

The Enterprise Architect of Tomorrow



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INTRODUCTION

An Enterprise Architect's (EA) role is elaborate and extremely dynamic. They can deliver great value by cutting cost and complexity by aligning IT concerns, technology tools, and strategic business goals. EAs previously produced exhaustive 5-year plans consisting of excessive amounts of analysis, slow timelines, and rigid conceptual models. With the agility and DevOps movement on today's IT management best practice, old EA mentalities are forced into obsolescence. Successful EAs of tomorrow must acquire five integral traits to guide their company to success. Implementing these traits will enable the company to scale up and quickly meet the speed and demands brought forth by digital transformation.

This white paper gives practical insights on the five most important traits that high performing EAs of tomorrow must possess, and how to develop and apply said traits. By redirecting the EA focus to a data-driven, agile-minded, forward thinking, problem solving viewpoint, EAs of the future will be significantly more valuable, increasingly more recognized, sought after, focused on impactful subjects, and provide measurable value for themselves and their company.

FIVE TRAITS OF TOMORROW'S ENTERPRISE ARCHITECT

Ability to execute

Some EAs of the past invested a disproportionate amount of time documenting information and collecting hordes of data for the sake of collecting it. Unfortunately, while the data was actively decreasing in relevance, EAs would use said aging data to generate a 5-year plan. Bluntly said, after creating the directive, the EAs would disappear back to their decks, and begin the ineffective process again.

Progressive EAs assess which systems or processes are currently working and keep a sharp look out for the imminent challenges and opportunities ahead. EAs of the future must quickly grasp, store, structure and analyze information that could help solve an oncoming problem in the enterprise landscape. Not only propose and investigate possible resolutions, but remain helpful and accessible, offering supplemental support until a solution is reached.

For example - Helvetia, one of the largest insurance companies in Switzerland, substantially benefited from having a more hands-on, results driven approach to consolidate two substantial IT landscapes. Over the span of 150 years, Helvetia has grown from a small number of Swiss and foreign insurance brands into a successful insurance group that operates in six European countries.

Today, around 7,000 employees serve more than 4.7 million customers. After merging with the former Nationale Suisse insurance company in 2014, Helvetia needed clear changes in architecture framework to ensure business as usual operations, combine IT departments, and provide IT support for the integration of all business processes.

With so much on their plate, Helvetia turned to Lean IX to help execute a successful IT merger. Balancing the complex requirements of IT integration in a merger required solid communication between technology leaders and business management. The EA team worked closely with the CIO and mapped out an IT management system using custom-built IT management tools.

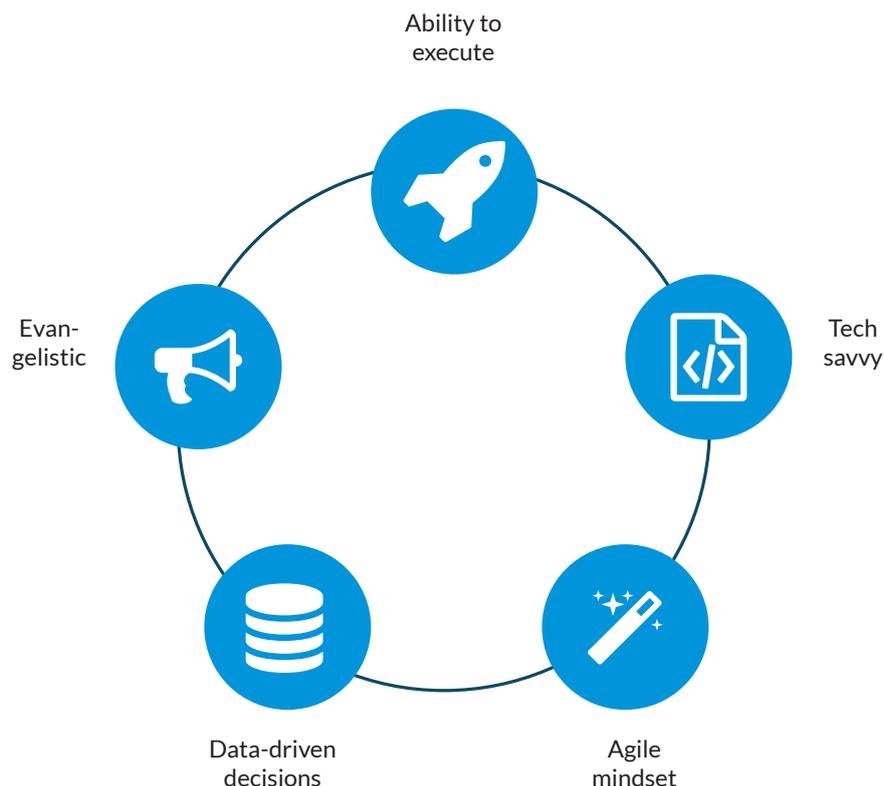


Fig. 1: Five traits of tomorrow's Enterprise Architect

The EA team provided up-to-date knowledge about the IT landscape to the group. Keenly focused on results, the EA team took every opportunity to share their knowledge and experience in short, frequent workshops that provided valuable feedback to tweak processes and to deliver fast results. The EA team provided further/continual support and involved the teams in short data sprints to improve the knowledge on the Helvetia IT landscape at an ongoing basis.

The merger not only proved successful, but it was also extremely cost effective for Helvetia. In addition to achieving improved start times of IT projects and reducing project setup effort, Helvetia identified a million euro deficit caused by IT redundancy. Helvetia's use case proves that whenever EAs are directly involved in the implementation of projects and help execute changes in the data model, processes run smoother, deliverables come quicker, and money is saved.

Tech savvy

Take the initiative to gain the digital skills you require to make a difference in your organization, and find a way to provide value to the CDO. You will be more valuable to

your organization, your skills will be more current, and you'll have more fun as well. What do you have to lose?" - Jason Bloomberg¹

The EA of the future must not only be aware of the availability of industry relevant APIs, microservices, and emerging database technologies; but it is also imperative to exhaustively understand how a proposed service might improve or negatively impact the company. Where EAs of the past would have nominally researched possible solutions and handed it off to the prospective team to resolve, tech savvy EAs of tomorrow are in close continual contact with CIOs, CDOs, application leaders, and IT teams, educating themselves on the technical mechanics of each project. EAs of the future understand the importance of staying abreast of DevOps and emerging applications that could save the company time and money, and open up unlimited possibilities. All teams will directly benefit from having a connected/educated enterprise.

One of the key architectural changes is microservices. EAs will undoubtedly have to give well-founded advice on this framework, and its possible benefits to their company.

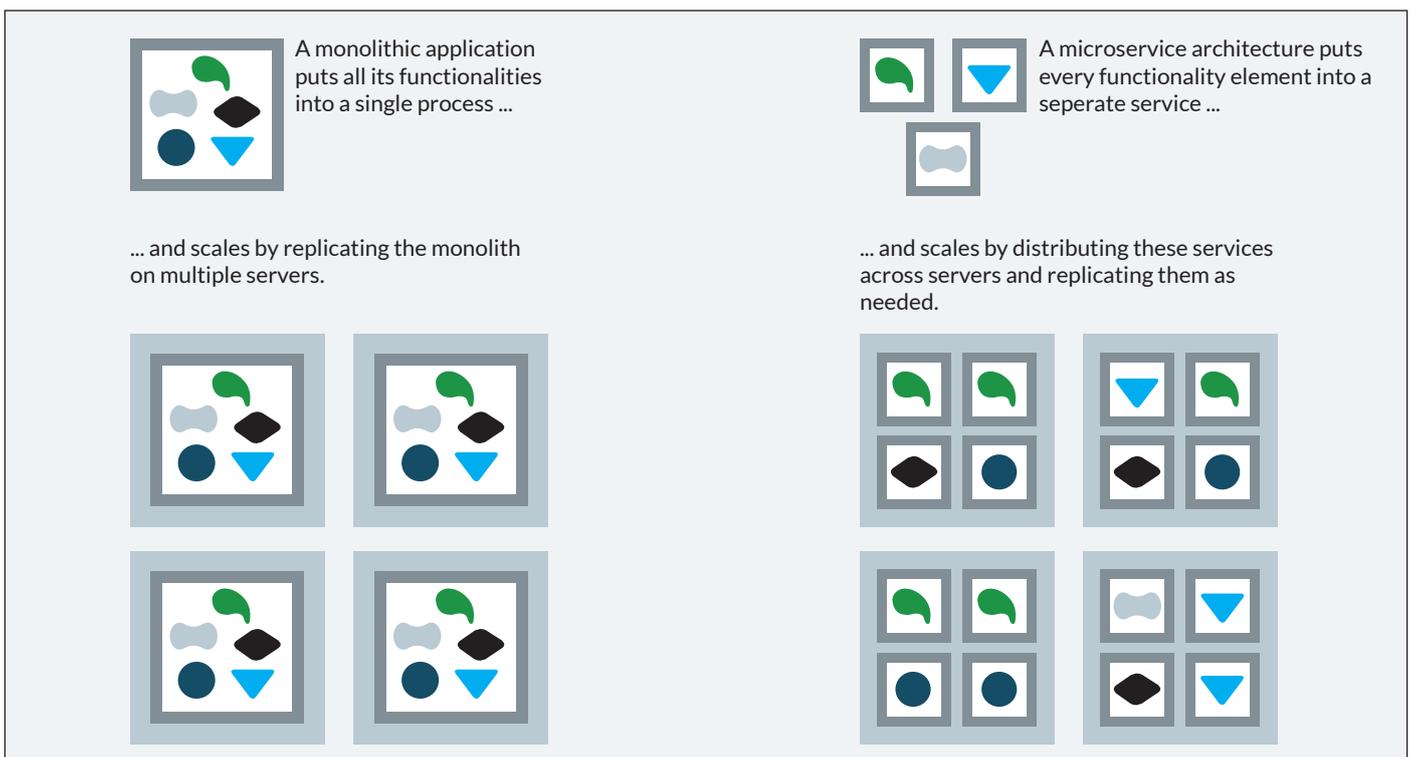


Fig. 2: Monoliths and microservices, according to Martin Fowler

¹ Intellyx: <https://intellyx.com/2016/02/01/ea-communicate-how-eas-should-support-the-chief-digital-officer/>

The microservices style of architecture develops complex application software from small, individual applications that communicate with each other using language-independent interfaces (APIs). Companies run into trouble if they are unable to scale monolithic architecture that has developed over time, if their architecture is difficult to upgrade or maintenance becomes too complex. Microservices can be the answer to this problem, as they break down complex tasks into smaller processes that work independently of each other.

However, it is extremely important to define a target architecture before beginning to implement microservices, otherwise the IT landscape may end up devolving into chaos and exhibit worse properties than the existing monolithic applications. Tech savvy EAs give clear-cut advice on microservices and implement a framework to benefit from microservices, service-oriented architecture, DevOps or any other emerging trends.

Agile mindset

Agility has become a key characteristic of a top performing EA of tomorrow. An important EA goal is to implement enterprise-wide agile methodologies to speed up software deployment timelines. High performing organizations deploy code to production 46 times more frequently than their low-performing peers.[2] Innovative companies like Etsy report deploying 80 times per day, and companies like Amazon engineers deploy code every 11.7 seconds, on average, and Netflix report deploying thousands of times per day.³

“High performing enterprises reported their lead time required to deploy changes into production (i.e., go from code committed to code deployed and running successfully in production) was less than one hour, whereas low performers required lead times between one week and one month. So the high performers had 440 times faster change lead times than low performers. For our calculations, we used lead times of 60 minutes for high performers, and 26,940 minutes for low performers (the mean of 10,080 minutes per week and 43,800 minutes per month)”.
- 2017 State of DevOps Report ⁴

Once shifted over from the “Ivory Tower” mindset to a project manager mindset, EAs can actively map out systems that foster high project deliverable rates, generate quick results and produce reliable critical business data while respecting all the important requirements like security, data privacy, and compliance.

One example of agile development that should be explored by EAs is scrum frameworks. Scrum is a widely adopted agile framework for completing complex projects. Scrum was originally formalized for software development projects, but it works well for any complex, innovative scope of work.

The scrum framework works as follows: the teams create a prioritized list called a product backlog. During spring planning, the team selects a small chunk from the list, a sprint backlog, and decides how to implement those pieces. The team, directed by the EA, has a certain amount of time - a sprint - to complete its work. Every day there is a daily scrum to assess its progress.

Along the way, the ScrumMaster keeps the team focused on its goal. At the end of the sprint, the work should be potentially shippable - ready to deploy, send to the customer, or show to a stakeholder. The sprint ends with a sprint review and retrospective. The major difference between the scrum framework and traditional slow EA frameworks is that a sprint usually lasts from two to four weeks versus months or even years like EA processes in the past.

When producing quick plans and generating quick results, EAs can help teams accelerate time to market, increase productivity, and respond to changes in the stakeholders priorities. Scrum is a key framework tool to an agile EA. Scrum produces regular valuable output, allows you to realign your targets when necessary, change an objective at every review, and provides a short feedback loop. Even faster than the scrum system is the Kanban method which emphasizes on just-in-time delivery. Project deliverables can be produced in mere hours - a clear indicator of an agile team.

² Puppet: https://puppet.com/system/files/2017-06/2017-state-of-devops-report_3.pdf

³ NewRelic: <https://blog.newrelic.com/2016/02/04/data-culture-survey-results-faster-deployment/>

⁴ Puppet: https://puppet.com/system/files/2017-06/2017-state-of-devops-report_3.pdf

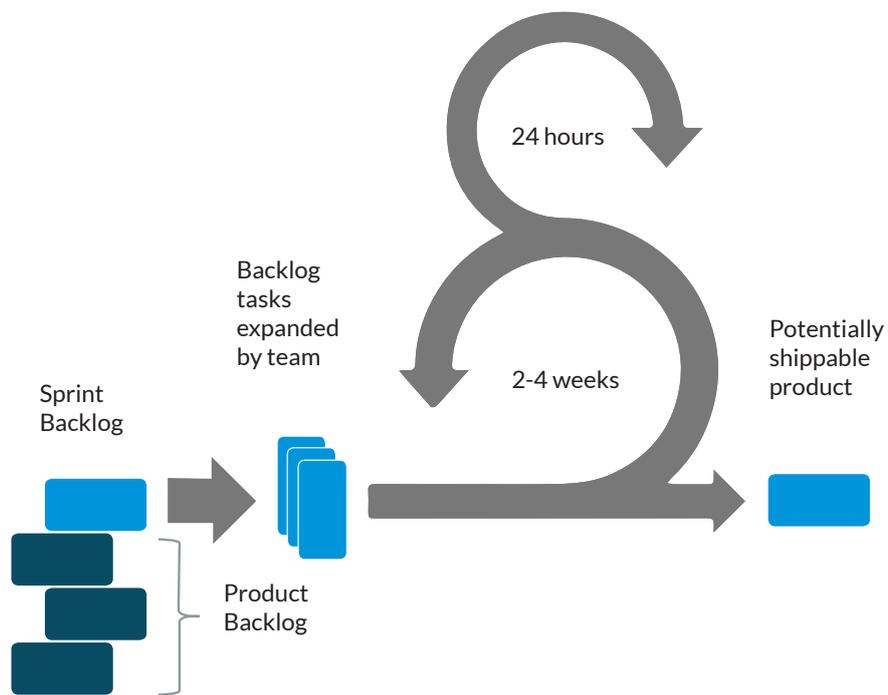


Fig. 3: The principles of scrum

Make data-driven decisions

“Data will become a strategic asset to the adaptive enterprise and analytics will enable the organization to distinguish the signals from the noise and focus on outcomes, resulting in business ROI.” - Björn Goerke ⁵

All decisions that EAs of tomorrow make must be based on data. Data-driven decisions help leadership make the right investments and ensure the organization is working on the most impactful tasks to improve competitive advantage.

High performing EAs are on top of up-to-date analytics, prove hypotheses with data, regularly A/B test the practicality of current systems, and make decisions only from admissible data. We live in the age of an overabundance of data - having direct access to a variety of expert tools that constantly generate a flood of information, the real task for EAs is to determine which data is useful, and to utilize said data in a meaningful way.

The web-based software Zendesk has revolutionized the customer service of many companies by streamlining communication formats, bundling all customer communications in one place, and providing up-to-date analytical tools. Without access to up-to-date data, customer support suffered from backlogged tickets, lost communications, neglected issues, slow response times, and disorganized files.

Zendesk’s intuitive dashboard provides clear visibility into customer interactions, and produces in-depth analytics using machine learning algorithms to enable your enterprise to better understand and predict customer satisfaction, measure performance, and uncover actionable insights.

Data from tools like Zendesk directly enables EAs to make data-driven decisions from detailed figures and analytics organized on a clearly illustrated dashboard. This valuable informational and organizational style can help facilitate improvements in customer service which in turn creates a culture of professionalism and develops measurable improvements in the business strategy.

⁵ cio.com: <http://www.cio.com/article/3154778/analytics/game-changing-enterprise-trends-for-2017.html>

Evangelistic

Whereas EAs of the past were seen as data collectors, creating far-flung models for various project teams, EAs of the future must see a benefit in constant application changes - and be able to convince teams to test out new processes.

Evangelistic EAs would pick one important topic that would greatly benefit the company whether it is microservices, DevOps, cloud migration etc., and research, zealously advocating the particular cause.

One hot topic for most industries is IoT. Technology research firm Gartner predicts that by 2022, IoT-enabled service models could save a trillion dollars a year in maintenance and service costs.⁶ Forward thinking EA's of tomorrow will take this information, research which IoT technologies would provide opportunities or threats to their organization, and provide a broad understanding of the business impacts of IoT technologies, based on the technologies' characteristics, the information they expose and how they will be used.

By thoroughly researching the technology, and the resulting ideation, evangelical EAs can provide internal teams and IT leaders with more than just a list of "cool" technology ideas.

HOW TO DEVELOP THESE FIVE TRAITS AS AN EA

Do not accept bad quality data.

Not all data is useful for business decisions. Real time relevant metrics are an EA's best tool. Ask "Is this data still relevant?" before making any subsequent changes to the framework.

Be easily accessible.

Constantly check in with each team and know what changes they need before they need it. Schedule review meetings as often as needed.

Use an Enterprise Architect Management software.

Be sure to select software that offers state-of-the-art reports that are automatically adjusted in real time. Read about LeanIX's software tool.

Constantly look for areas to improve.

Ask questions like, "Are these tools still relevant?" or "Is this system working?" or "How I can I make this system run more smoothly?" on a consistent basis.

Attend industry conferences.

Check our calendar for world-wide EA events. <https://www.leanix.net/de/events/index>

Listen closely to the needs of your team.

Teams that can decide which tools they use do better at continuous delivery. This is in contrast to teams that can use only those tools that are mandated by outside influences. Teams that can choose their own tools are able to make these choices based on how they work, and the tasks they need to perform.⁷

Constantly learn.

Enroll in relevant university tech courses to stay abreast of emerging industry standards and apply constructive knowledge to current projects.

Collaborate with the best.

Leverage the experiences of innovative vendors that bring demonstrable experience on new topics that you need to drive.

Get started today.

Pick one current project where you can apply these traits and make a measurable difference for your company.

Try an agile method.

Apply scrum or Kanban to a current project that is taking too long to deploy. Do not ask upper management for permission. Get started on a product backlog and start delegating tasks today.

⁶ Gartner: <https://www.gartner.com/doc/3471568?srclid=1-6595640685>

⁷ Puppet: https://puppet.com/system/files/2017-06/2017-state-of-devops-report_3.pdf

CONCLUSION

EAs with tunnel vision on long-term plans and conceptual processes are not valuable to their teams. EAs of the future architect the organization's landscape as a problem-solving tool to drive digital transformation. Strive to master all above mentioned traits - ability to execute, tech savvy, agile minded, make data driven decisions, and become evangelistic to make measurable impact on your enterprise.

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About LeanIX

LeanIX offers a Software-as-a-Service (SaaS) for Enterprise Architecture (EA), which enables organizations to take faster, data-driven decisions for their IT landscape. More than 80 leading brands such as adidas, DHL, Merck, Vodafone, and Zalando use the innovative solution worldwide. Users of LeanIX gain insights on how to organize and leverage their IT landscape to increase competitiveness and enable innovation going forward. LeanIX addresses the frequent problem that the required information about the IT landscape is missing, outdated, or difficult to analyze. Use cases include application rationalization, technology risk management, and the shift from monolithic architectures to microservices. LeanIX was founded in 2012 by Jörg Beyer and André Christ. The company's headquarter is in Bonn, Germany, with offices in Boston, Massachusetts, and Houston, Texas. A wide network of partners provides support in America, Europe, and Australia.

Contact:

info@leanix.net

www.leanix.net

LeanIX GmbH

Baunscheidtstr. 17
53113 Bonn, Germany
Phone: +49 228 2862992-0

LeanIX, Inc.

1 Beacon St
Boston, MA 02108, USA
Phone: +1 832 3841233

1900 West Loop South, Suite 1550
Houston, TX 77027, USA
Phone: +1 832 3841233