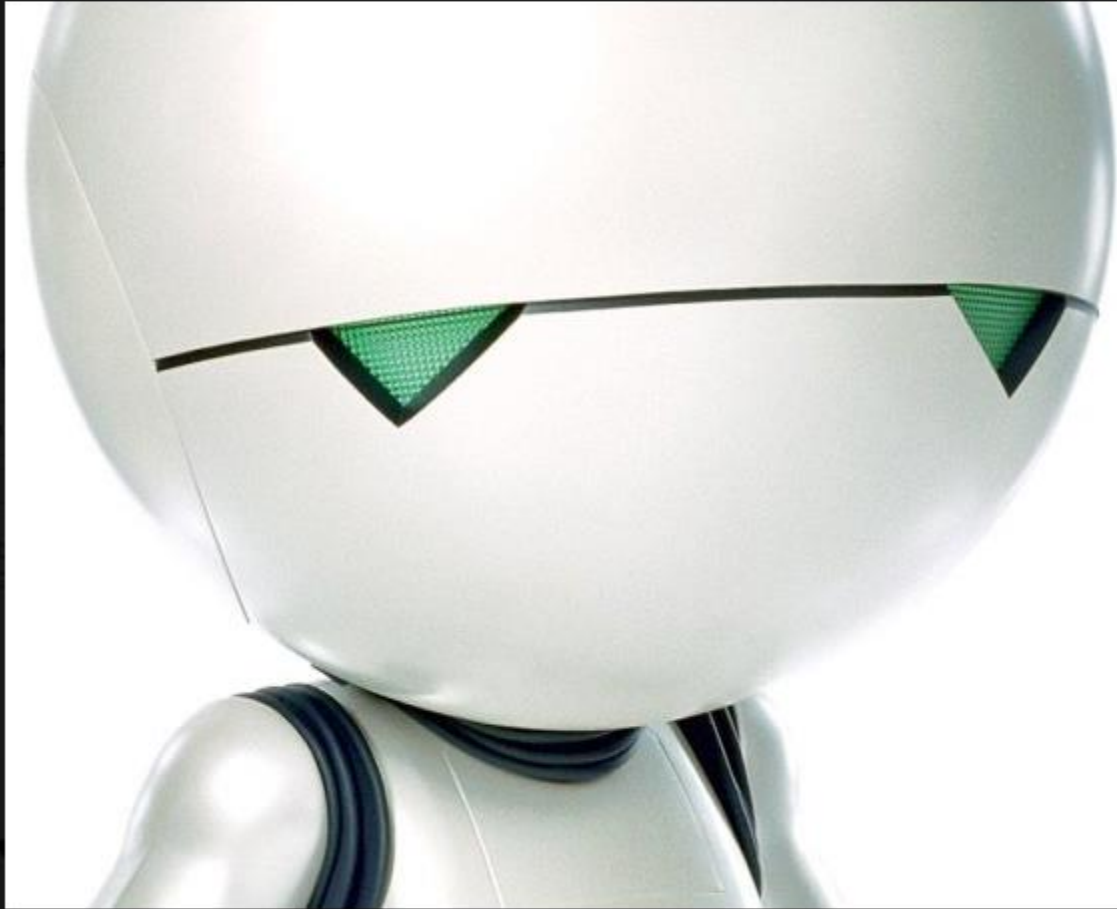
SOFTWARE SINGULARITY



THE 3 LAWS OF ROBOTICS



robot



Marvin, the manically depressed robot

Liked · December 21, 2008

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75 people like this.

17 shares

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Marvin Hug cool

March 26, 2012 at 9:41pm · Like



Lisbeth Svensson 42 !!!!!

September 9, 2012 at 4:25am · Like



טיליה אדולאי vjfbnr Well, I posted earlier in this comments thread and came back because I wanted you all to know how I did! I lost 10 lbs (4.5 kg/0.7 stone) of belly fat in only 6 days and am keeping it off. The results speak for themselves. This diet product is life-changing - thank you. qxxjga www.thechildlessi.info



Hollywood's Newest Fat Burning Secret That Was Just Featured On The Dr. Oz Show® And Women's Health® www.thechildlessi.info

With millions of people



Write a comment...



ROMANTIC MEMORIES



NOW THINGS ARE DIFFERENT



BUT IT'S BEYOND HUMAN ABILITIES!



THAT'S BECAUSE YOU ARE WEAK,
HUMAN.





TARGET: NO HUMAN INTERVENTION

All the way from Development to Production

MACHINES ARE STUPID, BUT PERSISTENT



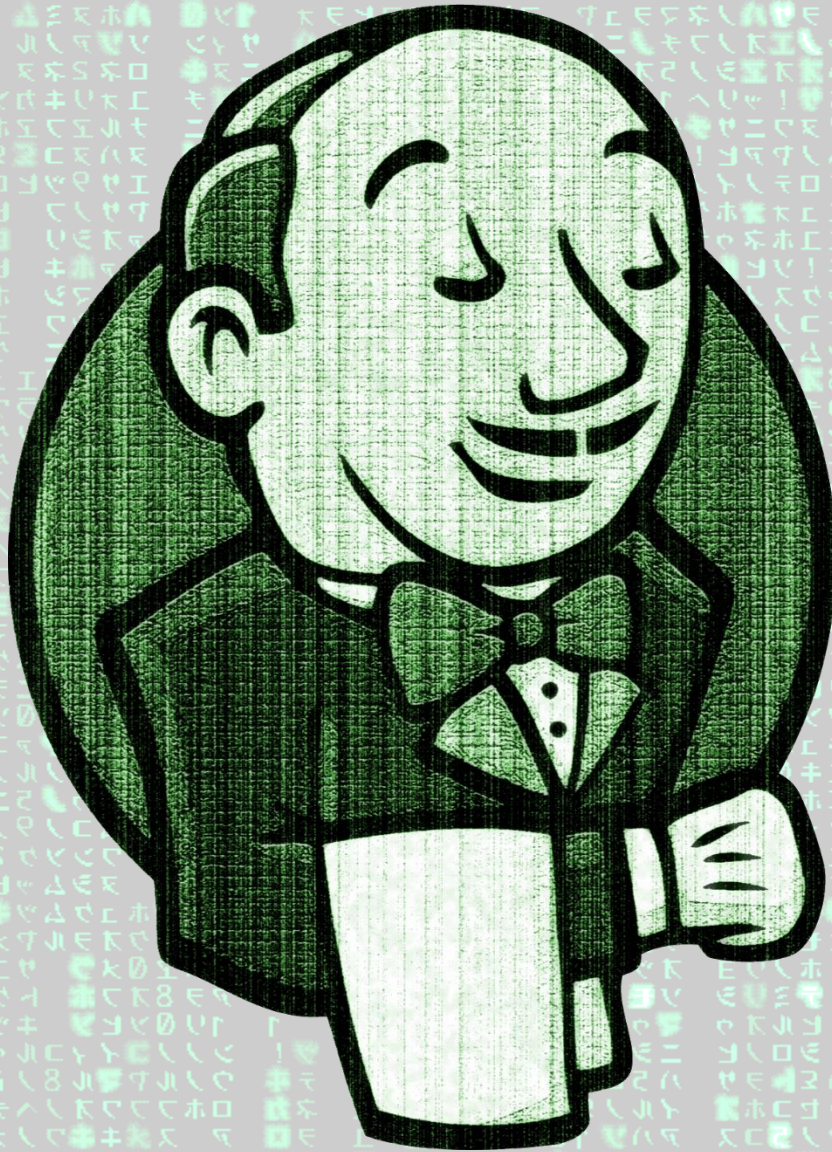


IF YOU CAN'T BEAT THEM...

POWERFUL VERSION CONTROL



BUILD SERVER SUPPORT



TESTING FRAMEWORKS MATRIX

```
def "Largest number should be returned regardless of order"() {  
  expect:  
    Largest.max([first, second, third]) == largest  
  
  where:  
    first | second | third | largest  
    2     | 4     | 8     | 8  
    4     | 8     | 2     | 8  
    8     | 2     | 4     | 8  
}
```

<http://edgibbs.com/spock-intro-a-bdd-testing-framework-in-groovy/>

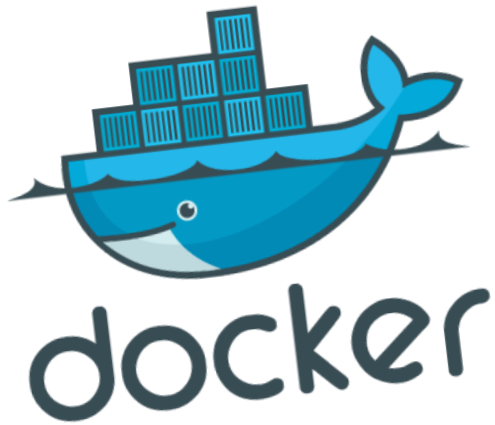


HARDWARE CAN'T BE CHANGED EASILY

- Unless you make it soft



HARDWARE AS A SOFTWARE



THE POWER OF CREATION



Task

Any number of
environments

Robot

Chef/Puppet

Task

Any number of environments

Any Number of software Stacks

Robot

Chef/Puppet

Docker/Vagrant

Task

Any number of environments

Any Number of software Stacks

Test outcomes on any level

Robot

Chef/Puppet

Docker/Vagrant

Unit, ui, functional, stress, chaos, mutational

Task

Any number of environments

Any Number of software Stacks

Test outcomes on any level

TEST continuously

Robot

Chef/Puppet

Docker/Vagrant

Unit, ui, functional, stress, chaos, mutational

Ci server

Task

Any number of environments

Any Number of software Stacks

Test outcomes on any level

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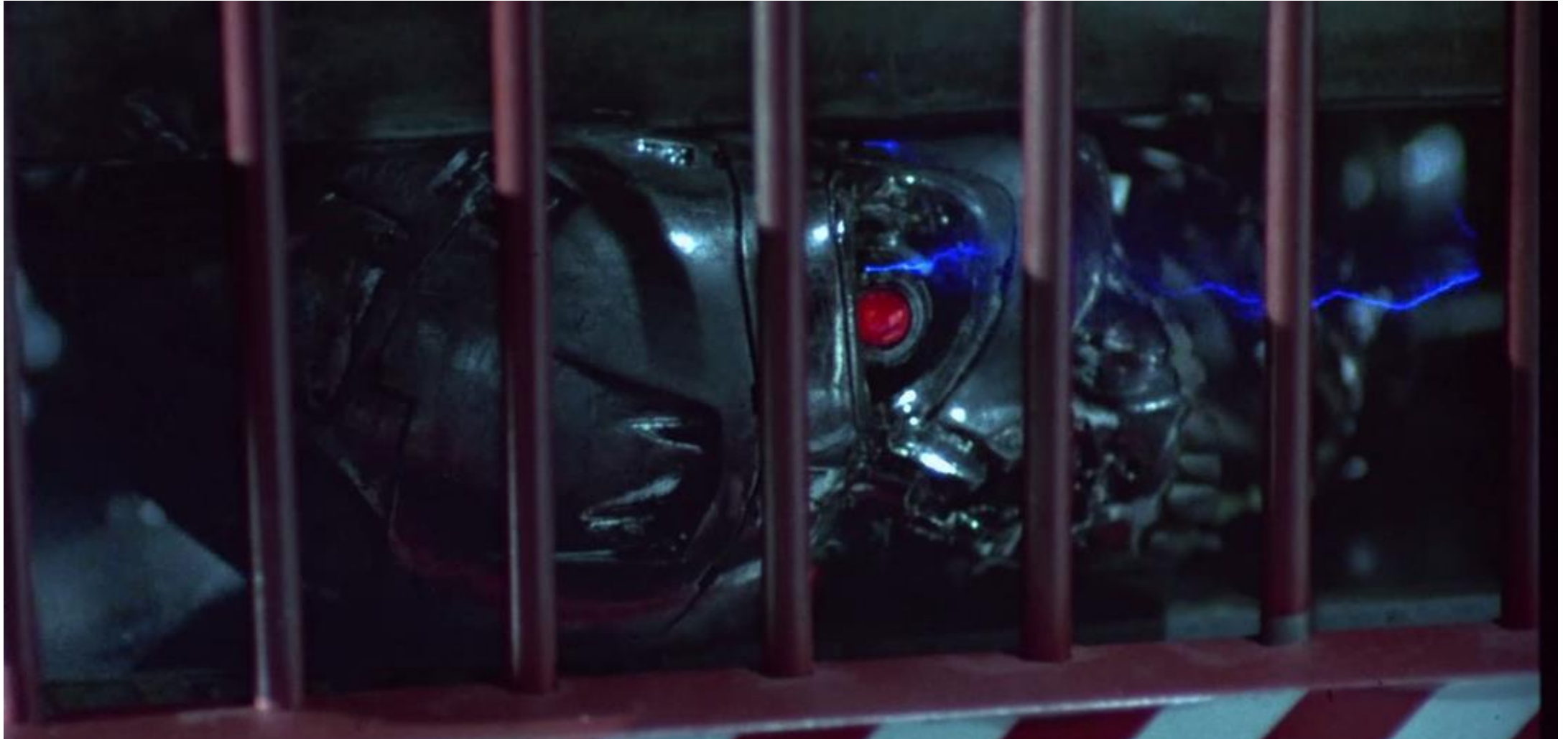
Docker/Vagrant

Unit, ui, functional, stress, chaos, mutational

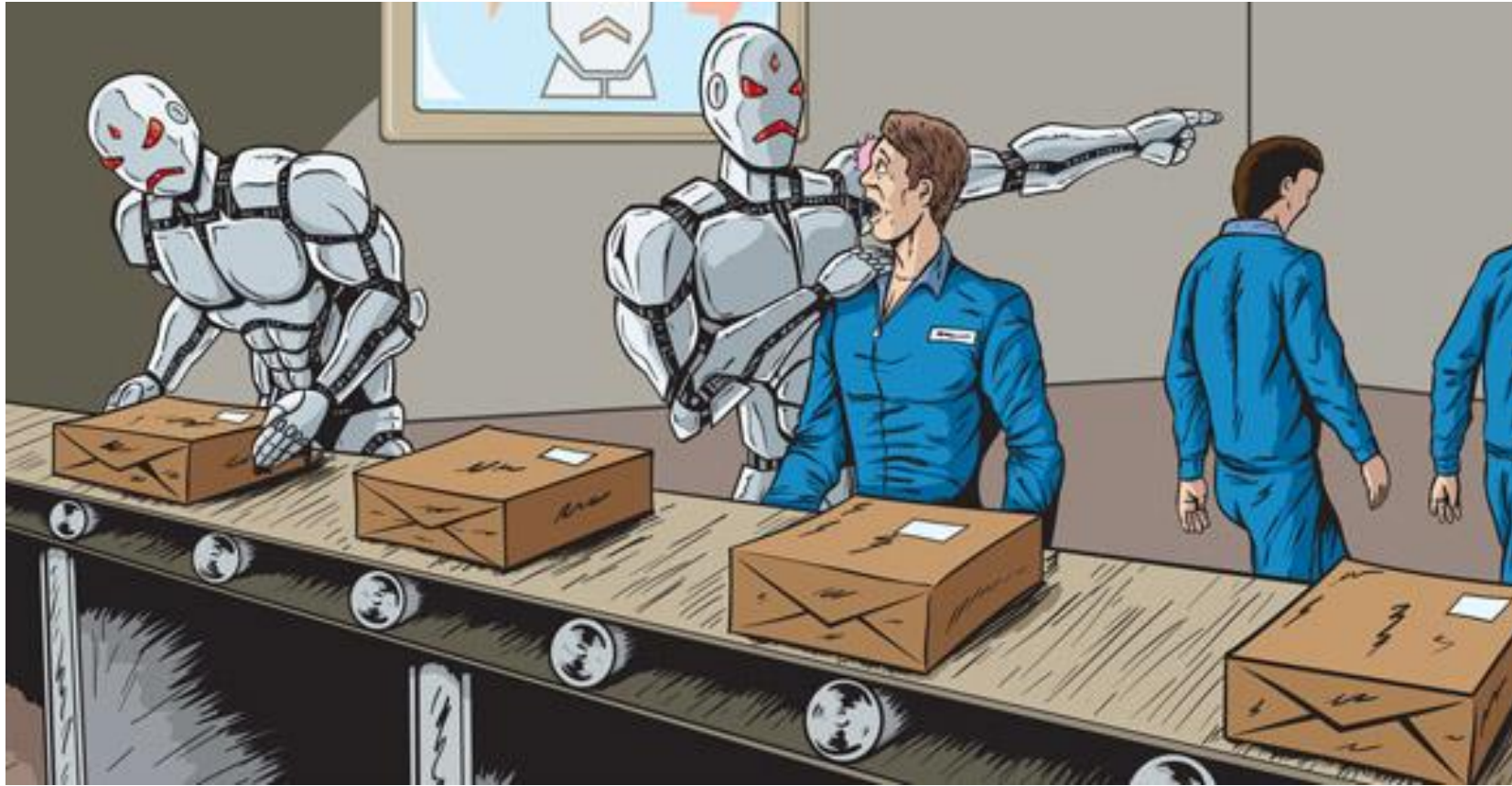
Ci server

Learn what's good, destroy the rest

PEOPLE ARE STILL BETTER IN SOME THINGS



BOTS FOR QA



BOTS AND WHITE COLLAR JOBS



FIREFIGHTING



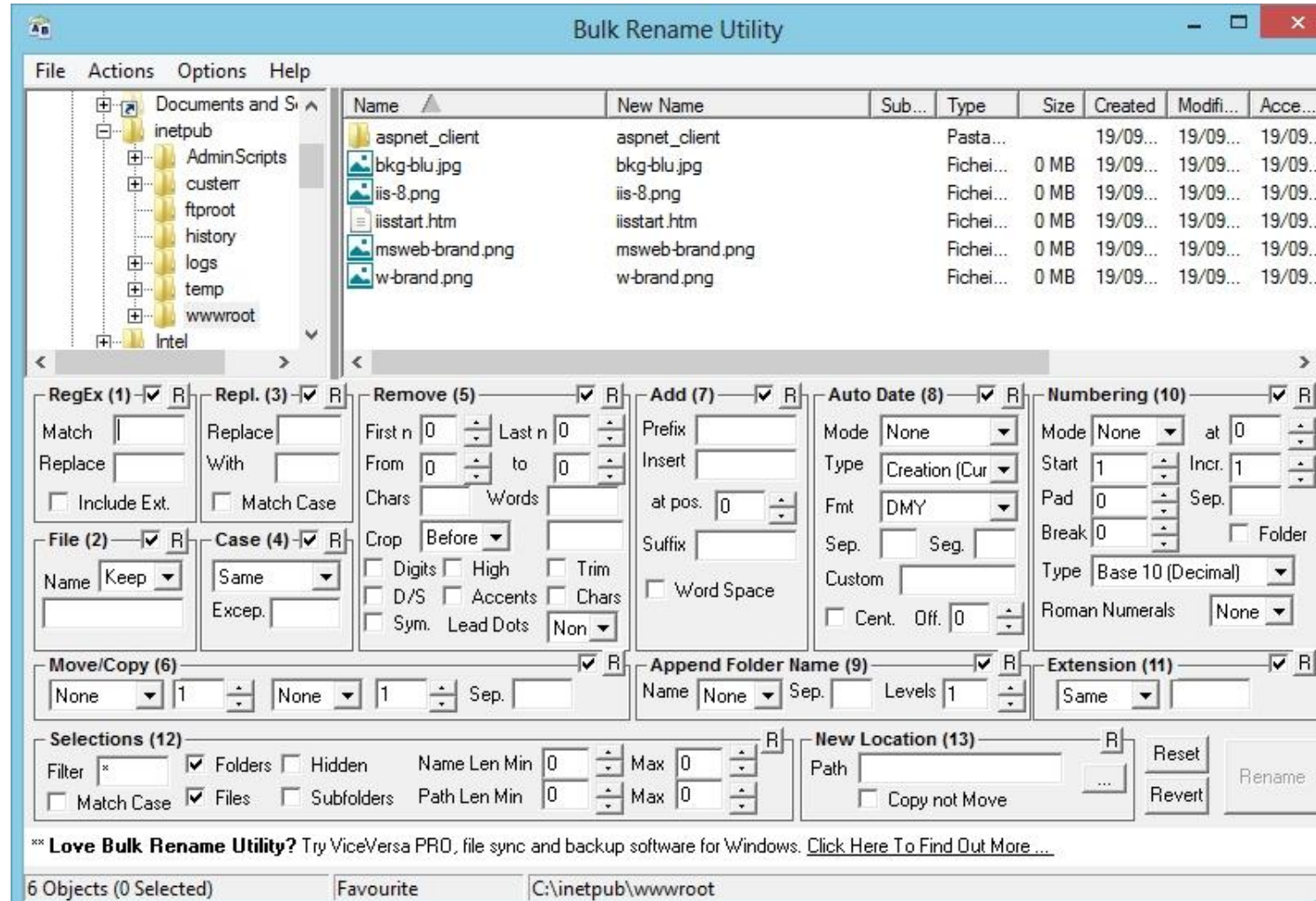
LET'S RUIN IT ALL!



LET'S RUIN OUR TESTS!



UI TESTS



EXAMPLE #1:

HARDWARE TESTING APPLIED TO SOFTWARE



EXAMPLE #2: TESTING THE HOTSPOT FLAGS



CMSIncrementalDutyCycle	CMS incremental mode duty cycle (a percentage, 0-100). If CMSIncrementalPacing is enabled, then this is just the initial" value
CMSIncrementalPacing	Whether the CMS incremental mode duty cycle should be automatically adjusted
CMSIncrementalDutyCycleMin	Lower bound on the duty cycle when CMSIncrementalPacing is" enabled (a percentage, 0-100).
CMSIncrementalSafetyFactor	Percentage (0-100) used to add conservatism when computing the" duty cycle.
CMSIncrementalOffset	Percentage (0-100) by which the CMS incremental mode duty cycle" is shifted to the right within the period between young GCs
CMSExpAvgFactor	Percentage (0-100) used to weight the current sample when" computing exponential averages for CMS statistics.
CMS_FLSWeight	Percentage (0-100) used to weight the current sample when" computing exponentially decaying averages for CMS FLS statistics.
CMS_FLSPadding	The multiple of deviation from mean to use for buffering" against volatility in free list demand.
FLSCoalescePolicy	CMS: Aggression level for coalescing, increasing from 0 to 4
CMS_SweepWeight	Percentage (0-100) used to weight the current sample when" computing exponentially decaying average for inter-sweep duration.
CMS_SweepPadding	The multiple of deviation from mean to use for buffering" against volatility in inter-sweep duration.
CMS_SweepTimerThresholdMillis	Skip block flux-rate sampling for an epoch unless inter-sweep duration exceeds this threshold in milliseconds

VerifyDuringGC	Verify memory system during GC (between phases)	false	bool
VerifyRememberedSets	Verify GC remembered sets	false	bool
VerifyObjectStartArray	Verify GC object start array if verify before/after	true	bool
BindCMSThreadToCPU	Bind CMS Thread to CPU if possible	false	bool
CPUForCMSThread	When BindCMSThreadToCPU is true, the CPU to bind CMS thread to	o	uintx
TraceJVMTIObjectTagging	Trace JVMTI object tagging calls	false	bool
VerifyBeforeIteration	Verify memory system before JVMTI iteration	false	bool
DebugNonSafepoints	Generate extra debugging info for non-safepoints in nmethods	trueInDebug	bool
SerializeVMOutput	Use a mutex to serialize output to tty and hotspot.log	true	bool
DisplayVMOutput	Display all VM output on the tty, independently of LogVMOutput	true	bool
LogVMOutput	Save VM output to hotspot.log, or to LogFile	trueInDebug	bool
LogFile	If LogVMOutput is on, save VM output to this file [hotspot.log]	""	ccstr
MallocVerifyInterval	if non-zero, verify C heap after every N calls to malloc/realloc/free	o	intx
MallocVerifyStart	if non-zero, start verifying C heap after Nth call to malloc/realloc/free	o	intx
VerifyGCStartAt	GC invoke count where +VerifyBefore/AfterGC kicks in	o	uintx
VerifyGCLevel	Generation level at which to start +VerifyBefore/AfterGC	o	intx
UseNewCode	Testing Only: Use the new version while testing	false	bool
UseNewCode2	Testing Only: Use the new version while testing	false	bool
UseNewCode3	Testing Only: Use the new version while testing	false	bool
SharedOptimizeColdStart	At dump time, order shared objects to achieve better cold startup time.	true	bool
SharedSkipVerify	Skip assert() and verify() which page-in unwanted shared objects.	false	bool
PauseAtStartup	Causes the VM to pause at startup time and wait for the pause file to be removed (default: ./vm.paused.)	false	bool
PauseAtStartupFile	The file to create and for whose removal to await when pausing at startup. (default: ./vm.paused.)	""	ccstr

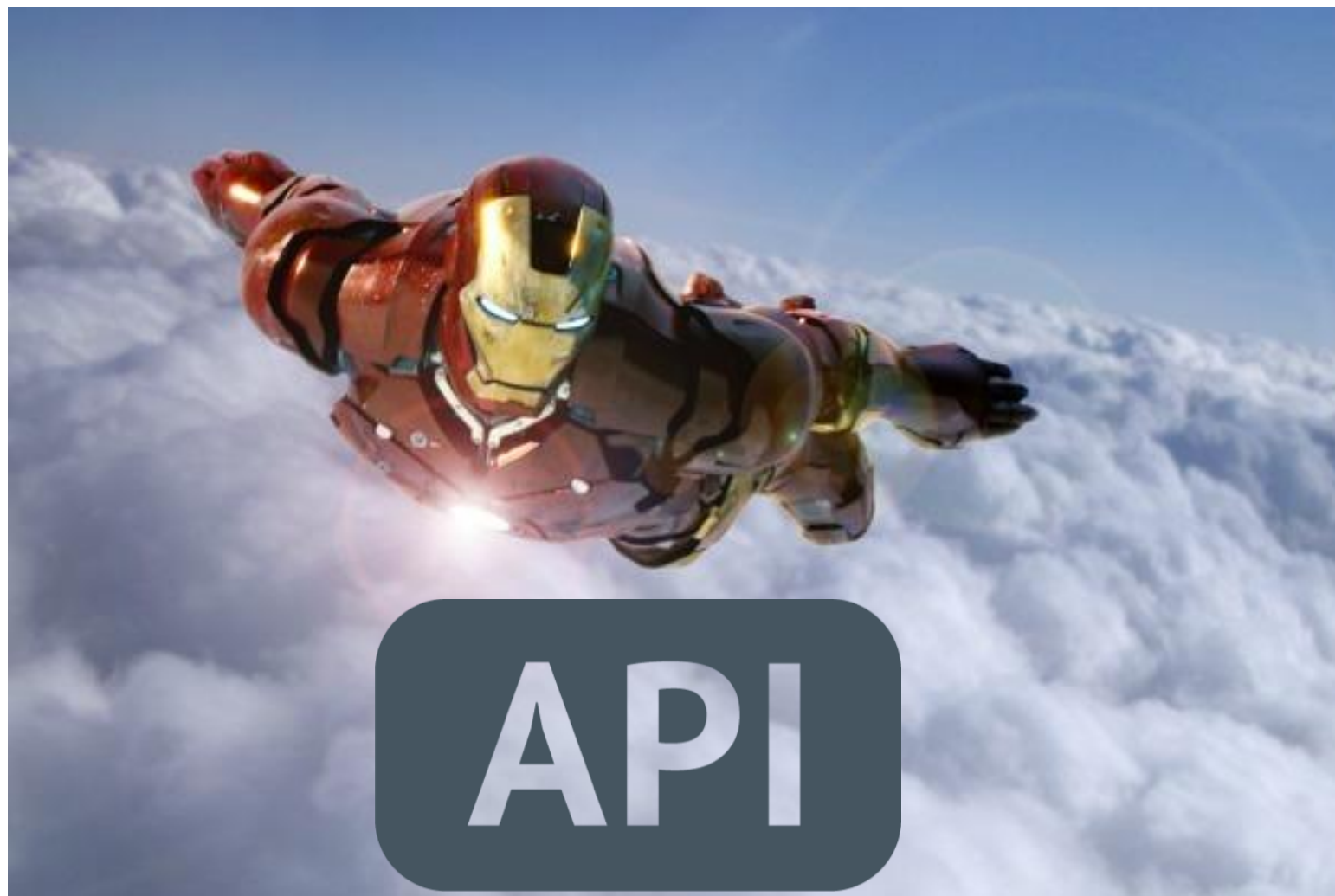
FASTER QA CYCLES ALLOW CRAZY THINGS



THE FUTURE OF BOTS



CLOUD FORCES AUTOMATION



WE, FOR ONE, WELCOME OUR NEW
ROBOTIC OVERLORDS



THANK YOU TO OUR SPONSORS

Platinum



Gold



Silver

