

Nine Use Cases Solved With Enterprise Architecture



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INTRODUCTION

What value proposition does enterprise architecture provide? Just three short years ago, the demand for Enterprise Architects was on the decline. Many people thought that the days of Enterprise Architecture were over. Digital transformation has uncovered the true value of Enterprise Architecture. With correct Enterprise Architecture Management, organizations can build a holistic view of their strategy, processes, information, and IT assets to support the most efficient and secure IT environment. The KPMG 2017 CIO survey results show that Enterprise Architecture has become the fastest growing, in-demand skill set in technology¹ - up 26% from previous years. This whitepaper will explain the three areas where Enterprise Architects add value, and the nine commonly solved use cases.

THREE WAYS ENTERPRISE ARCHITECTS ADD VALUE

Enterprise Architects add value in three specific areas: enabling growth, ensuring compliance, and reducing complexity. Companies need to innovate rapidly to stay competitive. Many organizations struggle to adopt key IT trends that carry the potential to increase their market share, including options like microservices, IoT, and cloud migration. These trends can bring considerable value by speeding up times to market, creating new streams of revenue,

¹ <https://www.hnkpmgciosurvey.com/>

cutting hardware costs, and reducing costly complexity. Enterprise Architects are in the best position to help their companies navigate digital transformation – which, if done correctly, could enable their organizations to reduce cost and realize immense profits.

Enterprise Architects can place their companies on track to ensure compliance. Take, for example, the European Union General Data Protection Regulation (EU GDPR). This regulation imposes unprecedented rules on the management of the personal data of the end user. The EU GDPR proposes severe penalties for noncompliance – up to €20 million or 4% of the global annual turnover

for the preceding financial year. Enterprise Architects can set the basis for clearly demonstrating GDPR compliance by ensuring all pertinent data is gathered and presented in a well-organized manner.

Finally, IT landscapes often grow uncontrolled. This uninhibited growth results in duplicated systems, generating inconsistent data, over complexity, and relying on makeshift integrations. Enterprise Architects can tackle these issues head-on by providing a roadmap for managing and reducing complexity, which contributes directly to reducing cost.

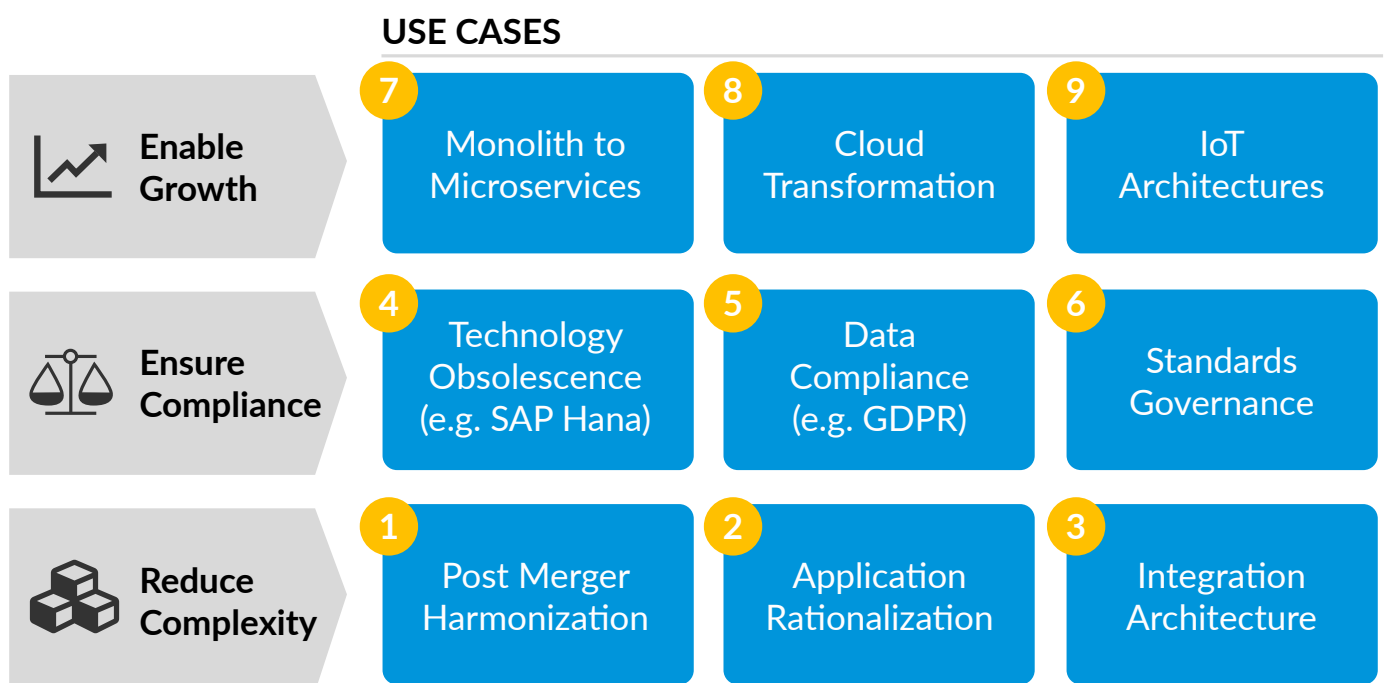


Figure 1: The nine key use cases for Enterprise Architects.

THE NINE USE CASES

1. Post Merger Harmonization

Overview of use case

Corporate and private equity executives foresee an acceleration of merger and acquisition (M&A) activity in 2018, both in the number of deals and the size of the transactions.²

If Mergers & Acquisitions remain on trend, close to \$5 trillion will be invested worldwide. Research by Deloitte shows that almost 30% of post-merger integrations did not have the expected success. M&As often fail because the organizations involved are incapable of successfully integrating with each other, or are unable to realize the anticipated synergies. IT integrations fail for a wide range of reasons. The challenges for a successful IT integration following a merger are vast: two companies have to unify and transform their IT while keeping the business running. Varying technology objects, technology standards, and processes must be unified.

² <https://www2.deloitte.com/us/en/pages/mergers-and-acquisitions/articles/ma-trends-report.html>

How EA and LeanIX can help

Mergers have different initial situations. Sometimes, a large company swallows a smaller one; sometimes the merger takes place between equals. The aim can be to conquer new geographic markets or gain technical capabilities. In each of the aforementioned scenarios, Enterprise Architecture can play a crucial role in making the IT integration successful. Enterprise Architecture helps consolidate locations, helps rationalize applications, and provides the basis to select the best applications for a shared target IT landscape. This allows organizations to utilize synergies, realize savings, and strategically align their business going forward. Creating synergy between two IT departments contributes to the long-term success of a merger.

Business capabilities and user groups

One of the core views of Enterprise Architecture is a business capability matrix. Business capabilities are core elements that structure a company according to its activities.

During a merger, capability maps can help define activities that need to be fulfilled independently of processes and organizations. Capability maps assign applications to user groups and business capabilities even if the organizational structures and procedures of the two companies are very different from each other, which is very beneficial in organizing M&As. This overarching view of applications and their contributing business value makes it possible to assess redundancies and gaps in IT support in both dimensions - functional and usage.

Record initial state of IT Landscapes

During an M&A, recording the initial state of both IT landscapes is critical. LeanIX helps you to answer essential structural questions, including the following:

- What systems of record does each company have?
- Where are which master data stored?
- What are the locations of each supporting data center?

Use LeanIX workflows, such as the Survey Add-on, to gather all of this information and save it in the LeanIX repository. LeanIX' software serves as a strong, referenceable, accessible single repository of truth.

Assess different target application landscapes

Enterprise Architects help to plan the optimum target landscape. Should one IT landscape be absorbed? Should we cherry-pick the top-performing applications of both companies' IT landscapes? To support this decision, Enterprise Architects may use LeanIX' software to run an elaborate analysis of the functional and technical fit of each application and to propose a solution from concrete data.

LeanIX customer Helvetia, was able to reduce redundancies and realize substantial savings in the merger with Nationale Swiss. In its half-year report, Helvetia reported IT as a major contributor to these savings. The establishment of transparency was a crucial first step toward doing so. Today, the established LeanIX inventory serves as the single source of truth that strategic IT management decisions are based upon. The report on the next page shows an exemplary overview of a target portfolio.

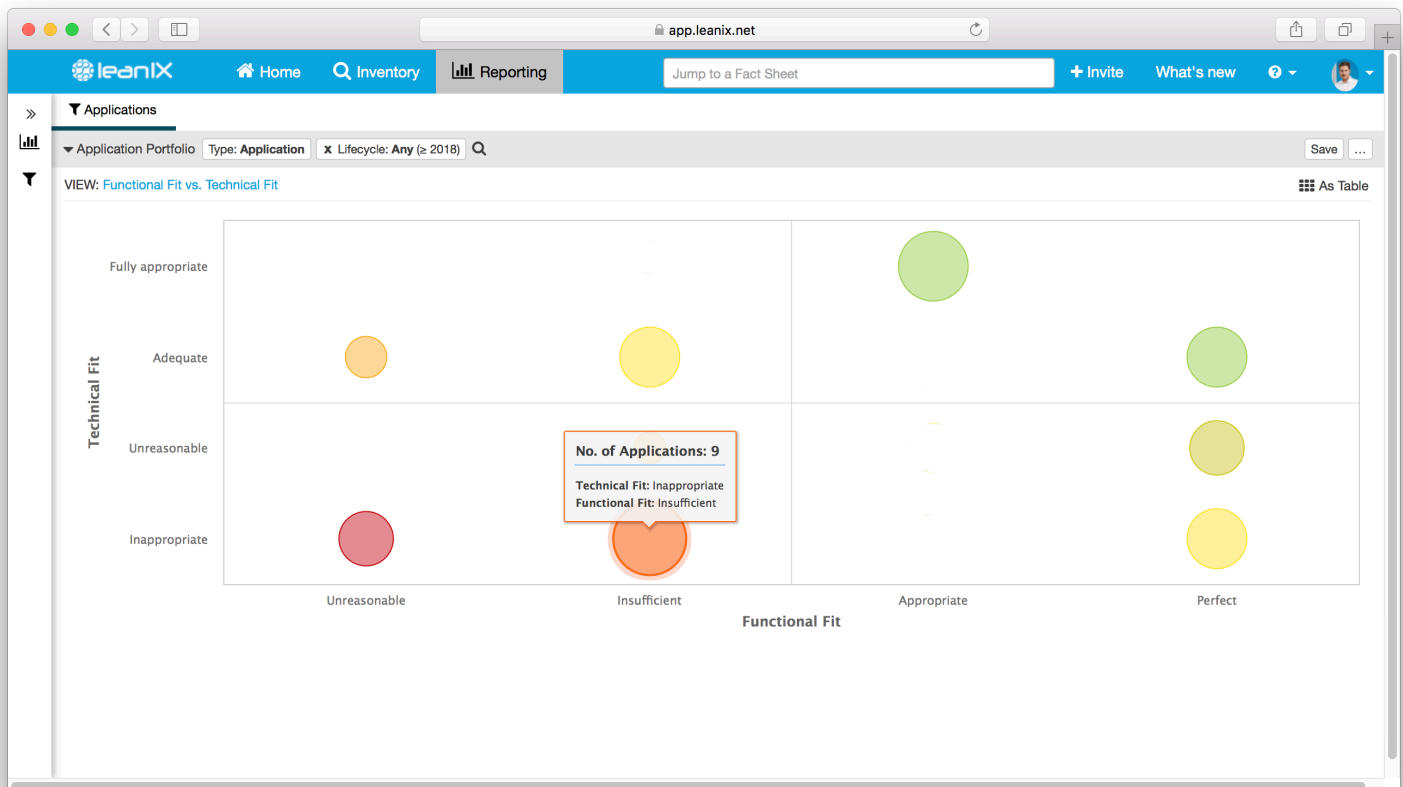


Figure 2: LeanIX Application Portfolio Report

2. Application Rationalization

Overview of use case

As the business side primarily focuses on driving economic growth, it often overlooks the need to align the supporting IT landscape. Consequently, various applications are often introduced at different points in time when requested by different teams. What the business side fails to notice is that having an IT landscape full of applications with overlapping functionality, different lifecycles, and redundant technologies often results in significant integration issues and business-wide inefficiencies. Running a complex, rigid IT ecosystem increases IT spend by hundreds of millions of dollars, while directly decreasing the quality of service and satisfaction of those who rely on it.

LeanIX internal research indicates that large enterprises (with >€1 billion annual revenue) have an average of 650 applications deployed at one time. The 10% largest companies have a staggering average of 3400 applications deployed simultaneously. Currently, 75-80% of IT budgets are spent on operating legacy

systems and managing applications.³ Not all of these applications are mission critical.

To stay abreast of current innovative trends, provide first-class customer service, reduce cost, and scale globally, enterprises benefit from having a thoroughly rationalized application landscape. While application rationalization endeavors require an initial investment, the savings greatly outweigh the initial investment. Infosys reports that application rationalization can lead to the cost-saving of more than US \$2 million in a single enterprise.⁴

How EA and LeanIX can help

According to a study by Capgemini, 48% of CIOs believe that there are more applications in their portfolio than the business actually requires.⁵ While the business side approves the purchase of applications left and right, Enterprise Architects can embark upon optimizing the application portfolio.

First, Enterprise Architects can capture all key information about all deployed applications and load

³ <https://www.sciencedirect.com/science/article/pii/S2210832716301260>

⁴ <https://www.infosys.com/industries/life-sciences/case-studies/Documents/SAP-success-stories-life-sciences.pdf>

⁵ https://www.capgemini.com/wp-content/uploads/2017/07/capgemini_application_landscape_report_2014.pdf

them into the LeanIX software. From this organized view of the entire inventory of applications and their direct business value, Enterprise Architects can set the scope of the application rationalization project and prioritize it, e.g., starting with a specific core process or one entire business unit, depending upon the operating model of their company.

From there, Enterprise Architects can use the application matrix and application rationalization surveys from LeanIX software to quickly assess the usefulness of applications and make data-driven recommendations on which applications to tolerate, invest in, migrate, or eliminate (TIME method).

Finally, Enterprise Architects will have the information to plan a roadmap to implement the rationalization project through consecutive decommissioning projects. This roadmap can also be used as a future standard to use as a bargaining tool to decide whether new applications are necessary or not.

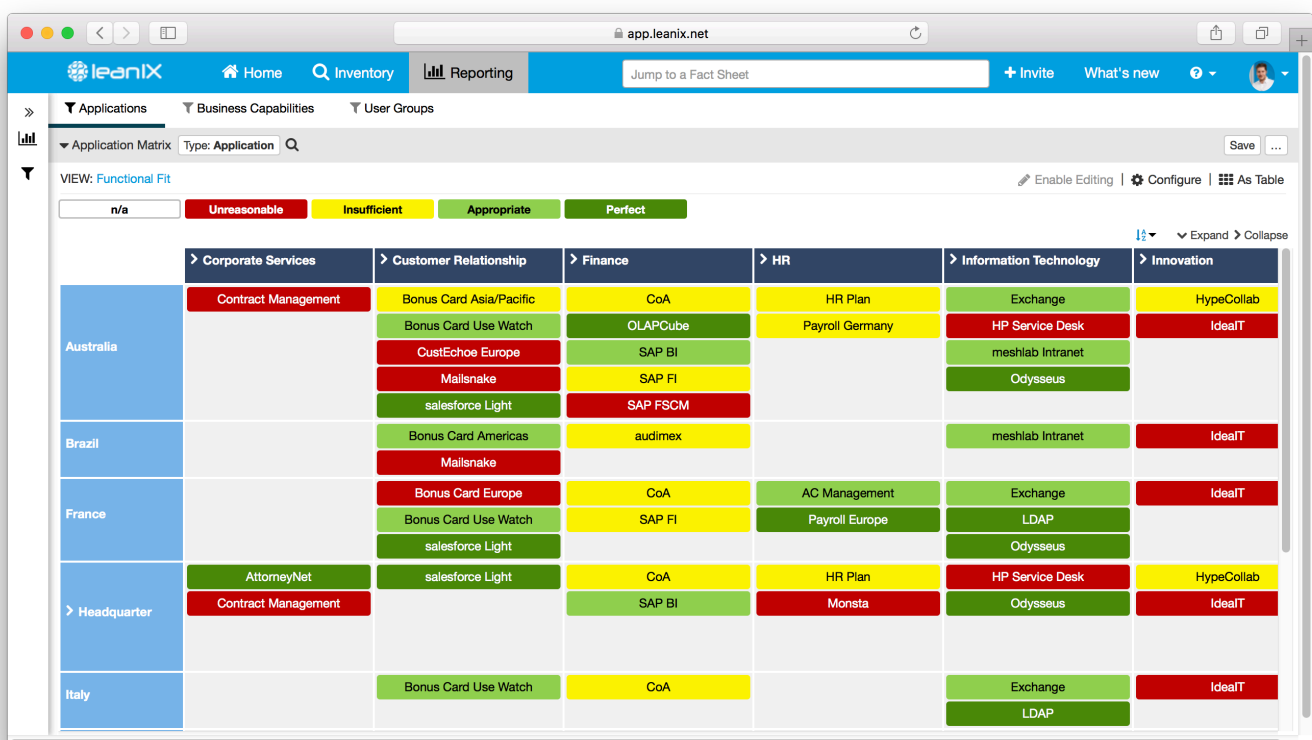
Fast facts about potential savings from application rationalization:

- License optimization results in 30% savings on licensing costs.
- Over 20% of applications are unused and can be retired.

- At least 10% of IT project cost can be avoided by project rationalization.
- Operational support cost can be reduced by 20%.
- Vendor consolidation can reduce the TCO of applications by 22-28%.

Case Study: Over the years, NORMAGroup, a recognized leader in engineered joining technology solutions, has acquired more than 13 companies with no standard IT integration plan for their IT landscape. As a result, their application landscape grew more complex and redundant. In 2014, the management board of NORMA Group decided to harmonize business and technology on a global scale to prepare for further growth. After loading all of their information into LeanIX software, NORMA realized that they had incredible redundancies on their IT landscape.

NORMA is now in the process of moving to a standardized global portfolio and has consolidated ERP solutions. Application rationalization has uncovered an enormous saving potential. NORMA Group credits its quick results to the ease of use and guided implementation from LeanIX. The below report shows the LeanIX Application Matrix, a great way to start any redundancy analysis.



	Corporate Services	Customer Relationship	Finance	HR	Information Technology	Innovation
Australia	Contract Management	Bonus Card Asia/Pacific	CoA	HR Plan	Exchange	HypeCollab
		Bonus Card Use Watch	OLAPCube	Payroll Germany	HP Service Desk	IdealIT
		CustEchoe Europe	SAP BI		meshlab Intranet	
		Mailsnake	SAP FI		Odysseus	
		salesforce Light	SAP FSCM			
Brazil		Bonus Card Americas	audimex		meshlab Intranet	IdealIT
		Mailsnake				
France		Bonus Card Europe	CoA	AC Management	Exchange	IdealIT
		Bonus Card Use Watch	SAP FI	Payroll Europe	LDAP	
		salesforce Light			Odysseus	
Headquarter	AttorneyNet	salesforce Light	CoA	HR Plan	HP Service Desk	HypeCollab
	Contract Management		SAP BI	Monsta	Odysseus	IdealIT
Italy		Bonus Card Use Watch	CoA		Exchange	IdealIT
					LDAP	

Figure 3: LeanIX Application Matrix report

3. Integration Architecture

Overview of use case

As valuable applications rarely live in isolation, integration architecture is key. The average enterprise has from 600 to 3400 applications, depending on the size. To select the best-fit application solution for a specific capability, sometimes, the applications are custom-built, some may be off the shelf, and some may have a combination of both. This leads to a tricky integration situation. For example, eCommerce shops need to integrate directly with inventory systems; calendars need to be synced to HR applications, marketing applications should sync to the CRM, and so on and so forth. Applications provide the most value whenever they are working together to produce seamless solutions.

Unfortunately, enterprise integration is no easy task. By definition, enterprise integration involves multiple applications running on multiple platforms in different locations, making the term “simple integration” outright impractical. It was reported that 70% of all integration projects fail. Most of these failures are not due to the software itself or technical difficulties, but due to management issues, constantly changing applications, unclear standards, and unclear accountability; many departments have conflicting requirements.

McKinsey found that IT staff can spend up to an overwhelming 30% of its development time on applications and making all of their interfaces work, mainly because customized applications have so many point-to-point interfaces.⁶

How EA and LeanIX can help

With the help of LeanIX software, Enterprise Architects can document integrations between applications, data flows, and interface technologies. This helps to kickstart integration projects and allows for better decision-making in integration architecture projects. Enterprise Architects have a unique cross-company view, which puts them in the best position to advise teams on the proper design of application integrations. From this holistic view, Enterprise Architects can design and implement integration solutions. The majority of integration projects consist of a combination of various types of integrations. Common scenarios include information portals, data replication, shared business functions, or a service-oriented architecture.

Enterprise Architects can introduce particular concepts such as the Enterprise Service Bus (ESB). This standardized interface can greatly ease the burden of system integration and minimize the chore of dealing with frequent local changes. An effective enterprise architecture team is needed to govern the optimized use of IT and other resources, to drive strategic initiative and promote reuse, to standardize and rationalize the use of middleware and beyond.

With the help of LeanIX, Enterprise Architects can manage integration standards. With the invention of XML, XSL, and Web services, there are many advanced standards-based features in an integration solution. However, the hype around Web services has paved the way for a new marketplace filled with supporting “extensions” and “interpretations” of the standards - all of which need to be managed.

Enterprise integration requires a significant shift in corporate politics. Business applications generally focus on a specific functional area, such as Customer Relationship Management (CRM), Billing, Finance, etc. Successful enterprise integration needs to establish communication between multiple computer systems and between business units and IT departments. In a fully integrated enterprise, each application is looked at as part of an overall flow of integrated applications and services.

EAs using LeanIX software have helped customers to:

- Reduce Cost – Through data and interface consolidation opportunities. Each reduced point-to-point interface is estimated to save thousands of dollars – through lowering maintenance costs, or identifying points of failure due to a high number of interfaces.
- Reduce Risk – Through better data management and the additional securing of highly interdependent applications.
- Increase Agility – Through the faster initiation of integration projects and advice on the integration architecture patterns best suited to specific measurements. These savings are estimated at save thousands of dollars.

The report below shows an overview of a data flow between multiple applications.

⁶<https://www.mckinsey.com/business-functions/digital-mckinsey/our-insights/it-architecture-cutting-costs-and-complexity>

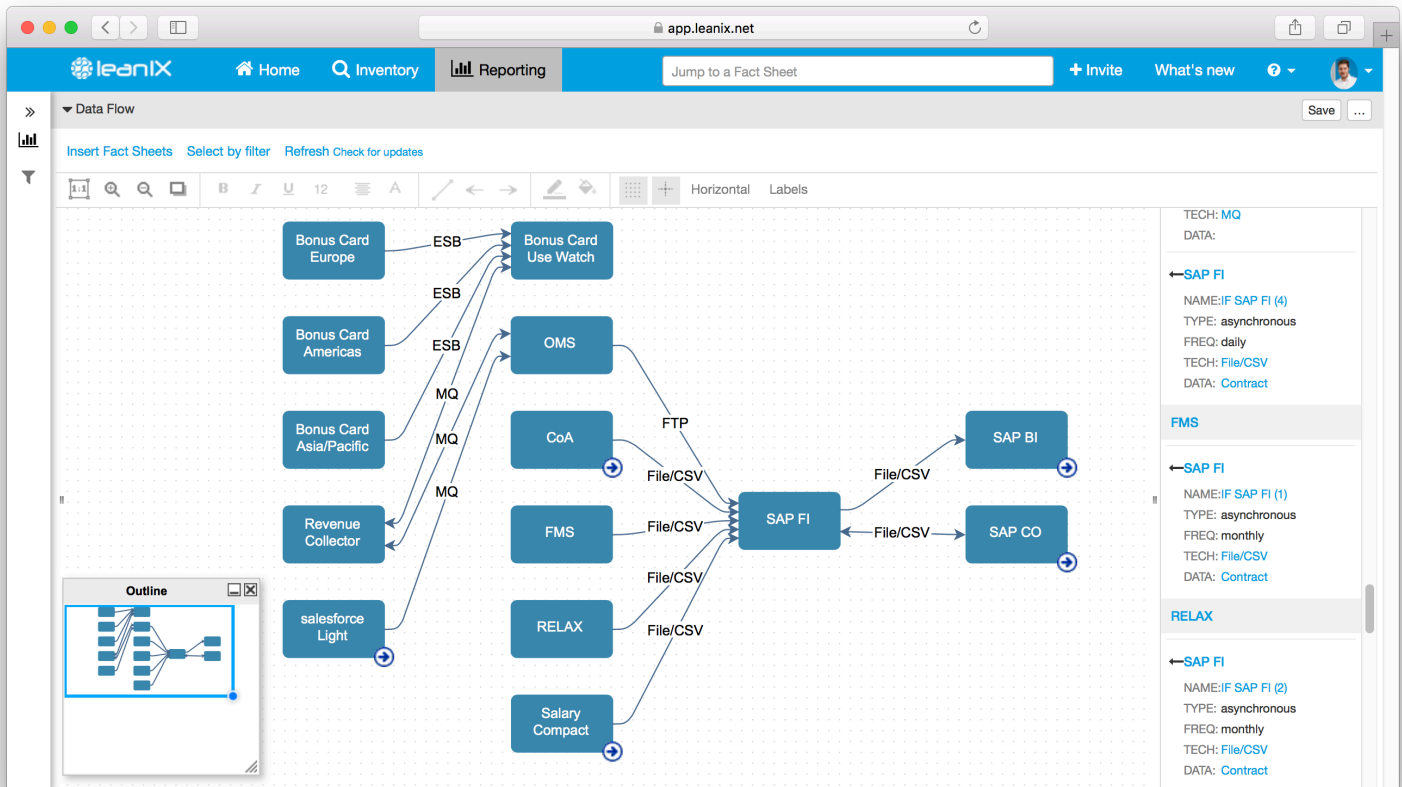


Figure 4: LeanIX Data Flow Report

4. Technology Obsolescence

Overview of use case

Across all industries, organizations are becoming increasingly reliant on technology to run their operations and provide services. How organizations handle their technology risk can have a significant impact on their operations. Technological risk takes on many forms: IT outages, legacy applications, and their supporting infrastructure lead to data breaches, and the damages can be staggering. A study has estimated the average cost of one hour of IT outage at € 140,000. In the case of data breaches, costs are even higher: on average, the cost of a single data breach amounts to US \$3.5 million

The six hidden costs of obsolete technology:

1. The inability to support business
2. Higher complexity
3. Security vulnerability
4. Compliance issues
5. Lack of skill and support from vendors
6. Lower IT flexibility

The 20 largest technology vendors alone provide over a million different technology products, and their components change daily. New versions need to be tracked, lifecycle information changes, and certain components need to be upgraded. Every day, the information of 2,500 products changes. This is too much information to keep track of manually.

How EA and LeanIX can help

Technology risk management is a broad, complex topic that cannot be solved by manual data maintenance – no matter how great your team is. With the help of LeanIX software, Enterprise Architects can quickly source up-to-date technology product information. This information is essential when assessing the risk of the application landscapes, and to plan, manage and retire technology components in a smart way.

LeanIX teamed up with BDNA, creators of Technopedia, the most complete and authoritative enterprise IT data worldwide, to provide a comprehensive technology data basis. Technopedia automatically updates over a million products and more than 50 million market data points. This up-to-date information feeds directly into LeanIX,

and presents your organisation with up-to-date, high quality data about your technology. Access to current data prohibits disconnected information silos, lack of integration, and incomplete data about technology.

Efficient technology risk management with LeanIX

LeanIX provides smart matching algorithms to cleanse existing data sets. This enables your company to have a quick start in identifying obsolete technology. The LeanIX reports help you to highlight applications that are built on outdated or risky technology visually.

LeanIX software provides the platform to combine all the critical information about each technology object in one place. With our software, you can establish, strengthen and complete your information base with quantitative and qualitative information.

LeanIX will help you answer pertinent questions like:

- Does the app need tech upgrades to ensure ongoing support of business requirements?
- What is the life-cycle of this application?
- What are the application response times?
- Are response times bad compared to other applications?
- Did the application have more and more outages over the last year?
- Is the system prone to incidents?
- How many users are affected by a potential outage?
- What revenue impact does an application outage have?
- What are regulatory or compliance impacts?
- Does the technology risk result in an inability to meet needs for further business growth?

All these questions can help you rate the technical fit of applications on a four-star scale based on easy to understand definitions.

5. Data Compliance

Overview of use case

Staying compliant is costly, but fees for noncompliance are even higher. Studies show that regulatory compliance costs businesses a collective \$1.86 trillion.⁷ Compliance can cover many focus topics, but with data hacks being reported on a consistent basis, new security regulations are being proposed and enforced.

Take EU GDPR for example. On May 25, 2018, the EU General Data Protection Regulation (GDPR) comes into force. Under this regulation, any company regardless of size and location that processes the personal data of EU citizens will have to comply with EU GDPR. The GDPR has numerous advantages due to the standardization it entails, but for many businesses, the regulation presents them with a drastic change in how they approach data management.

How EA and LeanIX can help

The key to GDPR compliance is having a clear overview of your organization's data. The EU GDPR requires organizations to provide a mandatory Data Protection Impact Assessment (DPIA). After the enforcement date, your organization will need to know which data is collected, how it is processed, where it is stored, and how to quickly access the data to make key changes. Collecting this information can be a daunting and time-consuming task, and you may not have all of the information that you need.

Enterprise Architects are in a good position to demonstrate GDPR compliance. With the help of LeanIX software, you can easily establish GDPR stakeholders within the company, identify which data is personal data, detect and assess risk, and define checks and implement measures to ensure continued compliance.

LeanIX software will help you easily identify the information you need to stay compliant with GDPR. Our Survey feature provides you with the tools to answer key GDPR compliance questions such as the following:

- Who is responsible for the processing of personal data?
- Which applications use these data?
- Are they additionally processed and stored outside the EU?

After identifying the responsible GDPR stakeholders, they can quickly fill out a questionnaire and provide you with the required information to demonstrate compliance for each application.

⁷ <https://cei.org/content/report-finds-regulation-compliance-costs-businesses-186-trillion>

The Subscriptions feature helps to identify the responsibilities of individual stakeholders concerning a specific object. Subscriptions can also be used in the filter and the Survey add-on, so you can filter, e.g., for all data objects for which a certain user is the data owner.

LeanIX enables you to identify all data that is defined as Personally Identifiable Information (PII) according to the GDPR. After classifying the contents of data, determine their level of privacy sensitivity, and categorize them as public/unclassified, sensitive, restricted, or confidential.

LeanIX provides Heat Map reports in this phase as it will help you localize any applications that process sensitive

data and enable you to clearly identify business capabilities that use the applications in question.

Following these steps will prepare you for the mandatory DPIA assessments from GDPR. Being prepared for this DPIA will put you in a better position than 50% of businesses worldwide. A current Gartner study shows that around 50 percent of all organizations will not fully meet the new EU General Data Protection Regulation by the end of 2018. These organizations don't know where to start. LeanIX will guide you through the process, saving you the potential of paying exorbitant fines. Find below a sample IT security survey.

IT Security Audit

Simon Barth, you have been invited to the following survey for the Fact Sheet **Training Plan** by **Simon Barth**.

Have information security policies been issued to all employees, including contractors?

☐ Yes
 ☐ No


Please update

Information 75%

LIFECYCLE Current: End of life

☐ Plan
 ☐ Phase in
 ☒ Active
 ☐ Phase out

1995 2000 2005 2010 2015 2020



Do you have a policy that prohibits generic logon accounts and do you follow the policy?

☐ Yes
 ☐ No

Have roles and responsibilities for protecting the application been exactly defined and formally agreed?

☐ Yes
 ☐ No

Is an ongoing security awareness program in place?

☐ Yes
 ☐ No

Are backups of data done regularly (at least weekly)?

☐ Yes
 ☐ No

Figure 5: LeanIX Survey about IT security and compliance

6. Standards Governance

Overview of use case

The use of standardized information technology in large corporations has measurable benefits: reduced training time and costs, lower support and maintenance costs, better bargaining power with a smaller number of vendors, and enhanced communication.

Standardization often goes hand in hand with centralization, the process of giving your IT department more control over purchases of hardware and software, as every new piece of software equipment you add to your IT arsenal can require installation, maintenance, staff training, repair, patches, upgrades, etc.

Standardization can have its drawbacks as well, as technologies change very quickly, and processes need to be updated when technology is updated. To stave off killing innovation, companies also use alternative concepts, like radical agility. Radical agility, a term coined by LeanIX customer, Zalando, is an architectural concept that builds on a service-oriented architecture. This method allows engineers to get work done while management gets out of the way. The radical agility approach is based on three pillars: autonomy, mastery, and purpose, all bound by organizational trust rather than command and control. Being open and adaptive to new technologies is crucial to both your organization's mission and its ability to operate efficiently. Similarly, being flexible when it comes to individual preferences — whether it is working on a specific platform or using a particular spam filter — can help employees work better and encourage creativity.

For these reasons, it is important to adopt a standardization policy that fits your situation and needs. How can enterprises improve good governance while staying agile simultaneously? LeanIX can help steer you in the right direction.

How EA and LeanIX can help

LeanIX can help you to document your technology standards in a transparent and efficient manner. First, it is important to create company-wide standards and make them accessible. Then, identify the use of non-standard technologies. Find out why these technologies have an exceptional usage. From there, plan standardization guidelines that best fit your

company.

In the LeanIX software, you are able to note important information for each technology in an organized manner:

- Create IT component Fact Sheets for every standard with a defined lifecycle, and add a “standard” tag
- Set a successor in the case of outdated technology
- Define a Tag Group for all with a necessary Standard status (e.g., leading technology, exceptional use, sunset)
- Add a “Standard” Status Tag to each standard IT Component Fact Sheet
- Create a Technology Stack for the whole list of standards (e.g., databases, application servers, methods)
- In combination with an ITSM solution, like ServiceNow, Enterprise Architects can make sure that only standard technologies that are overseen by the EA are deployed


Of course, LeanIX also supports the concept of a radical agility architecture. LeanIX allows you to plan and manage a service-oriented architecture, such as microservices; see the microservices use case. For the concept of radical agility to work, standardized interfaces are needed. Their management is also a key strength of LeanIX; see the integration architecture use case.

7. Monolith to Microservices

Overview of use case

Rapidly accelerating digitalization is forcing many businesses to rethink their architectures. To meet the constantly growing expectations of technology-savvy customers, companies must ensure that their products are available on all digital channels and as quickly as possible.

Over time, monoliths develop very complex structures that make it increasingly difficult to perform changes quickly. Moreover, scaling cannot be limited to individual parts but must be applied to the entire application. One way to reduce throughput times is to introduce a microservices architecture in software development.



Microservices break down monoliths, which allows for rapid changes and short release times along with high scalability and autonomous teams. Companies that use microservices deploy new software releases five times faster than those that do not use microservices.⁸

However, even companies that have adopted microservices still have the same hurdles as companies that have not adopted them - legacy issues and missing information does not get easier.

How EA and LeanIX can help

In a microservices organization, state-of-the-art EAM can create more added value than ever. Although it is not always easy for companies to introduce microservices, there are excellent reasons to do so. Allan Naim, Product Manager Container Engine and Kubernetes at Google, predicts that in the not-too-distant future, every organization, no matter the industry or sector, will become a software company. Customer data is becoming as valuable as products and services.

LeanIX forms the link between the individual teams and technologies and provides an overall view of the system. LeanIX software offers all employees up-to-date access to information on the IT landscape in their personal context, which is a basic requirement if a microservices architecture is to work.

As a single instance of truth, all important information about the microservice can be stored in LeanIX in an Application Fact Sheet. Dependencies are reflected as IT Components and will be automatically linked to the Application Fact Sheet. This allows you to automatically transfer the information from development environments into the LeanIX repository, and enjoy a holistic overview of the microservice landscape.

8. Cloud Transformation

Overview of use case

Cloud paves the way for new service-driven business models, which in turn create high business value and unprecedented levels of customer satisfaction. Cloud computing has the potential to bring many benefits including cost-savings, efficiency improvements, increased time to market, shortened development

cycles, and the ability to scale at demand. Enterprises can also dramatically improve asset utilization, reduce operational expenses, and redefine IT staff relationships after moving to the cloud.

Gartner analysts believe that by 2020 a “no-cloud” policy will be just as rare as a “no-internet” policy is today. Unfortunately, often companies do not know how to set up their cloud endeavors.

Cloud has become a key determinant of IT and business strategy. Over 60% of companies are planning to heavily intensify the usage of cloud solutions. However, complex business landscapes and rapidly changing infrastructure pose a serious obstacle to mastering cloud transformation.

To successfully move to the cloud, major organizational, operational, and technical modifications are required. Numerous influencing constraints occur along the way, including budget limits, need of exponential scale, growing complexity in company policies and external regulations. Enterprise Architects need to be able to implement a roadmap from legacy infrastructure to cloud.

How can EA and LeanIX help?

LeanIX software will also help you govern and improve your cloud endeavors. Enterprise Architects are in the best position to evaluate the organization's cloud readiness. Cloud transformation concerns the transformation of the entire business model and presents a new way of working.

Enterprise Architects, as a first step, evaluate cloud readiness ask the following questions: Is the current status mostly on-premise IT? Are some services already outsourced? Is DevOps in use? Do the capabilities to manage private, public, and hybrid clouds exist?

From here, Enterprise Architects may design the target cloud architecture for their prospective companies. For a successful cloud transformation, a wide variety of factors should be considered: current and future capabilities, the application portfolio strategy, operational and organizational questions related to people and processes, as well as cost metrics.

With the help of LeanIX software, Enterprise Architects can define target capabilities, decide which applications

will move to the cloud, and which applications should stay on internal databases.

LeanIX has helped many companies transfer their appropriate applications to the cloud. Our software will prompt you to answer and record dire questions to prepare for cloud transformation.

9. IoT Architectures

Overview of use case

Gartner reports that 20.4 billion connected “Things” will be in use by 2020. While the world finds space in their personal lives and homes for smart accessories, Enterprise Architects should look into how the Internet of Things (IoT) can benefit their organizations. IoT brings shorter times to market, provides real-time Big Data insights, enables new services and business models, and reduces cost. With all of the potential, there are also five significant challenges that face the IoT:

Security

With data breaches occurring almost weekly, security is a crucial issue and proves to be a significant challenge for the IoT. Poorly designed devices can expose a user’s data to theft, harm their personal safety, and pose a significant risk for rights violations.

Privacy

The United States Federal Trade Commission has outlined a list of concerns about the security and privacy of connected and embedded devices. The FTC went on record acknowledging that IoT devices are capable of collecting, transmitting, and sharing highly sensitive information.

Standards and regulations

As a brand-new technology framework, the IoT world has a lack of set standards. This lack of documented standards leaves the door open for inappropriate behavior by IoT devices.

Integrations

Gartner research analysts claim that “through 2018, half the cost of implementing IoT solutions will be

spent integrating various IoT components with each other and back-end systems. It is vital to understand integration is a crucial IoT competency.”

Complexity

Adapting to a different IT architecture can prove to be difficult. Having an IoT roadmap will keep you from adding valueless technology to your landscape.

How EA and LeanIX can help

In this digital age, progressive companies are looking for ways to manage risk, not to avoid it altogether. Enterprise Architecture can directly contribute to a beneficial IoT roadmap by managing the risks through defining relevant business capabilities; defining the scope of retirements and new applications; ensuring the proper interoperability of applications; driving and tracking transformation progress in projects, eliminating security risks; and establishing relevant data for future business decisions.

A Business Capability map provides the basis for creating a clear business and IT alignment. Business Capability maps help to define a list of priorities for application support, draw a common language between business and IT, and relate IoT requirements to existing business capabilities. With the LeanIX business capability map, Enterprise Architects can identify the current applications supporting the IoT capabilities, detect gaps in the application support, evaluate the quality of capability support based on defined criteria, develop requirements for existing applications, and identify the need for enhancements or new applications.

With the help of LeanIX software, Enterprise Architects can:

- Identify conflicts in requirements between different projects regarding the same applications,
- Plan and track application transformation (phase-ins of new applications and retirements of legacy applications)
- Build future scenarios for the application landscape
- Evaluate technology risk for applications and business capabilities based on the underlying IT components
- Identify the IT components to be replaced in order to mitigate security risks.

SUMMARY

As digital transformation makes business more complex, it is important to rely on a professional EAM tool to support your business endeavors. Using self-made tools like Excel and PowerPoint are initially attractive because of the low start-up cost, ease of use, and minimal training required due to their familiarity, but they pale in comparison with using a specialized EAM tool. Enterprise Architects can utilize LeanIX to solve the most common use cases and bring measurable value to their organizations. LeanIX has helped enterprises gain transparency in their application landscape, save millions in cost, and avoid costly compliance penalties.

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.

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