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SOFTWARE IS THE NEW HARDWARE

The “Humanics”, “Mechanics” and “Economics” of the new enterprise world

The enterprise world seems to be poised at an interesting inflection point today. There no longer seems to be anything called as a “known competitor” or an “industry adjacency” in enterprise business anymore. A Google can come from nowhere and reimagine, redefine and rewrite the rules of the entire advertisement industry. An Apple can come from nowhere and reimagine, redefine and rewrite the rules of the entire entertainment industry. A Facebook and Twitter can create absolutely new spaces that did not exist a few years ago. An Amazon and/or Alibaba can come from nowhere and reimagine, redefine and rewrite the rules of the way commerce is done around the world. And then there are Uber, Tesla and others.

In each of these examples, three elements seem to combine to perfection:

- **“Humanics”**: This is about using the power of imagination to discover new possibilities and create new experiences.

All the companies mentioned above have done this par excellence in their respective contexts.

- **“Mechanics”**: The new possibilities powered by imagination have to be converted into reality and, more often than not, in today’s world, all of this is being driven by software. All the examples mentioned above, have leveraged the power of software in re-imagining, re-defining and re-writing the rules of their respective games.
- **“Economics”**: And finally, of course, there is the economics – the right business model for the right context.

Businesses and business plans need to find the right balance between “Humanics”, “Mechanics” “Economics” to scale new horizons and convert possibilities into realities – leveraging the power of software!



GAFTA vs G2K

At a biomedicine conference last year, venture capitalist Vinod Khosla famously declared that healthcare would be better off with fewer doctors. And then he delivered the same advice to IT at a tech conference the following month. Needless provocation? Far-fetched fantasy? Datacenter utopia, actually. Because that’s exactly what most of the traditional and large G2K companies would dearly love to achieve.

Not too long ago, the Director of Data Center Operations at Facebook said each of their administrators managed at least 20,000 servers. Contrast that with the 1:500 or 1:1,000 (admin to server) ratio that a typical G2K company manages. At best,

A couple of years earlier – as if to prove a point – Facebook had launched the Open Compute project to make their highly efficient hardware design “open source” for everyone’s benefit.

The reason for this lopsided infrastructural evolution is mainly historical. Most G2K companies have been around long enough to accumulate a legacy of disparate, non-interoperating, generations of technologies that seem to be operating in silos. These enterprises are forced to dedicate the technology budget, not to mention large human resources, to simply keep the lights on. On the other hand, the GAFTA (Google-Apple-Facebook-Twitter-Amazon) group – with a scant 97 years between them – found a way to abstract and codify this complexity using the power of software to

build highly scalable and highly automated solutions to the same problem.

The stark difference in productivity means that many G2K enterprises struggle with most of their resources being stuck with “keeping the lights on.” This also means that very limited resources are allocated to re-imagining, re-defining and re-writing possibilities and converting these into newer realities for business.

Now, what if, somehow magically, this could be completely turned upside down. The possibilities would be immense. The probability of converting these possibilities into realities would be immense.

The key question is, how can G2K organizations do a GAFTA? Especially in the world of infrastructure management.

Software is the new hardware

The basis to the hypothesis of G2K doing a GAFTA, especially in the field of infrastructure management, seems to be encapsulated in a mere 5 words: **“software is the new hardware”**.

G2K companies must find a way to emulate their GAFTA counterparts to leverage the power of software to reimagine, redefine and rewrite the way the current infrastructure is managed and convert possibilities into realities. They must find a way to run their operations noiselessly leveraging the power of software. To achieve this, they must find a way to abstract the complexities and heterogeneity of their environments through the power of software and drive extreme standardization and extreme automation to achieve extreme productivity – by an order of magnitude, not incrementally. This will help them take costs out – and large chunks of it.

They must find a way to drive extreme visibility and control across not only the “horizontal elements” spanning various businesses, geographies, applications,

partners, and functions but also “vertical elements” across all infrastructural elements to applications to business processes. And all of this in a “single pane”.

They must find a way to modernize their infrastructure by possibilities that software offers – hyper-converged infrastructure, software defined everything, Open Compute, and a good mix of public, private and hybrid clouds so that agility increases by leaps and bounds and costs decrease by an order of magnitude.

They must find a way to modernize and move their existing workloads to take advantage of the new software-powered underlying infrastructure.

They must find a way to reimagine their processes to make DevOps an integral part of the new ways of working.

They must find a way to reimagine their security with “hazy perimeters”, collaborative work models to counter ever-increasing vulnerabilities and risks – all this through the power of software.

They must find a way to reskill and reorganize talent. In the world where

software is the new hardware, there will be need for a massive change in skills and structure.

They must find a way to change the organizational culture. While the existing and mature businesses within the enterprise will demand relentless excellence in efficiency, control, certainty, and variance reduction, the foundational cultural constructs of the “newer” lines of business of the enterprise will be based on exploration, discovery, autonomy, and innovation. Building an ambidextrous organization and driving a culture of purpose, creativity and learning would be paramount.

All said and done, this journey is best undertaken with partners who are able and aligned - not alone. G2K companies must find a way to leverage partners who have firmly based their strategies and their businesses on the fact that “software is the new hardware”. Not just by talking about it but actually making it a way of life of using software to help their clients “run” operations, “build” next-gen infrastructure, “modernize/migrate” workloads, and “secure” them against the new threats.

THE LAST WORD

The approach to technology infrastructure at G2K and GAFTA companies belong to different eras. There exists a clear blueprint for G2K enterprises to leverage the benefits of the GAFTA world in terms of agility, and freed-up man and money resources that can be promptly plowed back into re-imagination, innovation and new business models.

GAFTA has shown the way on how new business models can be “Powered by imagination. Driven by software”.

Software is indeed the new hardware!



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