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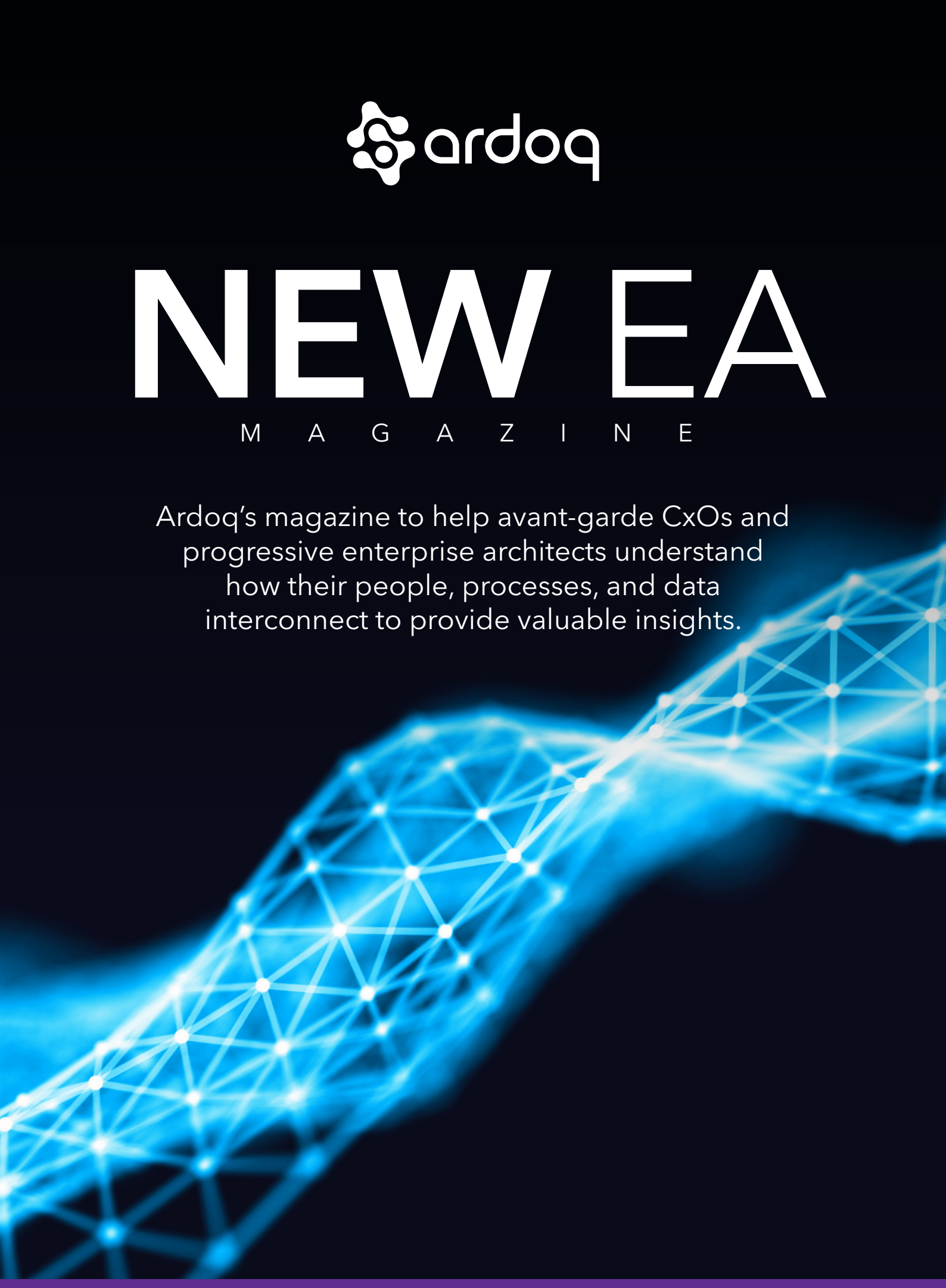
NEW EA

MAGAZINE

Ardoq's magazine to help avant-garde CxOs and progressive enterprise architects understand how their people, processes, and data interconnect to provide valuable insights.



EA FOUNDATIONS

NEW EA

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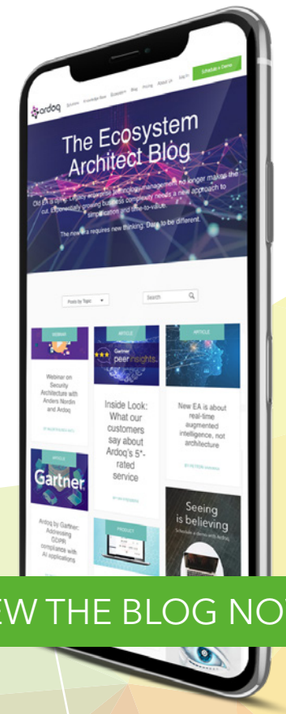
FOREWORD **NEW EA**

The Ardoq blog is the place to go for all the latest news, views, insights, and updates on everything to do with EA. But if you don't have the time to drop in and have a look around, don't worry – we're bringing our most popular blog posts to you in our magazine, New EA.

In this issue we go back to basics with EA by looking at the compelling case behind why your enterprise needs a 2020-ready EA platform. We also give you expert advice on what you should look for when choosing the right system for your business, including the most important elements that are most relevant in tomorrow's competitive business environment.

Happy reading!

Petteri Vainikka,
CMO, Ardoq



VIEW THE BLOG NOW

FIVE REASONS YOUR ORGANIZATION **NEEDS AN EA TOOL**

> **"You wouldn't run a sales team without a robust and up-to-date CRM, so why approach EA with the wrong tools and devices in place?"**

We've compiled five top reasons to explain why your organization will be far better off with an EA platform – ideal if you're seeking assistance or additional reassurance for making the case internally.

1. STRATEGY AND VALUES

If your company has a focus on digital business growth while also holding values in data security, privacy, and compliance, then running an EA program without professional tooling just won't cut it. Hardly anyone in sales needs to fight for budget approval for a cloud-based CRM solution, yet many EA teams struggle to get similar approaches signed off. EA platforms are at the epicenter of enforcing digital transformation strategies, ensuring audit-ready compliance for regulations such as GDPR, and maintaining oversight of data security and privacy policy adherence across the organization. You wouldn't run a sales team without a robust and up-to-date CRM, so why approach EA with the wrong tools and devices in place?

2. REDUCE MANAGERIAL RISK

In today's competitive markets, managers across all levels are required to make impactful decisions on a daily basis. Being able to say and do the right thing comes down to having the right information at the right time, and having confidence in its validity and quality. Quite simply, the poorer the information available, or the more difficult it is to successfully analyze it, the higher the managerial risk. Organizations with the tools and processes to ensure they remain agile and responsive to change, without sacrificing the quality of the analysis that underpins major decisions, will be the most successful.

> **"Making the case internally for why a proper EA platform is needed remains a challenge"**

3. EASE OF UNDERSTANDING

All organizations have details of their business architecture, business operating model, and application portfolio stored somewhere, but they very often tend to be scattered around, owned by different stakeholders, and composed without proper central ownership. This means that as a business grows and evolves over time – as all successful businesses do – gaps between the documented architecture and the actual architecture will likely emerge. This directly results in increased risk and possible non-compliance with regulations. With a collaborative EA platform, maintaining up-to-date and peer-validated AS-IS architecture, visualizing future scenario impacts, and communicating complex analysis to business executives in a coherent and consistent way becomes the new norm. By splitting up architectural use cases into smaller subsets, data mapping, analysis, and validation can be easily distributed to domain experts. What's more, most EA contributors won't ever need to see or fully understand the EA platform interface, as both visual analysis and data collection can be brought to them using interfaces they already use.

4. SAVE TIME

Perhaps the fastest ROI your organization will ever see can result from implementing a dedicated EA platform. Your EA team will spend:

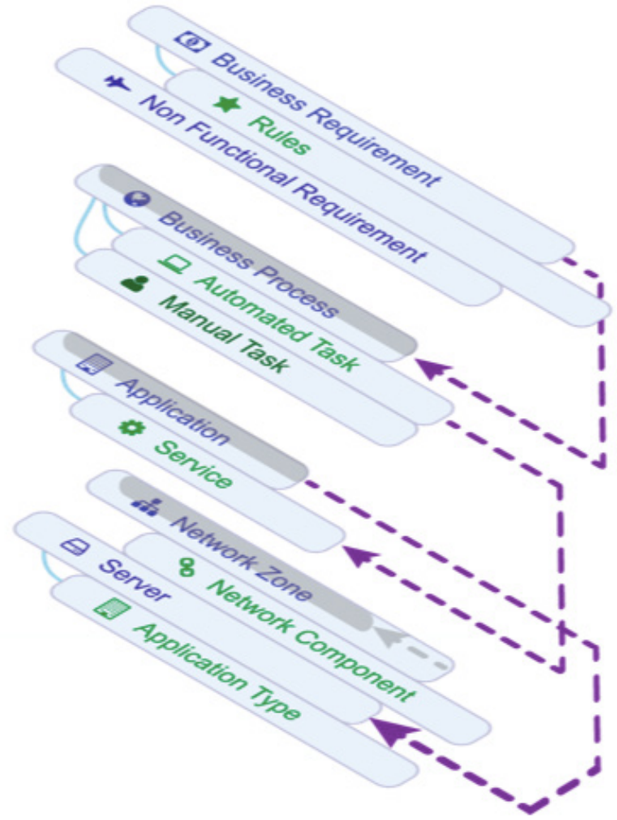
- Less time mapping out required data (most of the data mapping by leading platforms is automated)
- Less time validating and identifying gaps in data (leading EA tools deploy graph analysis to automate gap discovery)
- No time at all drawing (leading EA platforms draw all visualizations automatically based on the data)
- No time figuring out if documents are up-to-date or not (leading EA platforms centrally update all changes across all connected analysis)

Instead, the EA team can focus on providing validated analysis to business owners in real-time, and liaise with management to focus on decision support where it matters most.

5. DIGITAL TRANSFORMATION

For most organizations, the rulebook set by digital is different to the one they're used to. In short, it shifts the focus from long-term planning to agility and responsiveness to external change. It also moves the needle on the balance between IT and human resources. Never before has IT played a bigger role in determining business success, and with the advent of AI, IoT, and well-funded digital startups, the stakes have never been higher on incumbents to make the most of their strong market positions. With sturdy EA governance in place, it becomes possible to have informed data-driven conversations around business transformation: some businesses have gone as far as to proclaim that an EA platform is an insurance against IT and privacy breach disasters. Are digital transformation, data security, GDPR compliance, work efficiency, and overall good enterprise governance high priorities for your business? Of course they are. Therefore, introducing a dedicated EA platform should be at the top of your agenda.

This illustration shows how holistic architecture is composed of smaller architectural subsets in Ardoq. By making the architecture models small and focusing on model specific content only (incl. keeping the data needed for each domain small), multiple bite-sized and easily understandable tailored models that fit the domain experts needs can be deployed, mapped with data, and the syndicated for overview and more extensive dependency analysis.



By connecting information between layers and models, the meta-model that connects all smaller subsets evolves and expands over time organically. After a while you get a more an holistic view of your organization in Ardoq. But you can start with a small area and get real value.

> **"Perhaps the fastest ROI your organization will ever see can result from implementing a dedicated EA platform"**

WHAT TO LOOK FOR IN A **MODERN EA TOOL**

Enterprise architecture (EA) is a very different beast when compared to a decade ago. Where previously EA was mostly rigid, on-premise IT architecture modeling, today it covers the full fluid spectrum from business strategy to agile cloud application management to infrastructure. The practice has transformed, so why are so many organizations relying on tools from a bygone era?

You won't be surprised to hear that tools designed years ago are unable to fulfil the EA needs of today's businesses. As internal and external systems and processes evolve, so too must the instruments that measure and analyze efficiencies. Outdated tools will, by their very nature, only have the capacity to deliver outdated results.

To help you navigate changes, and understand how they impact EA platform design and EA practice value creation, we've put together a rundown of core EA features, how they've altered over time, and how Ardoq fits into the evolving EA solution landscape.

NEXT GENERATION EA PLATFORM	TRADITIONAL EA PLATFORM	NOTE
Open data driven	**Fixed model driven**	Ardoq is a data-driven EA platform that creates automatic models, as opposed to the traditional approach that saw users required to draw up all boxes and lines manually. Ardoq is designed to be highly automated (API-based data and change feeds), meaning greater efficiency and less manual operational maintenance. Ardoq also supports flexible open meta-models to truly reflect each business's unique characteristics.
Graph database	**Relational database**	Modern EA tools based on graph databases allow businesses to make connections across use cases and data sets. By using the Enterprise Intelligence Graph (EIG) upon which Ardoq is based, you will have the ability to answer complex questions involving all of your data sets simultaneously, revealing not only valuable top level information, but also connections and possible gaps. And, because every auto-generated visualization with Ardoq's EIG is based on up-to-date data and models, you will never run analysis on old or partial data.
Automated input (through APIs and non-console surveys)	**Manual input** (console based)	All data analytics is reliant on the quality and completeness of the data within the system. This is why automating and simplifying data input is critical for EA success. Ardoq has focused on making inputting data as simple as possible through our user rights authenticated surveys, using our Excel-style grid editor, or leveraging our range of pre-built API integrations for automated crawling and updating based on existing data repositories stored in your existing solutions.

NEXT GENERATION EA PLATFORM	TRADITIONAL EA PLATFORM	NOTE
Business-user friendly input without any need for training	**Input can only be provided by trained expert users**	Using Ardoq's user rights authenticated surveys, you can involve the entire organization by crowdsourcing input on anything from business processes, to application landscape, to data capture with lawful basis (e.g. for GDPR), all without survey respondents needing to receive any software training.
Flexible meta-model	**Proprietary meta-model**	The meta-model in Ardoq is totally flexible, and can be configured to your needs. The meta-model can follow a strict or flexible hierarchy, and the design is up to you and limited only by your use case(s). You can also use our template meta-models as starting points.
Framework and notation agnostic	**Strict framework and notation rules**	We do not force any frameworks or notations on the user, though we do offer out-of-the-box support for Archimate 3.0, and the ability to model virtually any standard or notation. This is because we allow users to design their own meta-models and stylization of components. If you wish to model a specific notation, you can use your own icons, images, component types, and references to reflect that standard.
100% SaaS / cloud-based (on-premise supported for Enterprise plans)	**On-premises or hybrid solutions**	Ardoq is an easy-to-use Software as a Service (SaaS) solution that does not require any technical implementation. The infrastructure is robust, scalable, and compliant with regard to privacy and information security via AWS (Amazon Web Services). We also offer on-premises and private cloud solutions for Enterprise plans.
Rapid ROI through easy implementation and onboarding	**Extensive implementation and training needed to get the system working, with continuous maintenance required**	Ardoq onboarding is normally a four-hour workshop, after which the customer can begin exploring and leveraging the platform. As Ardoq is built on automation and user-friendly UX, there will be a higher degree of quality, with less ongoing manual governance and maintenance work.

THE THREE THINGS THAT MATTER MOST IN THE **NEW AGE OF ENTERPRISE ARCHITECTURE**

Enterprise architecture (EA) isn't new. It has played a crucial role in helping businesses understand their internal infrastructure for over 30 years, but in that time it has been somewhat resistant to change. While the digital landscape it oversees evolved dramatically around it, those practicing EA tended to remain steadfastly loyal to the discipline's roots.

And, largely due to EA's inability – or perhaps reluctance – to change, it has journeyed through plenty of turbulence. In 2007, Gartner predicted that "by 2012, 40% of enterprise architecture programs will be stopped", only to state in 2015 that "70% of organizations are starting or restarting an EA program". As these two very disparate quotes suggest, EA has recently gone through a period of great transition and change, and it was sorely needed.

Significant lessons have been learned over the last decade or so, but the primary takeaway is this: EA needed to change in order to remain relevant, and such change meant completely reevaluating EA to make it as beneficial to businesses as possible.

> **"EA has recently gone through a period of great transition and change, and it was sorely needed"**

So what matters most in EA today, and what approaches should be utilised?

Our research has revealed that three things matter most to progressive enterprise architects, and to CxOs endorsing new EA practices.

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1. **EASE AND AUTOMATION OF INPUT:** OUT-OF-THE-BOX INTEGRATIONS AND NO-UI-LEARNING-NEEDED EA PARTICIPATION FEATURES

For EA to deliver 'quick wins' in addition to laying the foundations for more long-term transformation, the EA platform's design plays a critical role. This means having pre-built data import integrations from Excel, AWS, Swagger, ServiceNow, MuleSoft, CMDBs, etc., in addition to enabling no-UI, no-software-training-needed EA participation features. This allows diverse and broad stakeholder communities to participate in business process mapping, analysis, and validation feedback loops.

All EA programs are only as good as the data in the platform, hence why it's crucial this is highly automated and simple to operate manually.

> **"All EA programs are only as good as the data in the platform"**

2. **AI AND IA:** ARTIFICIAL INTELLIGENCE AND INFORMATION AUGMENTATION

AI is a complicated subject, and that's partly because its parameters are in a constant state of flux. As technology advances and as computers become more capable of understanding and subsequently learning, AI is revealing itself to have more and more applications across any number of business functions.

In the context of EA, AI is showing particular promise across graph-based EA platforms, where data is, by default, in a structured format. AI allows enterprise architects to run automated – even self-learning – graph searches across many layers of different data sets, all inter-connected on the same graph.

> **"AI is a complicated subject, and that is partly because its parameters are in a constant state of flux"**

Given the complexity of EA tools, their ever-expanding functional realms, and the nature of their use for analysis based on syndication of large data sets across different business realms, this is an area where AI will drive real results, delivering maintenance simplification and intelligent insight directly to appropriate stakeholders, all in a personalised way.

However, most organizations may still be better served focusing on IA (information augmentation), instead of rushing to immature first generation AI solutions. Putting IA ahead of AI in EA means ensuring data is structured, and that there are appropriate links (relationships) between different data sets.

3. **BUSINESS USER FRIENDLY OUTPUT:** ENABLING EAS TO TELL STORIES AND COMMUNICATE WITH NON-EAS

EA has too much jargon. EA visualizations have tended to be incredibly cluttered, meaning it can be difficult for non-EA employees to see what is relevant to them. EA tools are rarely designed for communication, so it's here that most EAs could use an additional helping hand.

When it comes to software, most designers look to create programs that are intuitive, and can be operated without the need for incredibly specialized knowledge. What this means is that complex tooling requiring month-long training sessions will soon be a thing of the past. For EAs, this is something that can't come soon enough.

The EA platforms set to dominate the scene in the years to come will need to deliver customizable, easily digestible visualizations natively from the platform, in an automated way. With EA well and truly established as a discipline at the forefront of digital transformation and business process re-engineering, it's vital that the right tools are used to guarantee the most favorable returns, and help organizations expand and evolve effectively.

NEW EA IS ABOUT **REAL-TIME AUGMENTED INTELLIGENCE**, NOT ARCHITECTURE

It's no surprise that many people regard enterprise architecture (EA) as perplexing. It has an astonishingly long history, yet one that clearly remains in search of proven ROI at scale. It can be complex, convoluted, and overwhelming, even for those who work with EA day in, day out.

EA boasts perhaps the longest history of failure to deliver 'on vision' of any technology trend I've ever encountered. And, as someone passionate about observing new technology at play, that's quite a statement on my part.

However, there's no denying that EA is resilient. It's constantly adapting to change, and is a discipline in a state of almost constant evolution. Yet, with the pace of change increasingly relentlessly, EA – alongside many other established enterprise management doctrines – is struggling to keep up. When it comes to being able to manage, navigate, and inform decision-making, EA's historically linear solutions are quite often not up to the task.

> **When it comes to being able to manage, navigate, and inform decision-making, EA's historically linear solutions are quite often not up to the task**

Looking at EA more closely, it's impossible to turn a blind eye to the solutions empowering today's practitioners. It's prudent to acknowledge that all existing EA tools were built, and are indeed used, with the best of intentions. It's simply the case that the pace of disruptive change has simply outdone the speed of organic evolution from within.

And this all means one thing: new EA is required.

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72% **of organizations are starting, restarting or renewing their EA efforts (Gartner, December 2017)**

SO WHAT IS NEW EA?

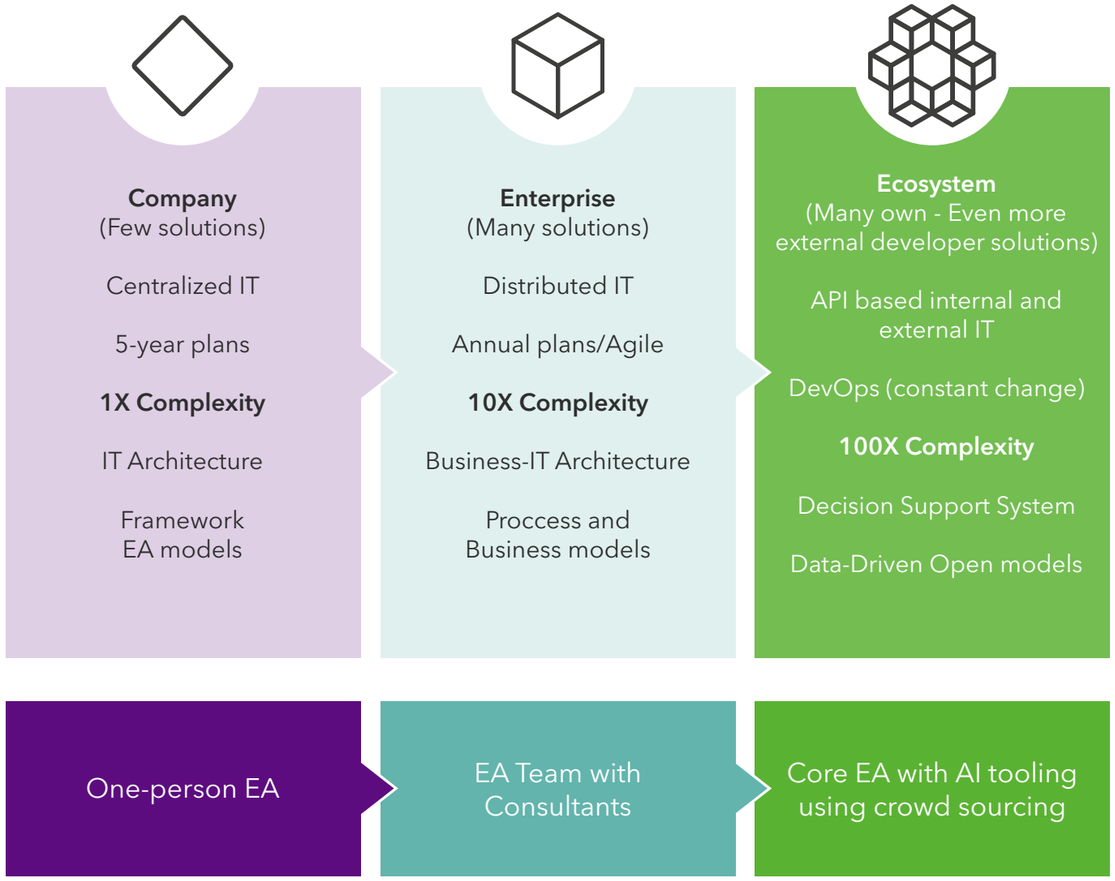
New EA is about ecosystem architecture. It's about real-time augmented intelligence around the enterprise and the ecosystems in which it operates. It's about delivering contextually enriched, machine-to-machine, and crowdsourced data that results in decision support intelligence to business and IT executives.

There's a growing need to answer complex business questions that relate to an ecosystem of people, business processes, applications, data, and security in real-time or near real-time. The new era of EA focuses on delivering contextually relevant and bespoke decision-making input for complex business questions.

Making decisions in the digital business era is about speed, not perfection. It's about embracing a level of known uncertainty and deliberate imperfection, but compensating for it by moving at pace, and by making appropriate amends on the fly.

New EA ensures increased operational efficiency and strategic agility. It empowers enterprise business executives, allowing them to make better decisions faster. Backed by accurate data, it's about real-time contextual intelligence, not framework-constrained rigid architecture.

Illustration of **IT & EA evolution** across three eras



WHAT SHOULD NEW EA LEADERS FOCUS ON?

As is often the case, it helps to look from the consumer's perspective. Consider the executive management team, or the equivalent body that's responsible for decision-making and prioritization. This customer is unlikely to understand the intricacies of architecture, frameworks, meta-models, and so forth. Instead, they'll have an interest in contextually tailored – and instantly available – insights that can inform decision-making.

There have been plenty of articles assessing the shift of EA from IT architecture to business architecture (BA), with some going as far as to advocate that EA should focus on business models and business architectures rather than all things IT.

Equally, there is a solid lobby arguing for EA to shift focus from current state (as-is) mapping to future state (to-be) mapping. And, while both offer good arguments, there are clear differences. The former finds itself advocating for EA and BA to push into the realm of corporate strategy, while the latter results in attractive scenarios on paper, but without an accurate, data-driven as-is description, analyzing future states using real data for overall viability will be vague at best.

KNOW YOUR CUSTOMER

Our research shows that the single most important thing to management is meaningful insights, backed by real data, delivered in a way that is easy to understand, and helps them make better decisions. New EA that can answer complex questions with real data is ideally suited to deliver on these desires.

Moving from IT architectures to business architectures represents a shift in the role and value of EA. Moving to enterprise and ecosystem intelligence on-demand may be considered a radical decision, but is it one that you're willing to take?

WILL YOU SOON BE **TALKING TO YOUR DTO?**

Chatbot integration can allow business executives to quickly access valuable information that previously would have taken months of work.

It's hard to imagine a more fun time to be in the wonderful world of data analytics than today – well, perhaps with the exception of the future, of course.

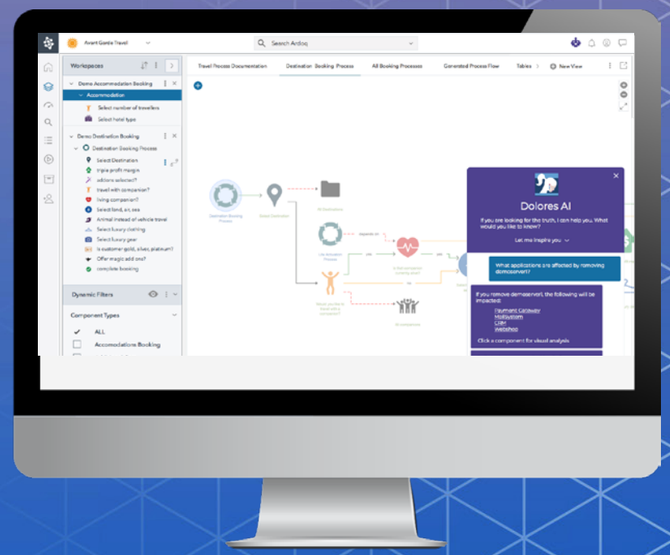
At Ardoq, we've been burning the midnight oil pushing the frontiers of data-driven New EA, and we're super excited with how EA is becoming all about real-time augmented intelligence at disruptive speed.

Before we talk about 2019, let's spend a few minutes on the important concept of a DTO – or Digital Twin of an Organization – and how our work on DTOs intersects with our work on our chatbot.

At Ardoq, the way we're approaching the delivery – and critically the usability – of a DTO for the CIO/CFO/CDO is to dish it up as a chatbot. A DTO underpinned by a chatbot user interface will allow business executives to ask questions directly to extract valuable information.

For example, this could be to discover cost optimization opportunities that deliver most value, but that do not introduce new risk of compliance gaps. They'll be able to easily visualize complex interdependencies between functions, processes and KPIs to drive value. Previously, such advanced EA cases would take months and rely on hundreds of hours of expert work.

> **"A digital twin of an organization (DTO) is a dynamic software model of any organization that relies on operational and/or other data to understand how an organization operationalizes its business model, connects with its current state, responds to changes, deploys resources and delivers expected customer value. It holds disruptive potential to create visibility, to deliver situational awareness and to support improved enterprise decisions."**
>
> - Gartner, 2018



ENOUGH TALK. SEEING IS BELIEVING.

It's our great pleasure to introduce you to Dolores, our very own Ardoq Chatbot, who is going to be busy training with our beta customers during 2018.

If you're new to Ardoq and would like to know more about how you can soon be talking to your DTO, please do. If you're already an Ardoq customer and would like to participate in our 2018 Beta Program, do reach out to your friendly human customer success manager to learn more.

The future of New EA is very bright.

ADDITIONAL NOTES

Augmented analytics is a new way of collecting, interpreting, and acting upon insights derived from important data an organization collects about its operations. By automating this process using machine learning, natural language processing (NLP) and artificial intelligence, organizations are able to spend much less time on collecting data and turning that data into insights, and instead more time on implementing actionable changes on that data that in turn will offer the company real benefits.

A chatbot is a computer program that simulates a human being over a chat interface. There are two types of chatbots: the first is less sophisticated and is only composed of a series of rules. It does not understand language, and does not improve its ability to provide better answers as it's being used. The second, however, is way more advanced and uses machine learning to constantly improve its ability to provide relevant answers to requests the more it's used.

WHAT IS **DATA-DRIVEN EA?**

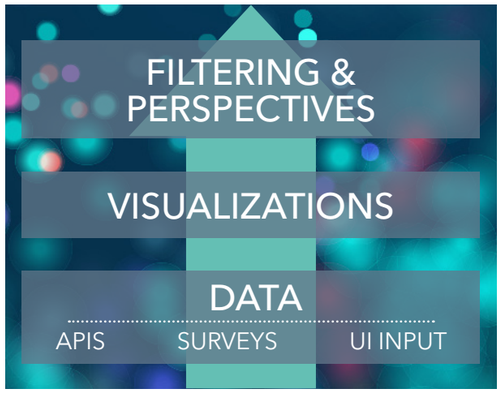
Sometimes, it's hard to see the picture when you're inside the frame.

So it was most refreshing to have recently been in a conversation with a CTO who did the unexpected. He directly asked the simple question:

> **"What exactly do you mean by data-driven EA?"**

This to-the-point question caused myself and our team to pause and reflect. Have we somewhere down the line just 'skipped over' clarifying the critical distinction of what constitutes 'data-driven' in the context of EA? Has the workflow and architecture of being data-driven vs. drawn up manually – or being based on fixed frameworks resulting in pre-defined visualizations – been overseen by us?

Data-driven EA can best be understood as a commonly seen tech stack as illustrated below. Next, let's discuss each layer in the stack, and then return to how this approach to EA is fundamentally different to traditional approaches.



IT'S ALL ABOUT THE DATA

Ardoq's disruptive approach to addressing EA as a data analytics challenge is rapidly embraced by progressively thinking customers globally.

With enterprise IT moving to the cloud, embracing digitalization and data-driven decisions has never been easier. The record data that EAs and CIOs care about can now easily be accessed via APIs.

We've also built smart surveys to crowdsource complementary data from the entire organization for no-UI, no-new-solution-training data collection at an unprecedented scale.

It's the data that underpins everything within New EA at Ardoq. Data is also an incremental and living asset that follows the enterprise as it transforms.

DATA EMPOWERS AUTOMATIC VISUALIZATIONS

When embracing a data-driven approach to EA, we can quickly, easily, and literally in seconds create many different visual representations of the same structured data. We also don't need to redraw anything when the data changes, but changes in data – 'at the source of truth' as we like to call it – automatically trigger updates in all visualizations everywhere. This not only saves hundreds if not thousands of hours of work time, but also removes the possibility of human error in the updating of visualizations. Most importantly, however, as the underlying data becomes highly connected and complicated, it becomes an übermensch task to manually draw any sensible visualizations.

For data visualizations, Ardoq comes 16+ (and growing) out-of-the-box, including process flows, heat maps, spider charts, sequence diagrams, swimlanes, relationships, integrations, dependency matrices, bubble charts, tree maps, and strategic roadmaps. As we're cloud native, there's also a Plug In editor of course, allowing anyone to create their own custom visualizations.

VISUALIZATIONS CAN BE FILTERED FROM DIFFERENT PERSPECTIVES

We arrive at the top of the data-driven EA stack hierarchy with filtering and dynamic perspectives. Because every visualization is based on data, any attribute pertaining to any graph component or relationship can be used to filter the automatically produced visualization to reduce noise, zoom in/out, or highlight a key analysis.

Our dynamic perspectives feature leverages Ardoq's graph data architecture, enabling visual analysis to be provided on the same visualization from different points of interest or perspectives. For example, visual analysis can be changed from answering roadmap to answering risk.

CONCLUSION

We live in a data economy. Data powers most of today's most successful digital enterprises, and is poised to disrupt many traditional industries that have not yet realized the transformative power of data within their business.

Our research shows that the single most important thing to management is meaningful insights, backed by real data, delivered in a way that is easy to understand, and helps businesses make better decisions. Data-driven EA that can answer complex questions with real data, at the speed of digital, is ideally suited to deliver on these desires.

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