Article

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Top 5 takeaways from 2018

Hello Everybody and Happy 2019!

I hope this finds you well, relaxed and ready to tackle the challenges we'll face in 2019.

When a new period of our life begins it is nice and at times useful to consider what the previous period has been like and as the sage of old used to say "historia magistra vitae" or history is a teacher for our lives, maybe we can try to get some insights for the future. So, what did we see and experience in 2018?

1 - Information, knowledge & the machine!

DX or Digital Transformation, more commonly known over the years with less exciting titles like *business transformation* or *change management* has, according to IDC still a very high rate of projects failure (47% to 80%). However, I think the excitement in the industry it's about the possibilities that lie ahead making businesses thrilled to the point of conjuring the new DX acronym. 🙂 All companies are becoming software companies. IT, therefore, is not considered a cost center anymore but an enabler, hence becoming an integral part of an organization planning. What is all this about? How can IT indeed help? It's about the data, and more to the point, it's about the knowledge that we can grasp from the raw data. I'm referring to the process of understanding the data in its context and grasping new meaning, details, and nuances otherwise lost. I'm referring to one of the most talked about IT subjects in 2018: artificial intelligence (AI) and how new technologies, processes and workflows can help us in automating how machines learns (ML). We have seen an example of this at our Global Summit in Texas last year with music-robot learning and developing new music score patterns in real-time based on the key, the tempo, the style and the modes played. 🤓 Truly amazing!

And of course these days we are gathering data from all sort of devices, and we have seen a move to push more intelligence to the edges (IoT): all major public cloud providers have been and are busy with technology for this. In the case of AWS if when I mention "*edge*", you think of the edge of our solar system or of our galaxy, then they got you covered! 😮 Check out AWS Ground Station 😮

So we are submerged by data that is supposed to help us transform our business... and the

question is always: *how do you make sense of it and extrapolate actionable, contextual information that forms the basis of human and machine knowledge?* You need a data platform that aids you in your efforts.

Exactly a year ago we launched InterSystems IRIS Data Platform that offers large data handling via its shard technology to cope with the volume, variety, and velocity of data we have in our cosmos. In a year full of AI & ML conferences, offering an open analytics platform based on a multi-model database with native interoperability has been exciting. Some call it HTAP. New and existing partners are already using it, and we know that 2019 will be even more exciting as we will keep enhancing the platform and at the same time broadening it with new solutions in this *"data-leveraging"* era.

It's an exciting time to work in our industry!

2 - Microservices, containerization and orchestration are mainstream.

Containers and new architectural models are here to stay. This new world will continue to mature further with an ecosystem of technologies like schedulers and orchestrators that will aid their management. Talking of orchestrators, Kubernetes is the ubiquitous one as it can be found on-premises with solutions like RedHat OpenShift, Rancher, VMware, Pivotal, etc. and on any public cloud.

This ~~new~~ mainstream world is based on a single common denominator called *container* that has effectively become the new *automation abstraction for all operational engineers*. A container is portable and comes with many advantages for a software factory. Of course, as we spin up many containers -- and I could image at least 4 as web servers to start with, 3 as load balancers, 1 handling an LDAP server, 2 for the application logic handling PDF formatting, several for my distributed database, 3 for an HA configured service discovery, etc. -- all of a sudden, we realize we have *a complex environment* with many services (containers) for the single application. Who or what manages that? We need an overarching " controller" that can handle & schedule running services. This orchestrator can deal with all the containers/services. It can automate some configuration but also respect and evaluate all the *constraints, rules, intention and promises contracted*. For example, it would take care of my *requirement* of having at least 4 web servers, while these other services need that type of *specific storage* with specific requirements and -while you are at it- can you label those services in that particular way and route some requests that way and add some of your special sauce (network, security, performance specification, etc.) to make my snowboard go faster? Ooops, OK, sorry, I'm not on the Dolomites slopes anymore, but you get the gist of what Kubernetes is capable of. 😇

Since the launch of InterSystems IRIS Data Platform in January 2018, we offer a container version of the product so that you can more easily leverage new cloud architectures and abstractions that are available everywhere.

Again, exciting time ahead of us!

3 - M&A with a strong OSS flavor

It has been an incredible year of acquisitions. Just bear in mind that the typical open source software acquisition deal has always been a few hundred million (think $250M) so you'll be amazed at the numbers from this year's deals. I don't have a crystal ball to say what will happen in 2019 but it is indeed an exciting market and to watch. I think in 2019 we will see more M&A activities.

My takeaway is that the market is *consolidating* around companies that create *strong synergies* between their products and they become more attractive as they offer a larger enterprise-level ecosystem of technologies.

The most prominent acquisitions were:

- Red Hat bought CoreOS for $250M

- Salesforce bought MuleSoft for $6.5B

- Microsoft acquired Github for $7.5B

- EQT Partners bought SUSE for $2.5B

- IBM purchased Red Hat for $34B

- Cloudera & Hortonworks announced their merging in October and it was valued at $5.2B

4 - Developers thoughts

Developers want to learn new skills not just languages

- *Data science* is ranked as the number one skill developers are interested in
  - Check out the [Glassdoor list](#) that shows and showed in 2018 that it is the most sought after job
  - The DevOps movement is also attractive to developers for a variety of reasons.
- Python is the [n.1 'programming language of the year' for 2018,](#) probably aided by the AI/ML development.
- Best IDE of 2018 appears to be *Visual Studio Code*. If it is not the absolute number one, it is the one that has the most significant adoption growth.

5 - Serverless

Really? Why do they call it server-less? I think it's crazy as there must be a server somewhere that somehow runs a container that executes your function, No? 😛

Happy 2019!

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