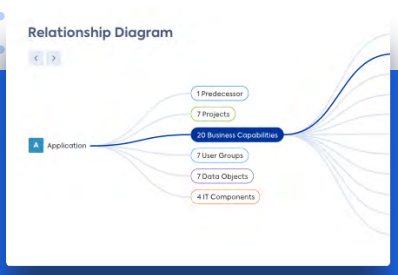
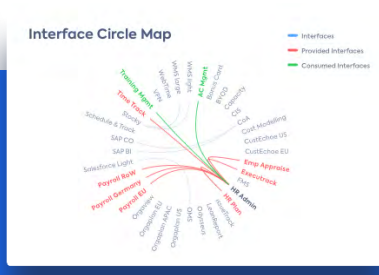
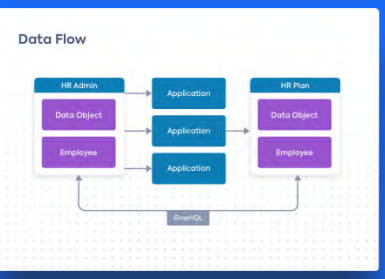
WHITE PAPER

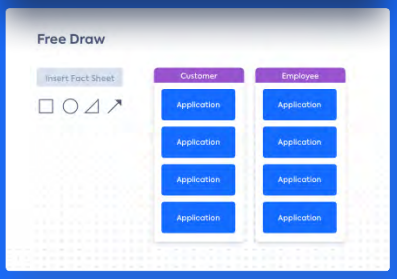
Enterprise Architecture Success Kit

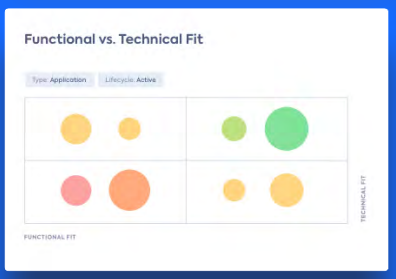
Everything you need for long-term success

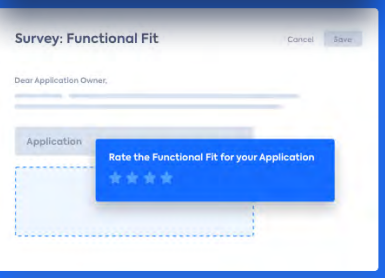


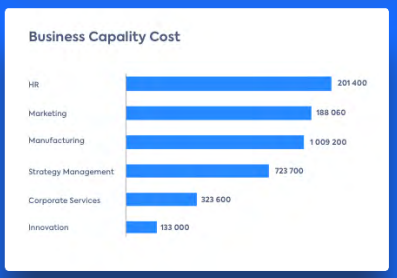


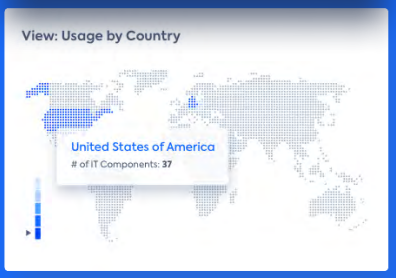












LeanIX

WHITE PAPER

Enterprise Architecture Success Kit

Everything you need for long-term success

CONTENT

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Introduction

As emerging technologies continue to fast-track digital transformation, collaboration between business and information technology (IT) leadership has become a critical component for any successful company. Enter enterprise architecture (EA), whose practice is integral toward aligning an organization's strategic goals with the technical initiatives required to achieve them. Gartner, Inc. predicts that, by 2022, 80% of businesses will take a collaborative approach to EA.

Getting started with EA in the modern digital age is a smart move. It appeals to IT stakeholders and business stakeholders alike. Its measurable impacts benefit financial, security, operations, and decision-making outcomes, hastening growth while at the same time reducing complexity. It provides more visibility for IT leadership, raising the profile of all professionals working with enterprise technology. But, as with any significant undertaking, there can be stumbling blocks along the way – especially during the early stages.

In this white paper, you will:

- Uncover the value of a successful EA practice, and how that translates to your organization
- Appreciate what's important to your CIO, and how to sell him/her on what key results can be expected by investing in enterprise architecture
- Learn how to build your program from scratch while avoiding the most common pitfalls
- Understand how to attain ongoing, positive results by showing demonstrable solutions to real-world problems

You will also get an inside look at how LeanIX is helping enterprise architects shape the future of their organization.

Understanding the Value of Next-Generation EA

For many organizations, the value of enterprise architecture can be difficult to grasp. You need to be able to demonstrate its impact – not just on the IT landscape – but on business outcomes. A CIO usually cares about three things: saving money, mitigating risk, and championing digital transformation. EA can help them achieve all three quickly.

Reduce costs

A solid EA practice can help uncover previously untapped sources of savings. Here a few quick-win activities that will help you realize almost immediate savings.

Rationalize your applications

Simply eliminating redundant applications can reduce costs significantly. Rationalizing applications not only saves money on licenses, it also decreases costs for support and maintenance.

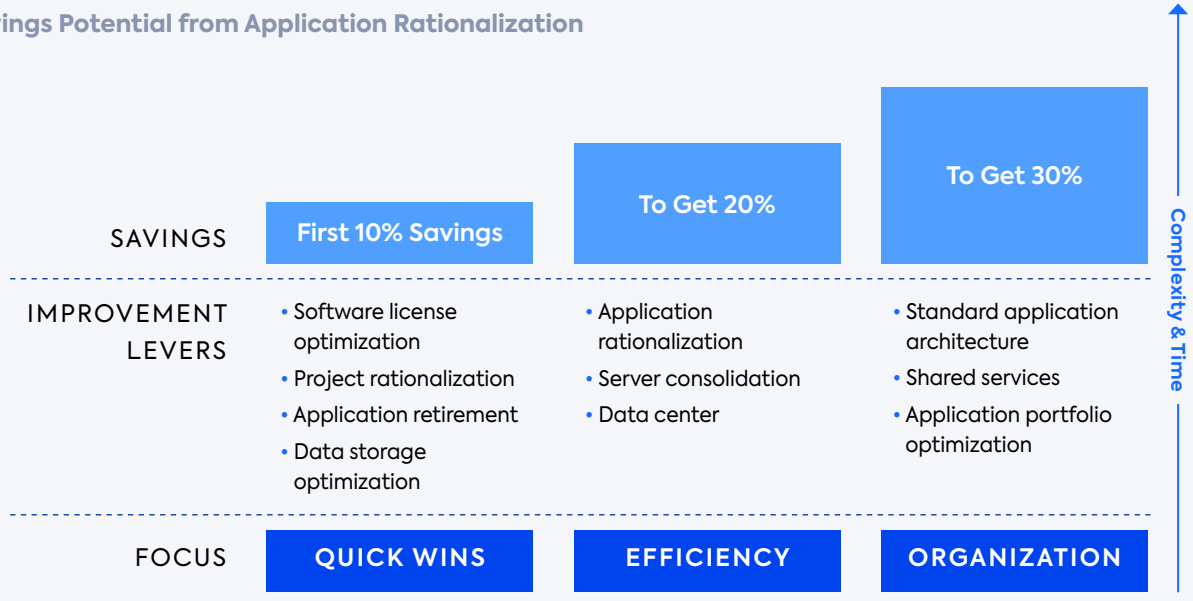
Analyze your applications by mapping out your organization's business capabilities for each department and the technology used to support each one. With feedback from the users of these applications you can create a matrix to examine the functional fit of each application, per business capability. This allows you to immediately identify support gaps and redundancies in the application landscape. Focus on divesting those that are redundant or not performing their intended purpose, while also being mindful of interfaces that could impact operations or pose a security risk. Make sure you do not switch off applications critical to the business without a successor in place.

According to a case study by McKinsey & Company, in an assessment of their application portfolio, one retail bank was able to find more than 50 unused applications to decommission, 150 redundant applications to consolidate, 800 point-to-point interfaces to put on an integration platform and 400 applications to connect with a data integration platform.

Application rationalization can be the basis for other cost saving activities, such as software license optimization, application retirement, or server consolidation with various levels of complexity and duration (see Figure 1).

Figure 1

IT Savings Potential from Application Rationalization



Source: LeanIX GmbH

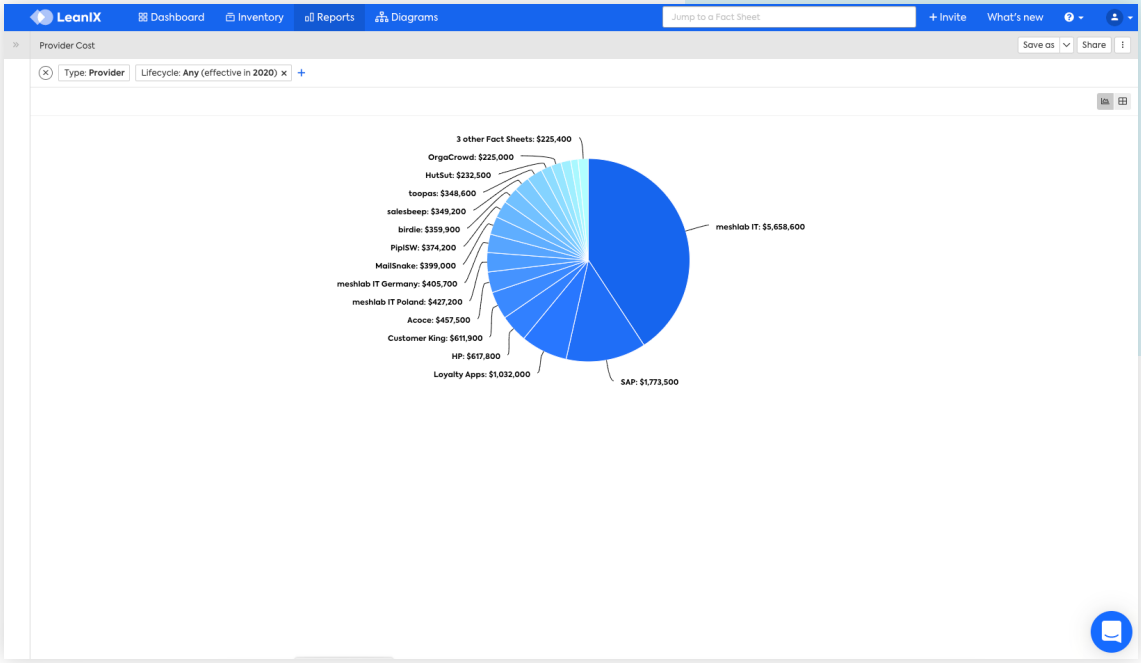
Consolidate your vendors

A global study from the Everest Research Institute that focused on companies' external IT services found that fewer suppliers reduce the total cost of ownership (TCO) of applications annually between 22% and 28%.

Enterprise architecture can provide important input on user groups, and user numbers across the organization. Use your EA inventory to analyze who your vendors are, how much you are spending with them, and then share your findings with procurement. You will easily be able to identify opportunities where vendors can be consolidated or where procurement can negotiate better rates (see Figure 2).

Figure 2

Provider Cost Analysis



Source: LeanIX GmbH

Save time on documentation

Using an out-of-the-box EA tool can significantly reduce documentation and the time spent preparing reports. Another benefit of having an EA tool in place is that everyone can be given access to relevant IT information, which by eliminates administrative tasks. Staff can also collaborate directly within the tool, ensuring critical data is always up to date. A searchable record of knowledge can reduce the time staff spend trying to find information by as much as 80%[1]. This means projects can get started faster because all the relevant information is already in place, which means significant savings in staffing and consulting costs.

In addition to time savings, the benefits of documentation cannot be overlooked. Without a proper system in place, losing knowledge to employee turnover can be extremely costly to the business. A study by International Data Corporation (IDC) found that the average employee spends 2.5 hours per day searching for information. That's a lot of wasted productivity.

A commissioned study conducted by Forrester Consulting examined the average return on investment experienced by customers using the LeanIX Enterprise Architecture Suite.

[1] *The Total Economic Impact™ of the LeanIX Enterprise Architecture Suite, a commissioned study conducted by Forrester Consulting on behalf of LeanIX, 2019*

See the graphic below for a topline view of our customers' realized benefits.

Improved visibility:
85% less time on reporting

- 85% time saved on reporting
- Cost savings: $34k/year
- Risk adjusted value: $15k/year

Enhanced efficiency:
faster app queries

- 40% reduction in new application queries
- 80% time saved in new app queries
- Risk adjusted value: $3k/year

Reduced licensing cost:
$1.25m p.a. retired

- 25 retired systems per year
- 25% of savings attributed to LeanIX
- Risk adjusted value: $267k p.a.

Reporting is a key efficiency driver

Application rationalization is a major lever for EA

Real SaaS makes costs predictable

Source: The Total Economic Impact™ of the LeanIX Enterprise Architecture Suite, a commissioned study conducted by Forrester Consulting on behalf of LeanIX, 2019

Mitigate risks

Avoid IT security incidents

A shocking example of how a runaway IT incident can have a catastrophic impact is what happened to the airline Comair, a subsidiary of Delta Air Lines. One busy December, Comair's crew-scheduling system failed because it was only capable of handling a certain number of changes per month. The system abruptly stopped functioning, leaving nearly 200,000 passengers stranded throughout the U.S. in the run-up to Christmas. Revenue losses as a direct result of this incident are estimated at U.S. $20 million.

An up-to-date EA inventory gives you mission critical information on all your applications, including the technologies they depend on. This helps you assess which applications might be at risk because underlying IT components are no longer supported and lets you keep track of your technology standards. A data breach cost companies an average of $3.92 million per incident in 2019, according the Ponemon Institute Cost of a Data Breach study, sponsored by IBM Security. Businesses can't afford to take their chances by relying on outdated, at-risk technologies.

Clear responsibilities for applications, processes and IT components can be set up and maintained with an EA solution. Quality mechanisms ensure that the data stays current and immediately available in the right context in the event of a security audit or incident. Your EA tool can also help you to classify the criticality of the data objects used by your company's applications. This minimizes down times and mitigates costly damages associated with such occurrences.

Avoid IT outages due to obsolete technologies

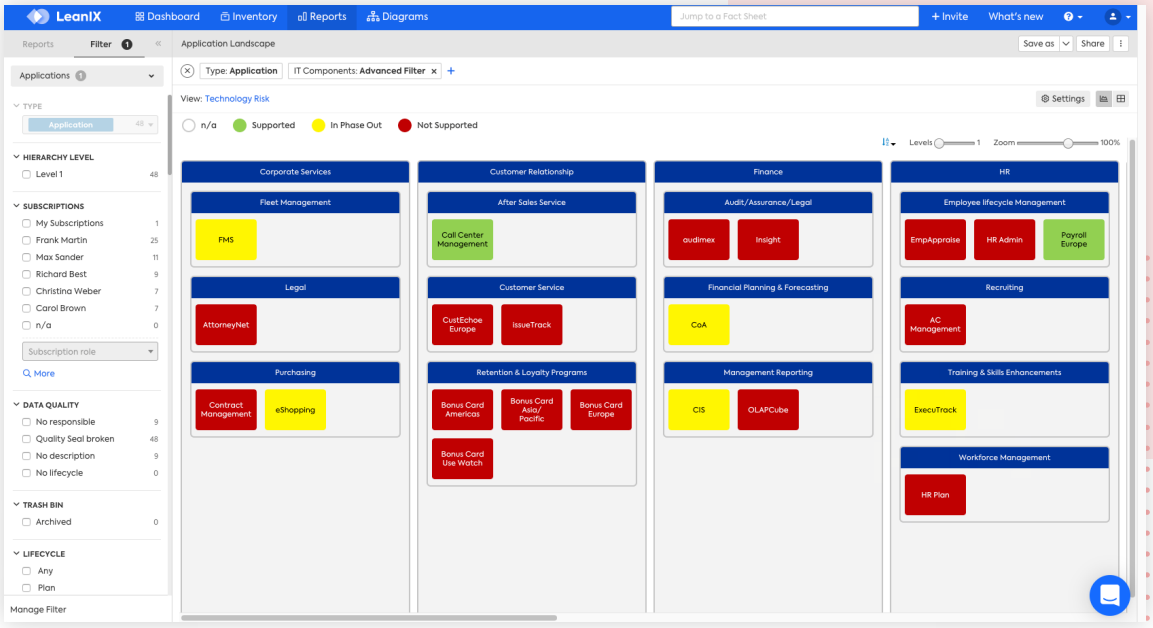
Most companies are much better at introducing new technologies than they are at retiring them. Even government agencies are not immune to this. The U.S. Government Accountability Office (GAO) conducted an audit of agency information technology systems and found that at least 65 systems being used were out of date. Just 10 of those legacy systems cost American taxpayers nearly $340 million per year to keep active.

Not only is this a waste of spending, it also presents significant security risks that take time to patch.

Thanks to your EA inventory, it's simple to keep on top of IT components that are no longer supported. With LeanIX, you can report on those at-risk applications, and collaborate with your teams to create succession plans (see Figure 3).

Figure 3

Technology Risk of an Application Landscape



Source: LeanIX GmbH

Do not get caught up by compliance issues

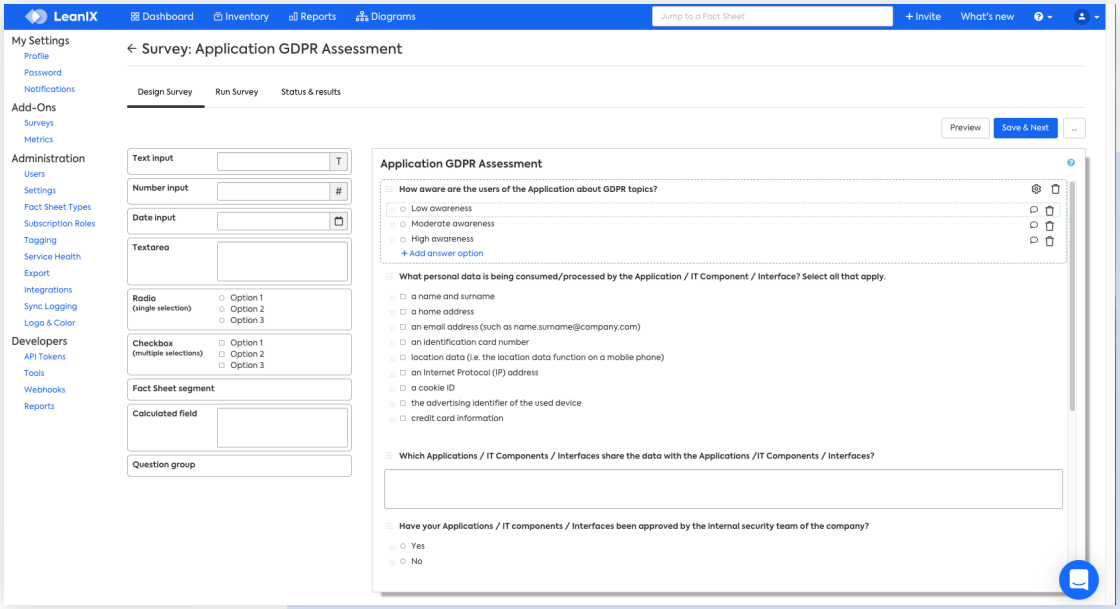
Businesses need to comply with many regulations from Health Insurance Portability and Accountability Act (HIPAA), Payment Card Industry Security Standards Council (PCI SSC), the Federal Information Security Management Act (FISMA), General Data Protection Regulation (GDPR), and beyond. While compliance does cost money in terms of technology and expertise, the punishment for non-compliance will always be steeper. As a rule of thumb, experts say that the cost of non-compliance is 2.5 times higher than the cost of compliance.

An up-to-date EA inventory does more than simply provide you with reliable data maintain and document compliance efforts. The LeanIX Survey add-on can also help you to create ad-hoc or regular surveys, involving the appropriate staff to maintain accurate information about the use of sensitive data.

On the next page, see Figure 4 for an example GDPR Survey through LeanIX.

Figure 4

Example of an IT GDPR Compliance Survey



Source: LeanIX GmbH

Become more agile

Enterprise architecture can become a driver for innovation across the organization. By simplifying efforts for documentation, governance and reporting, the business can focus on driving change and making cloud, big data and digitization a success. Modern development methods like DevOps rely on access to information and reuse of services.

Empower your developers

You can lower the barriers to efficiency as you make all information relevant to your organization's IT landscape available in your EA solution. Automatically document all new services, their lifecycles, and interfaces in your IT inventory to achieve compliance with regulatory requirements. New employees also benefit, as they have all the information about their IT environment necessary for onboarding and quickly getting up to speed.

At online clothing retailer Zalando's offices, for example, developers work in over 100 small, autonomous teams in a microservices structure. But even independent teams have to work towards a common goal and need access to shared information to be effective. Zalando uses a team of enterprise architects to serve as a link between its various teams and programming languages. They are responsible for filling the gaps and enable developers to have full responsibility for their software.

Collaborate easily

Break down monolithic structures and engage your staff inside and outside of your IT organization by using the collaboration features of your EA tool. Develop a common language with all stakeholders to avoid misunderstandings and accelerate workflows.

Lower the "complexity barrier"

Organizations are comprised of people, departments, processes, goals, policies, rules, events, locations, and so on. For large enterprises, it is impossible for people to retain and work with so many variables and be expected to bring about meaningful change unless information about them is documented through EA.

By providing all relevant information in an accessible format, employees can access data about the technology landscape whenever and wherever they need to. Enterprise architecture is the leading methodology to decrease complexities within the enterprise and empower agile teams to do what they do best.

Avoid These Common EA Pitfalls

It is all too easy for EA programs to collapse. Avoid these common stumbling blocks to make sure your EA program is successful and contributes value to your organization.

Too much planning, too little doing

Avoid spending too much time planning and modeling in too much detail. Sometimes enterprise architects are accused of living in an "Ivory Tower" and being completely removed from what is important to the business. Make sure your architecture is aligned with the realities of your organization's IT, business, and budget (see Figure 5).

Trying to model everything

Do not try to model every data point for every eventuality. You cannot anticipate all the disruptive events that will influence your business. Ten years ago, who would have predicted the invention of the iPad and the influence it has had on consumers and corporate IT? By simplifying your EA models and focusing on your business capabilities, you remain flexible enough to react to unexpected events and trends.

When it comes to creating your EA inventory, you need to understand the problem which you are trying to solve. By starting from there you can identify the data you will need to capture and maintain. For example, if you want to identify which applications to invest in or divest according to their technical and functional suitability, you will need to collect information that helps to rate their technical and functional fit.

In short, do not collect data without a good reason for doing so. The more detail you have in your EA inventory, the harder it will be to assure its quality. There is always a trade-off: if you want a deep and detailed model, you must compromise on how up to date your data is and how much effort you have to invest to maintain it.

Figure 5

Enterprise Architecture Struggles to Strike a Balance Between Strategic and Tactical Focus

Source: LeanIX GmbH

Think carefully about your use cases. Which reports do you really need? Start with the one or two most important and collect the necessary information for them. This could be application rationalization, or some other report tied directly to business operations.

When mapping out your business capabilities, go for breadth rather than depth. An analysis of LeanIX workspaces shows that companies typically use 7-10 capabilities and go no more than three levels down. Following a lightweight approach has the clear advantage of reducing complexity and focusing on what truly matters.

Solving problems on the wrong level

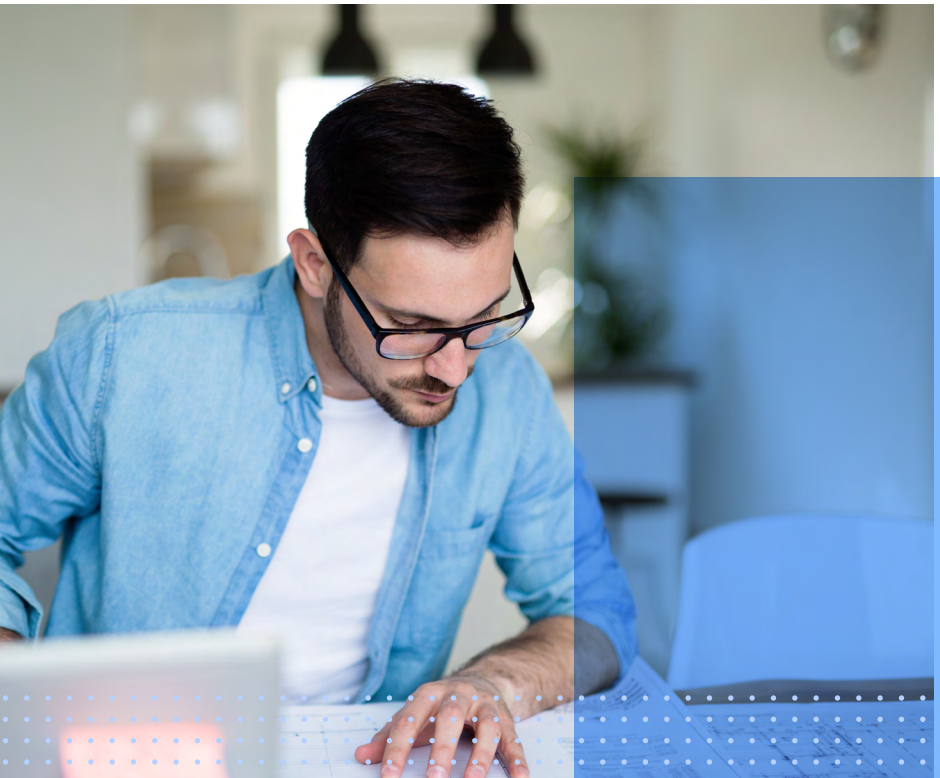
Getting caught up in granular technical details isn't effective — nor is spending all your time on high-level strategic models. Focus on doing "just enough" EA "just in time" to achieve early results that are supported by management. Create a small group of clear objectives, and measure and track success.

Using no tool, or the wrong tool for the job

It makes sense to introduce an EA tool early on. Workarounds that are not purpose-built, like Excel or Visio, create more work in the long run as they soon reach their limitations. Missing quality assurance mechanisms create problems over time and lead to significant expenditure for troubleshooting. Data capture and maintenance in spreadsheets is error prone, tedious and requires a lot of resources.

Find an EA tool that is easy to maintain, fosters communication and collaboration across the whole organization, makes it simple to share information and extract meaningful reports. Distributed access means workflows will be optimized, and stakeholders will be able to drive their own analyses. Your data quality will go up thanks to quality assurance mechanisms, and your organization will have a much better basis for decision making.

"Do not collect data without a good reason for doing so. The more detail you have in your EA inventory, the harder it will be to assure its quality."



EA Roadmap: 6 Steps to Achieve Quick and Sustainable Value

Establishing (and maintaining) an enterprise architecture practice is a significant undertaking. But, by achieving small wins to keep your management team engaged, you can create a solid foundation to build upon. Follow these six steps to pave the way toward EA success.

Step 1.
Develop your business capability maps

The first step toward EA success is to map out your business capabilities.

Business capabilities encapsulate what a business is doing right now and what it needs to be doing to implement its strategy. Start thinking about the major capabilities that your business needs to operate. The first level should only reflect the most critical ones, and then it can make sense to drill down one or two levels from there. On the deeper levels, all capabilities should completely describe their parent capability and be without overlap.

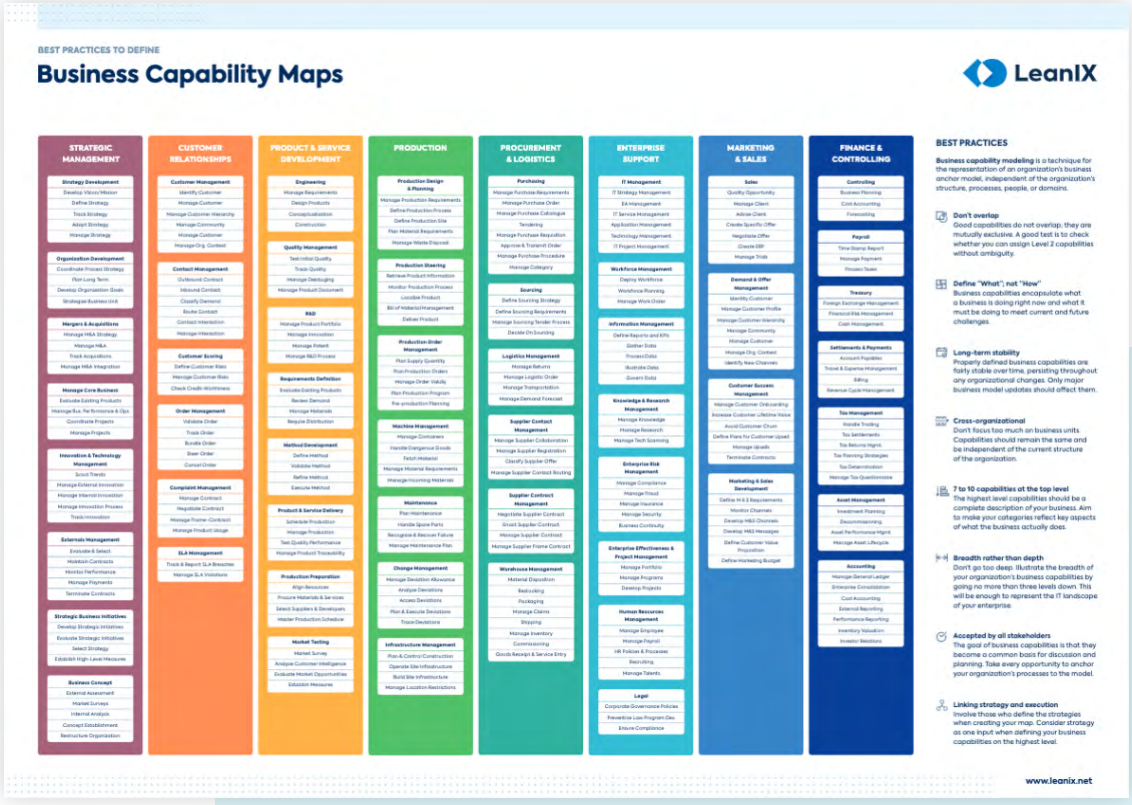
LeanIX has a downloadable poster, best practices to define business capability maps, that you can utilize in your EA practice (see Figure 6).

Step 2.
Collect your IT application portfolio data

Having reliable information about your IT landscape is the baseline for all future activities. Inspect your existing

Figure 6

Best Practices to Define Business Capability Maps



Source: LeanIX GmbH

data sources and formats, then clean up their content. Remove any data that is outdated or irrelevant. Assign content owners and quality check your data with them. Once your data is refined, you can upload a sample to your EA inventory to test it.

If it works out, you can complete the data migration. In LeanIX, you have the option to migrate data yourself by using Excel spreadsheets built on a standardized template, mass import using the REST API, or update the inventory manually.

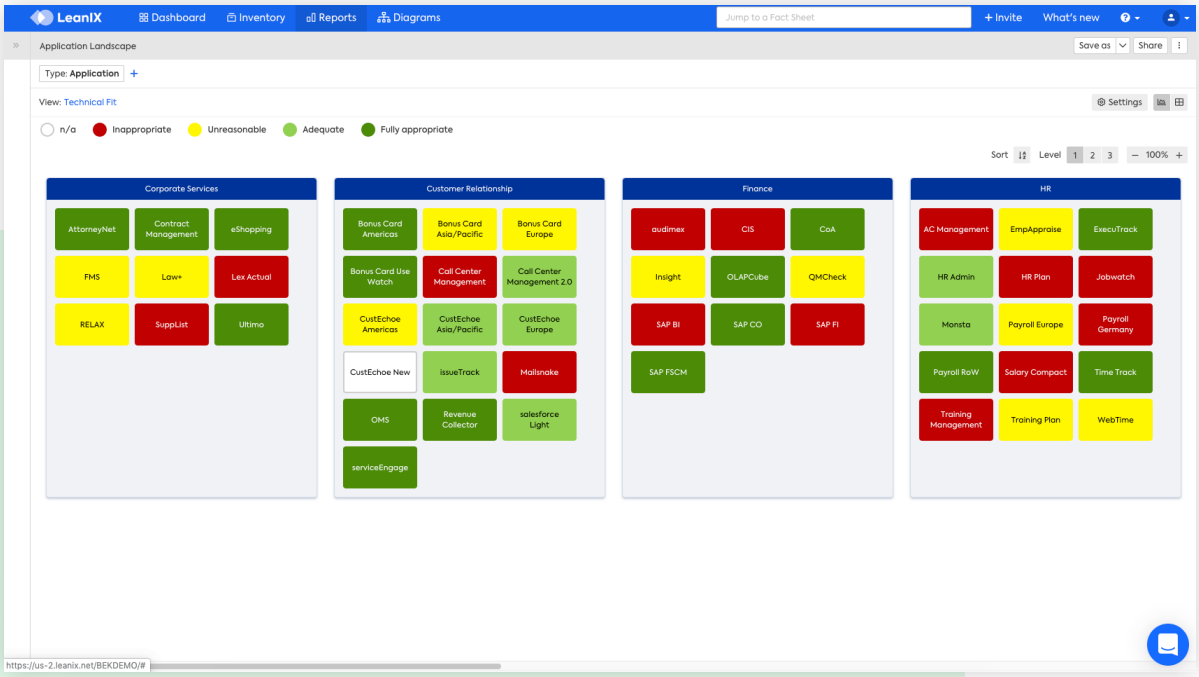
Leveraging the data extraction features of existing tools makes it easier to create your inventory. Involve your content owners to improve data quality and do not forget to test a sample. Once you have your inventory, it is easy to invite more users to get involved in maintaining the information.

Step 3.
Analyze your application portfolio information

Assess your application portfolio by gauging its business criticality, functional, and technical fit. In LeanIX you can rate these categories from 1 to 4. Business criticality is rated from 1, meaning tolerable, to 4, which identifies a mission-critical application.

Functional fit can be described as "unreasonable," "insufficient," "appropriate," or "perfect." Technical fit focuses on whether there is a need to replace services, software or hardware concerning business requirements today and in the near future (see Figure 7).

Figure 7
Rating the Technical Fit of an Application by Business Capability

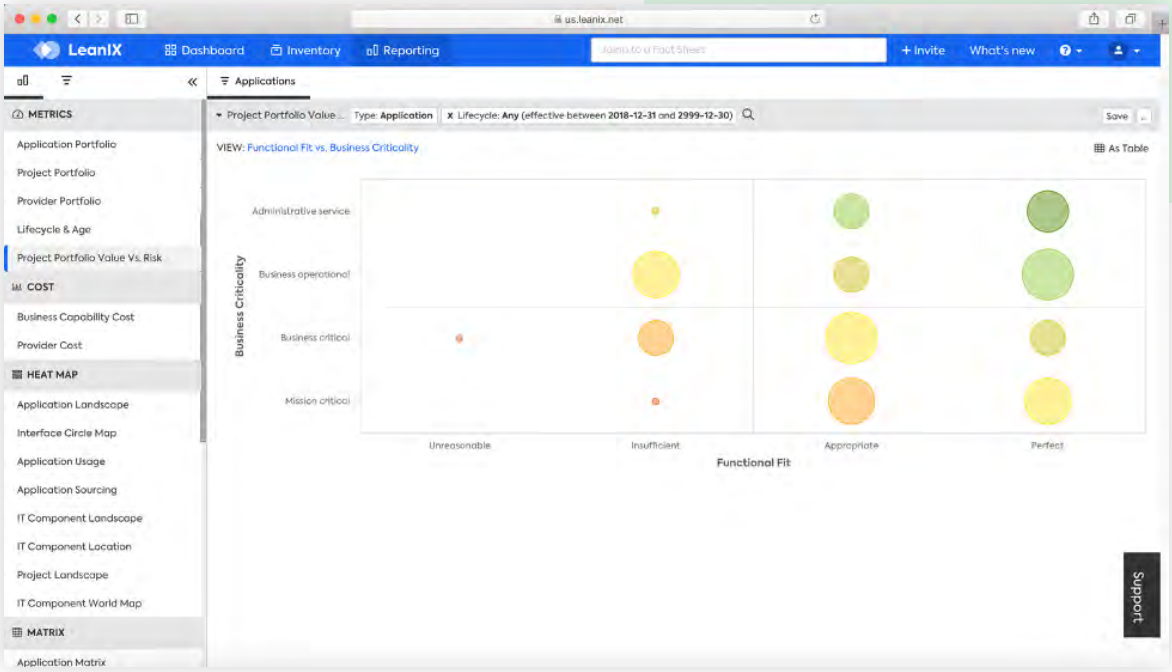


Source: LeanIX GmbH

This view will provide you with sufficient data for a first analysis. Determine the business relevancy of an application and decide which applications you should invest in and which ones should be divested (see Figure 8).

Figure 8

View of Application Portfolio by Business Criticality and Functional Fit



Source: LeanIX GmbH

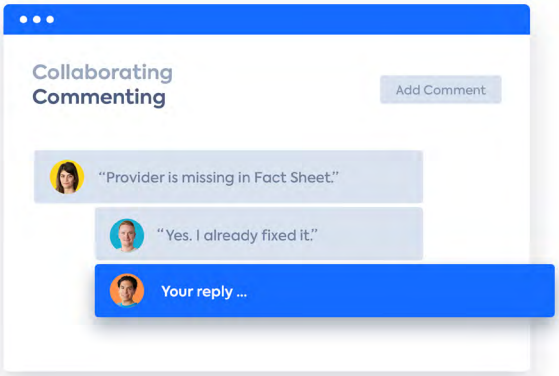
Step 4.

Communicate and collaborate

Invite everybody to actively use your EA solution, and discuss projects regularly so that everybody is in the know. The high-level assessment of business criticality, functional fit and technical fit will give business units and IT the ability to spot improvement opportunities at a glance. If you added lifecycle information to your applications and technologies, you could quickly produce roadmaps of what will happen in your IT landscape (see Figure 9).

Figure 9

Collaboration Activity



Source: LeanIX GmbH

Step 5.
Implement quick hit initiatives

When you have collected some key data, a lot of improvement ideas will jump out at you. For example, rationalizing your applications, filling gaps in IT support or consolidating your application hosting could all be goals that you want to accomplish in the short term. Prioritize their impact and your ability to execute. Focus only on the projects that will make an impact and are also highly feasible.

Define your first projects in your EA tool by tracking value, risk, budgets, and status. Projects should not last longer than three months. A good place to start is to identify and divest your redundant applications using the portfolio analysis described above.

Step 6.
Know your data and your interfaces

When you have identified the major applications, the most urgent improvements and managed to get ahead of operational worries, it is time to look at the data and how it drives your business. Focus on the key data objects that drive the business and the interfaces they use. Typically, you only need 10-20 data objects to get started. With such a basic set you can already answer questions about which applications have access to certain data and which do not. You'll also be able to understand which information is classified, and which can easily be moved into the cloud or will be affected by an API change. Look at how the information flows across your application portfolio and whether there are any applications with an increased risk of failure due to their high number of interfaces.

Keep Everybody Happy: How to Ensure the Ongoing Success of EA

Just because the heavy lifting of importing your data and executing your 30-day roadmap is complete, doesn't mean the work is over. Now is the time to build out standards of activity and get buy-in from your colleagues to ensure sustainable value from your EA practice.

Keep the data quality up

By keeping your user groups engaged and motivated, they will maintain the data in your EA inventory for you. Consider doing regular surveys to maintain data quality or using a mechanism that prompts application owners to check the correctness of their information at regular intervals.

Focus on data that creates value and helps you with your use cases. Integrate automated data sources where it makes sense. Over time, your EA repository will become a trusted and reliable source of information to base decisions off of.

Make data available at stakeholders' fingertips

Have you thought about making key reports available on your intranet? Agile businesses rely on open access to information, so everyone who needs data can get it when they need it. And, you never know when a member of your executive team may ask a question that you need the answer to right away.

With the LeanIX iPhone app, you can demonstrate the value of your EA activities anywhere, anytime.

Technology decisions influence the whole company, so it is important to get people from all departments involved in your EA initiatives. Do not limit involvement to just the IT department. Engage the whole organization and keep the conversation going. Make sure everyone understands that digitization affects every aspect of the business.

Speak in language your colleagues understand

Avoid slipping into jargon when talking about enterprise architecture or you could lose buy-in from others within your organization. It's not an easy concept to begin with, and people are busy in their own day-to-day tasks. Adjust your message to the target audience to convey an impact that's important to their goals. For instance, a marketer could see quicker time-to-market by implementing the right technologies at the right time.

Help teams solve real-world problems

Providing fast and real benefits to is the surest way to win allies. For example, assist the team responsible for executing the acquisition of a new company by providing them with information about the future IT landscape. Do not get caught up in complex models that don't directly impact business outcomes. Instead, focus on tangible benefits that stakeholders can visualize.

Gradually integrate EA into your company processes

Initially, it makes sense to focus on only a few areas and use cases. Over time, however, you should tie EA into all of your company processes. Once you have demonstrated repeatable success you will be able to use EA more actively rather than just reacting to requirements. Eventually, your EA will be so well established that you can focus more on identifying opportunities and leading disruptions. That is when the real fun of driving business transformation and innovation begins.

How to Convey the Value of EA to Your CIO

Your CIO wants to know what enterprise architecture can do to provide value for the organization. You can demonstrate how the transparency achieved through EA can answer some of the boardroom's most pressing questions (see Table 1).

Table 1
A CIO's Top 6 Questions

1. What applications matter most to the business, and how are they changing?
2. What are our critical technology dependencies and how can we optimize business data management?
3. What are our technology risks?
4. Where is our data and how is it being used?
5. Who are our vendors and how are they managed?
6. How much are we spending on IT?

Source: LeanIX GmbH

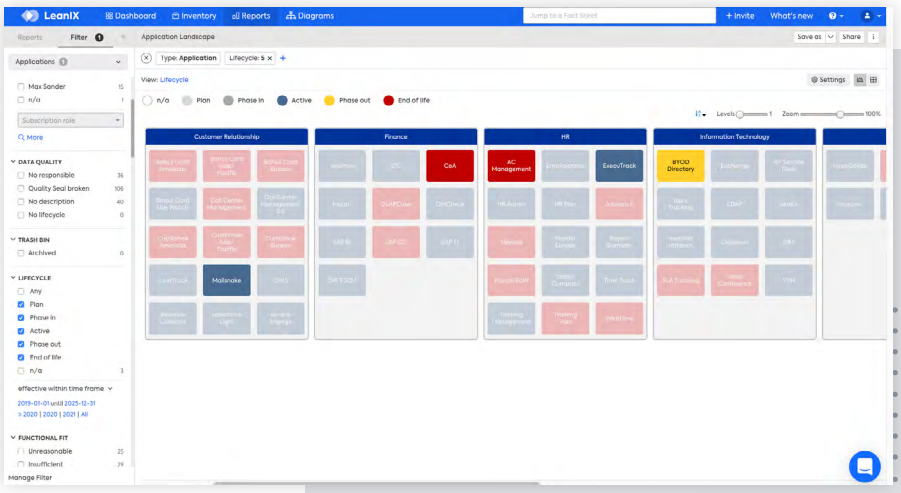
1. What applications matter most to the business, and how are they changing?

Enterprise architecture can provide the answers to most questions surrounding a company's application portfolio management. From application rationalization to security analysis and beyond, you can play out different scenarios over time to make sure that your IT and business strategies are aligned (see Figure 11).

Benefits for the CIO:

- Reduce cost through application rationalization
- Reduce risk through better understanding of the application landscape's functional and technical risk profile
- Increase agility through better support of business demands

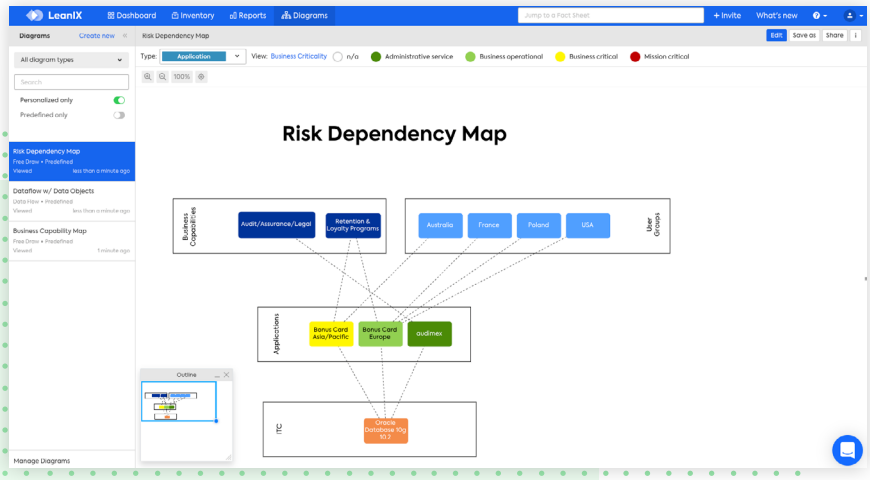
Figure 11
Application Lifecycle by Business Capability



Source: LeanIX GmbH

Figure 12

Risk Dependency Map by Business Criticality



Source: LeanIX GmbH

2. What are our critical technology dependencies and how can we optimize business data management?

With EA, your CIO can achieve a transparent overview of all dependencies between applications—showing which data lives where, and how it is transmitted. This knowledge can be used to uncover possible conflicts and potential points of failure based on interfaces (see Figure 12).

Benefits for the CIO:

- Reduce cost through data and interface consolidation opportunities
- Reduce risk through better data management, improved security for highly interdependent applications
- Increase agility through faster start of integration projects

3. What are our technology risks?

Your CIO wants to know about the risks in your organization's IT landscape and how to avoid a security incident. Having a transparent view of the technology environment can help to identify potential hazard areas, and address security vulnerabilities before they become data breaches. EA is a great asset to maintain compliance and avoid crippling penalties from regulatory authorities (see Figure 13).

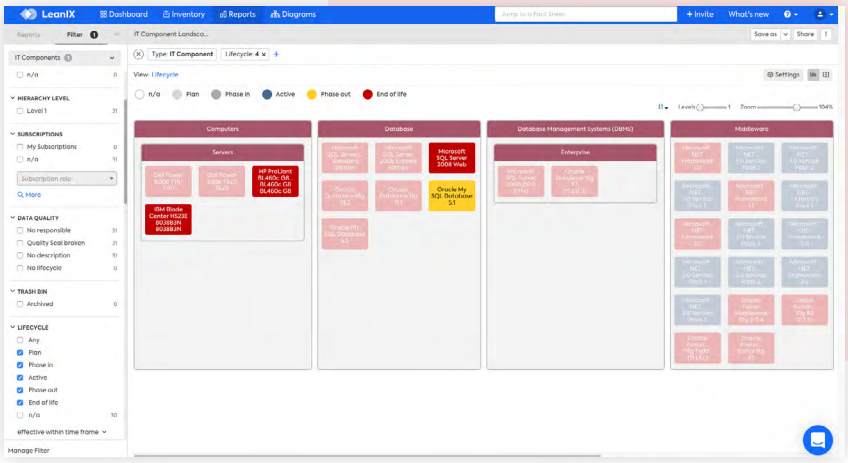
Benefits for the CIO:

- Reduce cost through standardization and elimination of redundancies
- Reduce risk through an understanding of the impact and compliance of technology lifecycle management
- Increase agility through supporting business capabilities quickly using defined standards and reusable patterns

Figure 13

View of IT Component Lifecycle

Source: LeanIX GmbH



4. Where is our data and how is it being used?

Your CIO wants to know what data is used in the business and whether sensitive data is being adequately protected. EA can provide answers about the use of data objects and their business relevancy, as well as ensure data consistency across the portfolio. From being able to easily connect user groups and business capabilities to the data they use, your EA tool can provide the answer (see Figure 14).

Benefits for the CIO:

- Reduce costs through reduction of redundant data maintenance
- Reduce risk through improved understanding of data qualifications and its impact
- Increase agility through information alignment and re-use according to business needs

5. Who are our vendors and how are they managed?

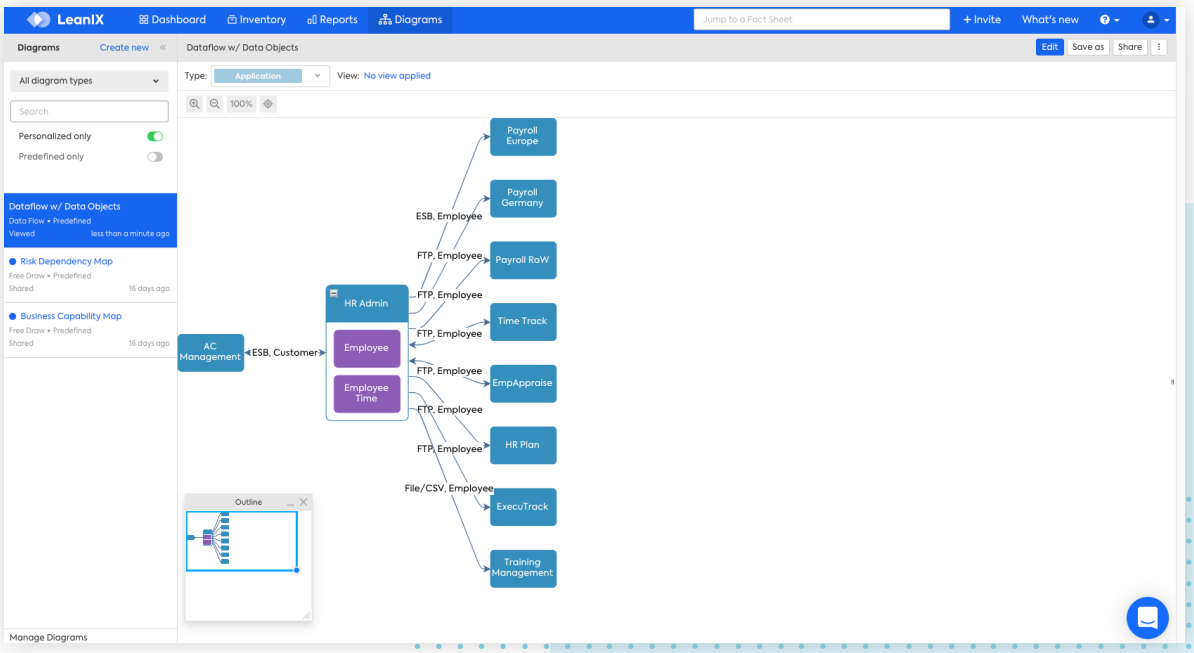
The CIO will always be interested who the organization's vendors are and if there are opportunities to rationalize costs. From being able to tell who the providers are and how much is spent with each of them, to the potential impact on users if one is changed — you can manage all this information in one location with the help of your EA tool.

Benefits for the CIO:

- Reduce costs through supplier rationalization
- Reduce risk by avoiding dependency on a single vendor
- Increase agility by optimizing the service portfolio for better service levels

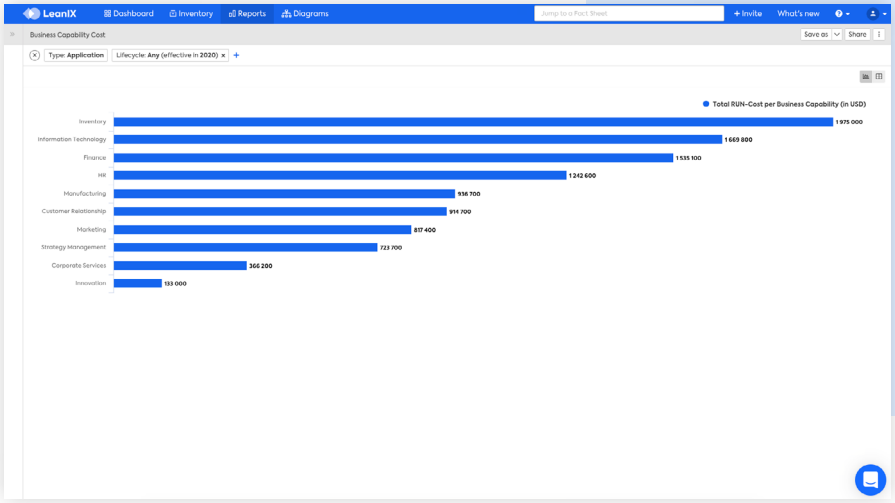
Figure 14

Dataflow Model with Data Objects by Application



Source: LeanIX GmbH

Figure 15
IT Costs by Business Capability



Source: LeanIX GmbH

6. How much are we spending on IT?

Your CIO wants to know what the IT budget is spent on to ensure that investments are in line with strategic priorities. With an EA tool, you can drill down into costs by application, business capability, user group, provider, project or IT component (see Figure 15).

Benefits for the CIO:

- Reduce cost through more effective procurement
- Reduce risk by improving project and investment decisions
- Increase agility by accelerating investment and project planning and execution

Change Gears: Real-Time Application Intelligence

Now that you have successfully installed an EA program in your organization, it is time to reap the benefits. Vast amounts of data exist in companies; the challenge is to make it meaningful and actionable. Enterprise architecture is ideally positioned for this job as the conduit between different stakeholders in technology and business.

If you are going to integrate real-time data in your EA tool, you need to decide which data from which tools will provide additional value. The LeanIX Metrics add-on delivers several out-of-the-box integrations with applications that provide relevant data. Or, if you prefer, you can connect your own data source using the open source SDK.

Real-time application intelligence benefits:

- Make better decisions thanks to reliable, real-time data
- Improve quickly and iteratively
- Use existing data sources
- Enable fast analyses without experts

Table 2

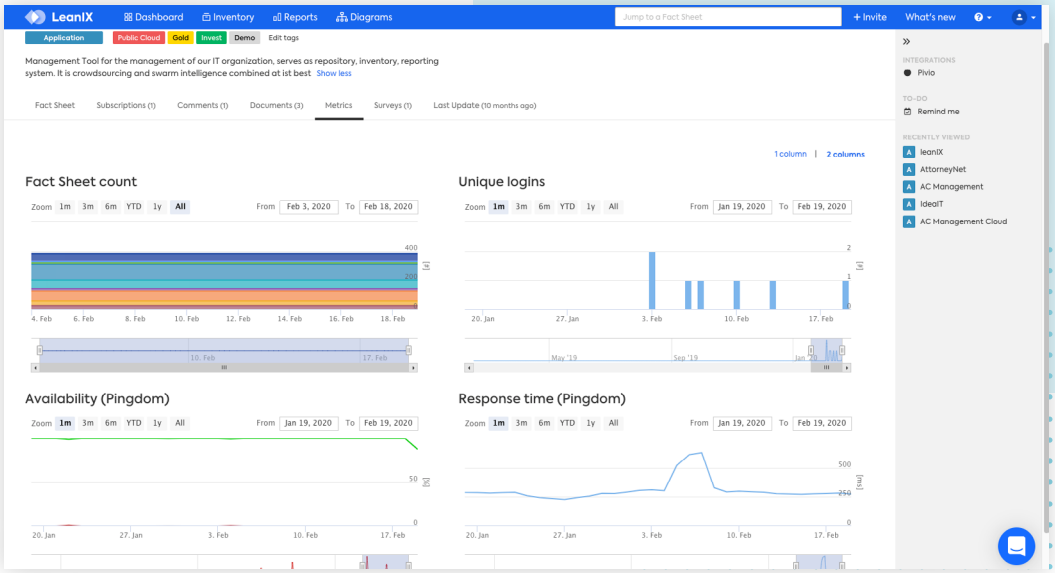
Use your EA tool to provide answers to questions like:

How do the visitors feel about a new feature on the website?
Which areas of our software are prone to errors?
Can the backend handle a user increase?
How is the availability of an application?
Is it meeting SLAs?

Source: LeanIX GmbH

Figure 16

Real-time Metrics Displayed for Each Application



Source: LeanIX GmbH

Real-time metrics support BizDevOps

Digital business models require near real-time reactions to changes. The DevOps method was developed as a result of increasing demand for more cooperation and collaboration between software development and IT operations to move companies forward. It has become critical for solutions that need to be developed in a very short time with frequent releases.

In order for DevOps to succeed, access to information by the team is vital. Everyone needs insights into availability and performance at all times. With LeanIX you have a platform that delivers the structure and up-to-date information that serves the needs of developers, operations, and leadership (see Figure 16).

Summary

An investment in enterprise architecture is an investment in the future of your organization. To remain competitive in the age of digital transformation, it's essential that companies have the talent and tools necessary to align business goals with the technology needed to meet them. Still, getting started with enterprise architecture can seem like a daunting task. It requires dedication, resources, and buy-in from across the organization to build a sustainable program from scratch.

By using the right tools and involving the right stakeholders, the benefits of EA far outweigh the costs. LeanIX has helped hundreds of companies across all industries build the framework for long-term EA success. These organizations have individually realized millions of dollars in savings, improved their security, and streamlined efficiencies within their IT operations while becoming more transparent. These impacts are tangible. They have a real impact on business outcomes and, as a result, enterprise architecture is an indispensable asset shaping current and future decision making.