

## 1 Purpose

A key element to Enterprise Architecture (EA) is the capacity to create a component repository / application portfolio to centralise, manage & re-use components within an organisation and to define the IT landscape.

Collating an organisation's components and assets allows Enterprise Architects to understand the capabilities, define roadmaps & gap analysis and identify weaknesses & risks with the technologies. However, the process of collating this information and storing it in an effective repository is a difficult task, one that is often incomplete or done inefficiently.

There are many methods and tools which help create an application portfolio. These can range from a simple MS Excel spreadsheet or can be a COTS Application Portfolio Management (APM) tool.

For this evaluation, the COTS tool LeanIX (Lean Information Exchange) will be reviewed to determine how well it works as an APM for the IT landscape at the University of Birmingham and how useful are the additional features of the tool.

## 2 LeanIX APM Tool

### 2.1 What is LeanIX?

LeanIX is a software vendor that provides tools and services in the areas of Enterprise Architecture and Application Portfolio Management for small, medium and large enterprises.

The vendor's first product (called "LeanIX") was released in 2012 and is used by customers as a web-based platform to store information about the IT applications and architecture of a company.

The LeanIX product incorporates reporting features and component metrics to help manage and highlight the applications logged in the system.

#### **Key Characteristics:**

- Information Management - Offers a way to manage all required information of a professional Application Portfolio Management
- Collaboration - Supports team-work in virtual teams and scales with any number of users
- Security - Provides high security standards: 256-Bit SSL encryption and encryption of critical database fields
- Usability - Exports all your data on demand to Microsoft Excel, Integrates seamlessly into the existing infrastructure

### 2.2 Factsheets

The LeanIX tool is based on an inventory system that uses "Factsheets". A factsheet is an information page for each specific component and details the relationships with other components (or factsheets) in logical groupings/views.

A factsheet can be an application, a business capability, a process, an IT component, etc. (Diagram 1 lists the types of factsheets available)

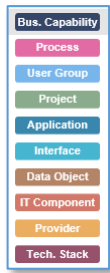


Diagram 1 - Types of Factsheet

The content of a factsheet allows for a wide variety of information to be captured; from detailed descriptions of the component, relationships with other components, responsibilities, metrics, etc. (Diagram 2 shows the content of an application factsheet)

The level of completeness of the factsheet information & the relationships defined determines the level of automated reports generated for each factsheet. You can gather additional/required information for components by creating “surveys”, which have specific questions sent to the responsible departments / owners for them to respond.

The screenshot displays the 'AltaHR' factsheet in the leanIX system. The main content area is divided into several sections:

- Information (100%):** Includes 'NAME & DESCRIPTION' (AltaHR: The principal Human Resources information and payroll system.), 'LIFECYCLE' (Current: Active, with a timeline from Jan '15 to Jan '20 showing phases: Plan, Phase in, Active, Phase out), and 'SUCCESSOR' (What are the successors?).
- Projects (0%):** Includes 'PROJECTS' (Which Projects are affecting this Application?).
- Business Support (50%):** Includes 'CRITICALITY & FUNCTIONAL FIT' (Business Criticality: 4 red arrows up, Overall Functional Fit: 4 yellow stars), 'BUSINESS CAPABILITIES' (Which Business Capabilities are supported by this Application? - HR), and 'PROCESSES' (Which Processes are supported by this Application?).
- Data Management (0%):** Includes 'DATA OBJECTS' (Which Data Objects are created, modified or required by this Application?), 'PROVIDED INTERFACES' (Which Interfaces are provided by this Application?), and 'CONSUMED INTERFACES' (Which Interfaces are consumed by this Application?).

The right-hand sidebar contains 'ACTIONS' (Edit, Print, Delete, Clone, New), 'ADMIN ONLY' (Customize Fact Sheet, Show API Response), and 'RECENTLY VIEWED' (CODA, Banner, audimex, AltaHR, ACAD).

Diagram 2 - Application Factsheet

The factsheet content and the field types are fixed with very little flexibility or customisation. Many of the options are based on details of other factsheets and will not allow any custom details. This is probably a deliberate design restriction to make sure any related components are also captured within the system before they can be used as part of other factsheets. However, some of the fixed field options will not be relevant and any

additional/custom information required for an application portfolio will be difficult to include in the factsheet.

## 2.3 Reporting Features

A big feature of the LeanIX tool is the reporting capabilities. Depending on the detail included in the factsheets, the level of completeness for each section & the relationships defined with other factsheets, the reporting feature will auto-generate a number of default reports to help manage the components and the IT landscape.

Additionally, you can create custom reports using the built in filter options. There are a variety of report / view types including application landscape, roadmaps, metrics, heat maps, etc. (Diagram 3 lists the various report types in the left hand menu and shows the application landscape report). The reports can be exported PDF, PNG or as data extracts to MS Excel. There is also a diagramming tool built-in so you can create your own models using the defined factsheets.

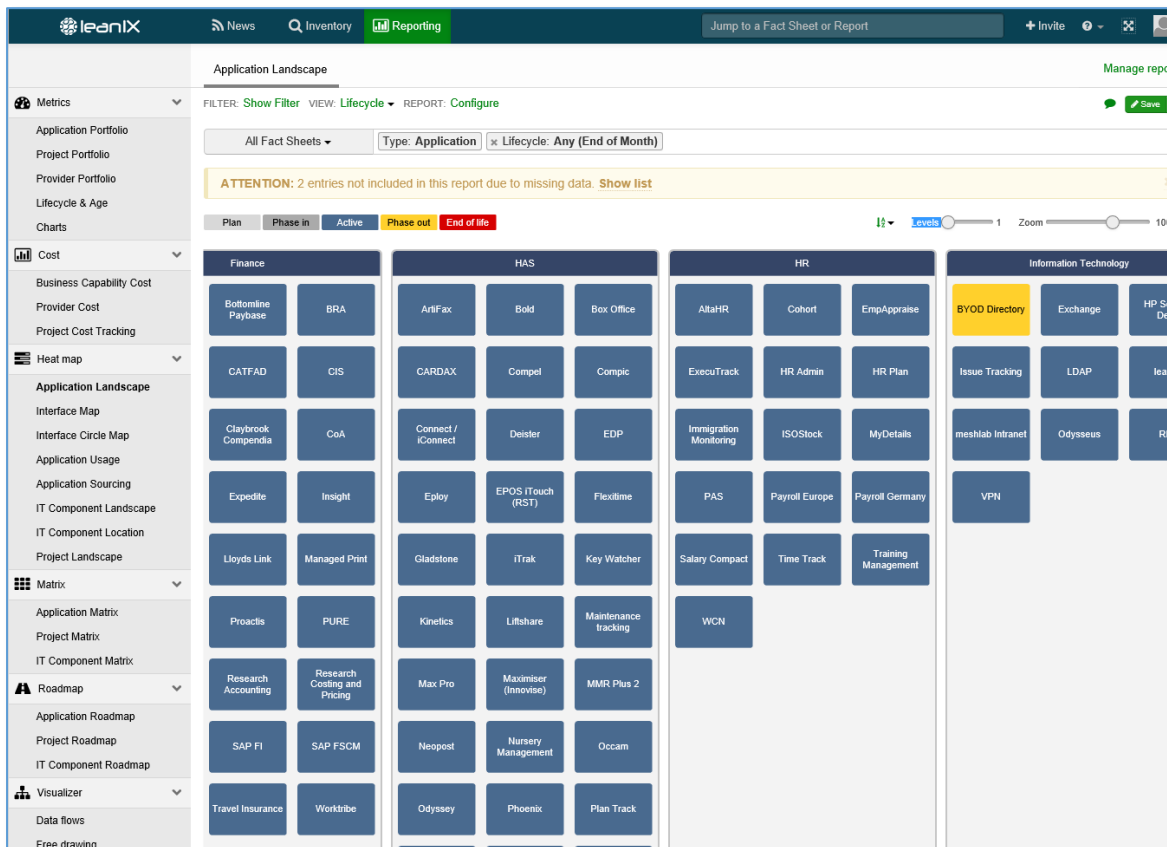


Diagram 3 - Application Landscape Report

## 2.4 Import & Export Features

To quickly & easily populate / modify the LeanIX inventory with your existing list(s) of components & assets, there is an MS Excel file (.XLS) import/export feature.

This allows you to import in new factsheets or export the existing list and modify the data before re-importing it back in. The import process identifies new records and updates existing records with any changes made.

There is also an import data test run option that identifies any issues before the data is actually imported into the system.

The field descriptions, details & available options are included in the export file and additional guidance notes are defined within the import / export options.

However, there is no built-in functionality to automate data upload or create a data feed from other sources on a regular basis. Additionally, the setup of the import file required several test iterations & lots of tweaking before the data was imported into the system correctly so the process was not straightforward.

## 2.5 Pricing

The price for the 'Advanced' edition of LeanIX is roughly £3870 (4400 euros) per month, paid as an annual payment. The 'Pro' and 'Ultimate' would require a quote from the vendor.

EDITIONS				
BUDGET <small>"Getting started with EAM"</small>	SMART <small>"EAM for any-size team"</small>	ADVANCED <small>"Advanced EAM features"</small>	PRO <small>"Meeting all Enterprise needs"</small>	ULTIMATE <small>"Unlimited EAM scope"</small>
€ 800 <small>per month with yearly payment</small>	€ 2200 <small>per month with yearly payment</small>	€ 4400 <small>per month with yearly payment</small>	On demand <small>Get a quote from our sales team</small>	On demand <small>Get a quote from our sales team</small>
Trial	Trial	30 day trial	Quote	Quote
350 Fact Sheets*	750 Fact Sheets*	2500 Fact Sheets*	15000 Fact Sheets*	Unlimited Fact Sheets
30 Users	Unlimited Users	Unlimited Users	Unlimited Users	Unlimited Users
30 Viewer	Unlimited Viewers	Unlimited Viewers	Unlimited Viewers	Unlimited Viewers
Support	Collaboration Module	Collaboration Module	3 Workspaces**	5 Workspaces**
	Hierarchy	Hierarchy	Saving of Reports	Indiv. Requirements
	Saving of Reports	Saving of Reports	Indicator Quality Check	Unlimited Saved Reports
	Support	Indicator Quality Check	Network Access Restriction	Indicator Quality Check
		Technopedia***	Technopedia***	Network Access Restriction
		Support	Priority Support	Technopedia***
				VIP Support

Diagram 4 - LeanIX Pricing by Editions (as of 16/01/2017)

\* For a detailed summary of the LeanIX features & capabilities, please refer to the [LeanIX Datasheet](#)

### 3 Impact on Organisation

#### 3.1 Potential Uses

Although the LeanIX is labelled as an APM tool, it can be used for several purposes. The vendor has outlined key use cases for the tool:

- **Application Portfolio Management** - Transparency about applications & their business relevancy to improve business support and plan the roadmap to the target landscape
- **Integration Architecture Management** - Transparency about all dependencies between Applications to reduce complexity and optimize business data management
- **Technology & Risk Management** - Transparency about important IT Components and their use in Applications to reduce complexity and ensure a future orientation
- **Information Management** - Transparency about the use of Data Objects and their business relevancy to ensure data consistency across the IT portfolio
- **Provider & Sourcing Management** - Transparency about Providers and services to optimize Provider and service portfolio to decrease cost and improve service level
- **IT Financial Management** - Transparency about consumption based IT spending in order to ensure investments in line with strategic priorities

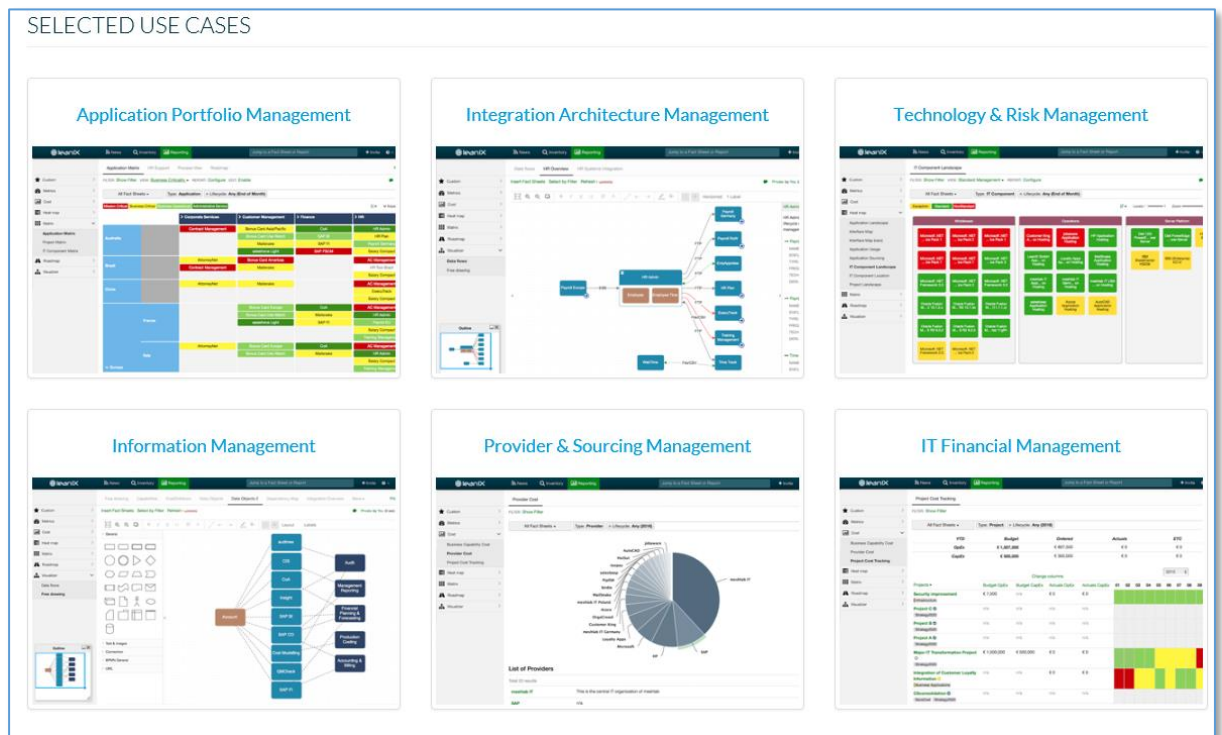


Diagram 5 Use Cases

#### 3.2 Benefits

The potential benefits of the tool would be:

- Reduction of risk – a better understanding of the application landscape would allow users to highlight risks and potential issues
- Reduction of costs – Identify issues easier & faster, reduce redundancy, improve investment decisions

- Improve Collaboration – a centralised repository would allow departments to share information regarding business processes & applications.
- Increased Agility – through better support of strategic business demands and improved speed in investment & project planning and execution.

### 3.3 Disadvantages

The disadvantages of implementing the tool are:

- Cost of Product – the cost of purchasing and implementing the LeanIX tool is extremely high for what the tool delivers.
- Risk – the time & effort it would take to implement this tool would be substantial but, above that, implementing the governance & enforcing compliance would require dedicated staff and would require an enterprise-level culture change
- Duplication – the lack of integration with other CMDBs or not having a method to automate a regular import feed means the LeanIX tool would need to be managed manually alongside the other CMDB tool (like ServiceNow). Weaknesses is good.
- Lack of Flexibility – the lack of customisation within the data capture & the reports means the tool will be less flexible for capturing a reporting very specific information

### 3.4 SWOT Analysis

<p style="text-align: center;"><b>STRENGTHS</b></p> <ul style="list-style-type: none"> <li>➤ Risk Reduction</li> <li>➤ Cost Reduction</li> <li>➤ Centralise Application Landscape</li> <li>➤ Improve Collaboration</li> <li>➤ Increased Business Agility</li> </ul>	<p style="text-align: center;"><b>OPPORTUNITIES</b></p> <ul style="list-style-type: none"> <li>➤ Identify Areas Requiring improvement</li> <li>➤ Improve Business Planning</li> <li>➤ Improve Business Capabilities Using Defined Standards &amp; Reusable Patterns</li> <li>➤ Wide Range of Potential Uses</li> </ul>
<p style="text-align: center;"><b>WEAKNESSES</b></p> <ul style="list-style-type: none"> <li>➤ Cost of Product</li> <li>➤ Cost of Implementation</li> <li>➤ Lack of Customisation</li> <li>➤ Lack of Flexibility</li> <li>➤ Lack of Integration with existing CMDB tools</li> <li>➤ Lack of automated import functionality</li> </ul>	<p style="text-align: center;"><b>THREATS</b></p> <ul style="list-style-type: none"> <li>➤ Cost of Product</li> <li>➤ Cost of Governance</li> <li>➤ Data capture across large Org</li> <li>➤ Risk of enforcing governance &amp; compliance</li> <li>➤ Long time before productive</li> <li>➤ Change of culture across enterprise</li> </ul>

## 4 Conclusion

The LeanIX APM tool has some useful features and does work well as an enterprise repository. The factsheet inventory allows you to capture a wide range of capabilities, processes & components and allows you to define their relationships & hierarchy relatively easily. With the reporting functionality, the collated information can be viewed in various report types & manipulated using the filter options. The interface is intuitive and the tool is relatively intuitive to use. It would not require a great level of technical nous to become familiar with the tool.

However, there are some drawbacks with the tool:

- Factsheet information is not flexible & does not allow for additional/custom information (no way to add in comments or custom data).
- Report options do not offer much customisation. The filter options available are fixed so you can only view report data using the pre-set filter options. Additionally, the
- There is no built-in, out of the box functionality to create an automated data import / feed from an existing data source / CMDB. This may result in duplication of data management on two separate systems.
- Although the price for the 'Pro' & 'Ultimate' editions of the tool require a quote directly from the vendor, the monthly fees for the lesser editions seem extremely expensive for what this tool provides.

In terms of management & governance of the APM, the initial data import phase may be reasonably simple to perform (if you already have an existing application portfolio listing that can be extracted into an MS Excel file) but maintaining the data & enforcing compliance across a large organisation would require some work. Managing the data would probably require dedicated staff to enforce compliance.

The LeanIX APM would be a useful addition to an enterprise architect's toolbox but it is not a complete solution and lacks functionality in key areas, like the automated data feed, customisable data fields / report options. It would be a "nice to have" tool but not an essential one and, with the exceptionally high price, it would be difficult justifying the purchase of the tool for what it offers the organisation.