WHITEPAPER

INTEGRATION MARKETPLACE AS A CURE AGAINST SHADOW IT

Executive Summary

Every company independent of its size has to deal with shadow IT - applications that have been procured without IT department's knowledge. Their usage poses certain risks and results in higher costs than initially assumed.

However, the rapid growth of non-approved applications used in companies shows that internal IT simply cannot stop line-of-business employees from using shadow IT, and nor should it.

Instead, the introduction of an internal self-service integration marketplace would allow IT departments to satisfy internal user demands for more access to self-service integration tools, bring shadow IT users back under controlled environment and get a grip on risks posed by non-approved applications. At the same time, line-of-business users will get more freedom in handling tasks that earlier only IT departments could perform.

THE GROWTH OF SHADOW IT

Software-as-a-Service has revolutionized the way how line-of-business workers procure and use software. We have been observing democratization of IT when software applications became considerably easier and quicker to access than before. This led to companies adopting more and more SaaS (Software as a Service) applications with their number based on different reports varying between 10[1] and 51[2] independent of company's size.

Moreover, 80-90% of these applications were procured without internal IT department's permission - often called shadow IT. Shadow IT brings a lot of dangers with it like e.g. decentralized user management, complicated billing, etc. **One of the major issues for internal IT is, however, a new integration challenge.**

No Application Is a Loner

Integration potential is one of the important things IT staff carefully takes into consideration when choosing or building a new application for the company. But when a line-of-business employee or even a business unit procures an external application, the last thing one thinks about is its integration potential. Yet usually within the first three months of its active usage, the need to integrate the new shiny SaaS application into the standard IT operational model and exchange data between it and other company technology becomes obvious.

Imagine the following scenario - marketing departement of hypothetical Acme Inc just purchased a new marketing tool for analyzing user behavior on the corporate website. Next obvious step would be to export data to a company's internal CRM for more efficient lead nurturing and provide more information to internal data warehouse solution for reporting. So, marketing department will demand this integration from internal IT. Such story will repeat itself for every further application challenging internal IT with new demanding tasks.

Shadow Costs of Non-Approved Applications

When line-of-business users purchase SaaS application, they see only a product's cost. After all, subscription pricing of SaaS applications is usually very moderate compared to enterprise solutions. Same users are oblivious to integration costs.

In practice, a SaaS product's final price is 4-8 times higher than its purchase price. This is where the real pitfall lies: It costs either extra development efforts from IT staff that hasn't been initially planned in the budget, or from actual line-of-business employees, who either try to code an integration themselves or address a third-party integration provider.

> "The integration part makes a SaaS product's final price 4-8 times higher than its purchase price."

Undercurrent Data Flows

Data protection and governance are one of the primary roles of IT today, and shadow IT poses some challenge there. Imagine a scenario in which a marketing manager extracts a list of customers from an internal CRM tool into a CSV file and uploads it to MailChimp to send around Christmas greetings. Or another scenario in which a line-of-business employee turns to a third-party integration provider to connect his non-approved online analytics tool to an internal CRM tool. Whether IT department knows about the existence of these applications or not, it has no idea where the data would go violating internal governance, audit and compliance requirements.

Shadow IT is Unavoidable

Despite risks associated with it, shadow IT frequently plays an important role of innovation driver. SaaS and cloud applications that are procured bypassing IT departments are usually better, more efficient and much easier to use than software used in the company.

Internal IT will not be able to stop line-of-business employees from using shadow IT, fighting against it will result in tilting at windmills. The best it can do is find a solution that will help them satisfy internal user demands without compromising security, reliability and predictability of business operations.

[1] Okta
[2] BetterCloud

SELF-SERVICE INTEGRATION MARKETPLACE

Considering all aspects described above, it seems reasonable to introduce the concept of self-service integration marketplaces within organizations. Such a marketplace offers both pre-built integration solutions for common use cases and a customized, easy-to-use integration designer. The latter allows more tech-savvy line-of-business employees, the so called 'citizen integrators', connect applications and automate data exchange between them without IT department's involvement - but under its control.

To build such a market, internal IT can revert to the elastic.io integration platform as-a-service packaged as a white-label service. The concept of the white-labelling will help internal IT create an end-user portal under corporate branding, while IT itself will work from the fully functional elastic.io dashboard.

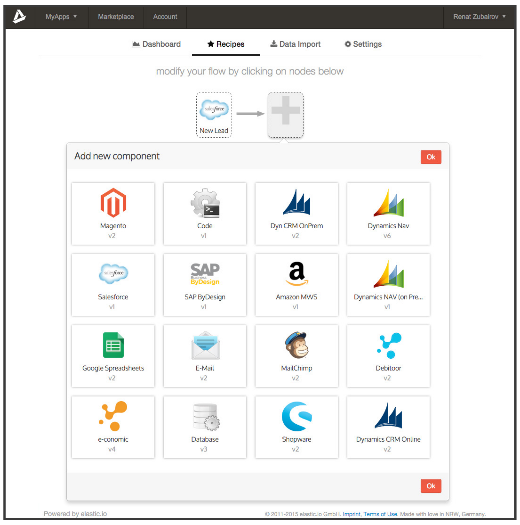
> "It seems reasonable to introduce the concept of self-service integration marketplaces within organizations."

Self-service end-user portal

With the elastic.io integration platform, line-of-business employees receive the necessary tools to connect various internal as well as external applications and thus, automate data exchange and processes, which earlier would have been the task that only IT department could perform.

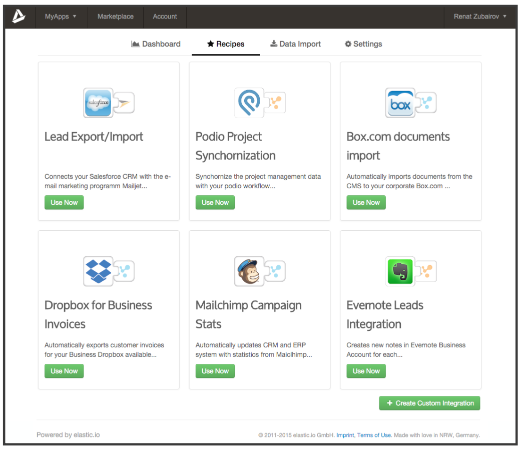
Easy-to-use for business users

An easy-to-use dashboard with consumer-oriented UX/UI and a so-called self-service catalogue gives line-of-business users independent access to a range of pre-configured integration solutions for common integration scenarios, and to numerous connectors provided by IT departments. Thanks to an intuitive interface, business users are able to build their own integrations and monitor integration data flow.



Ready-to-use solutions for common scenarios

Line-of-business users will get out-of-the-box solutions for most common integration scenarios like pushing contact data from a CRM to a marketing tool or updating product information between an eCommerce and an ERP software. The solutions are activated within a few minutes and synchronize data on a regular basis. All data logs are available.


MyApps ▾
Marketplace
Account
Renat Zubairov ▾
Dashboard
★ Recipes
Data Import
Settings
Use Now
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Lead Export/Import

Connects your Salesforce CRM with the e-mail marketing programm Mailjet...

Podio Project Synchronization

Synchornize the project management data with your podio workflow...

Box.com documents import

Automatically imports documents from the CMS to your corporate Box.com ...

Dropbox for Business Invoices

Automatically exports customer invoices for your Business Dropbox available...

Mailchimp Campaign Stats

Automatically updates CRM and ERP system with statistics from Maiclhimp...

Evernote Leads Integration

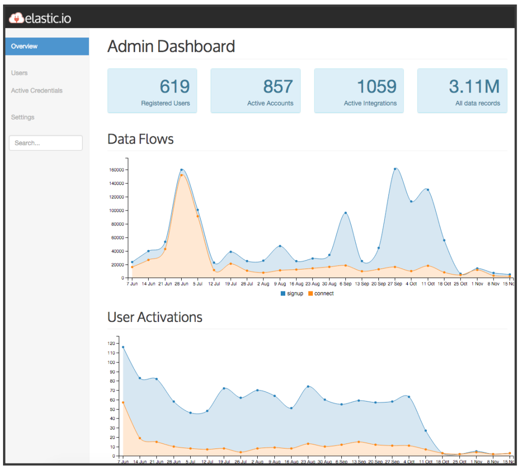
Creates new notes in Evernote Business Account for each...

Centralised import and export of data

Despite so many new technologies and cloud applications, CSV is still the international standard and most widely used format to import or export data from/to an application or a database. But it is also the most tedious one. With the elastic.io integration platform, IT departments can easily centralize data import and data export via CSV to the internal and external applications, all this from the same simple interface. Easy to support as a self-service portal.

Centralised governance / monitoring console

The elastic.io integration platform offers by definition a centralized dashboard for monitoring integration processes across all integrations. IT staff receives detailed information on all synchronized data including transfer protocols and error logs, and in case of a system error can pinpoint exactly where the error occurred, why and how to debug it.



Admin Dashboard

619 Registered Users

857 Active Accounts

1059 Active Integrations

3.11M All data records

Data Flows

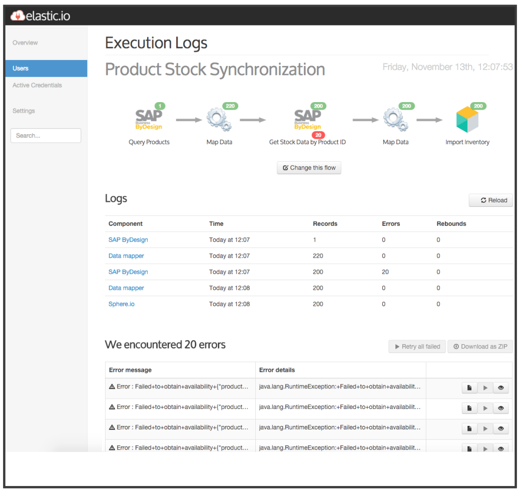
User Activations

Cloud-native infrastructure for public, hybrid and private clouds

Having 100 percent cloud-native infrastructure, the elastic.io integration platform is by nature a highly scalable and flexible middleware. As it is built on top of the open source frameworks like Docker, Apache Mesos, IT departments can deploy the platform in the public, private or hybrid cloud.

Pre-defined connectors, extensible on demand

Internal IT can either use one of the numerous pre-built connector templates or add new custom components and integration recipes using Java and Node.js SDKs. IT departments can also provide these tools and connectors not only for internal use but across all departments, introducing line-of-business employees to the self-service approach and thus eliminating the threats of the shadow IT.



Execution Logs

Product Stock Synchronization

Friday, November 13th, 12:07:53

Logs

Component	Time	Records	Errors	Rebounds
SAP ByDesign	Today at 12:07	1	0	0
Data mapper	Today at 12:07	220	0	0
SAP ByDesign	Today at 12:07	200	20	0
Data mapper	Today at 12:08	200	0	0
Sphere.io	Today at 12:08	200	0	0

We encountered 20 errors

Error message	Error details
⚠ Error : Failed+to+obtain+availability+{"product...	java.lang.RuntimeException:+Failed+to+obtain+availabilit...
⚠ Error : Failed+to+obtain+availability+{"product...	java.lang.RuntimeException:+Failed+to+obtain+availabilit...
⚠ Error : Failed+to+obtain+availability+{"product...	java.lang.RuntimeException:+Failed+to+obtain+availabilit...
⚠ Error : Failed+to+obtain+availability+{"product...	java.lang.RuntimeException:+Failed+to+obtain+availabilit...

Centralised single sign-on credential management

SSO allows IT department to enable company's employees to log into multiple services, on-premise as well as cloud-based, without having to enter their username and password for each service separately. Thanks to this, IT has less work managing user accounts within each of these systems, can considerably easier audit where and how credentials have been used and maintain the integrity of security policy enforcement, which in its turn leads to improved security.

> "IT departments can introduce line-of-business users to the self-service approach, eliminating the threats of the shadow IT."

Compliance and audit of integration processes

Customer data is a very sensitive asset. One of the major responsibilities of the IT department is to know where the customer data is stored, who manages it and where it is shared. Shadow data flows represent significant legal risks. With the elastic.io integration platform, IT has a perfect data flow map where all integrations can be seen in one place. This map can, therefore, ensure transparency and that all integration processes are fully compliant with the internal security policy.

BENEFITS

Faster and More Scalable Delivery of Services

With a powerful white-labelled integration platform like the one that is provided by elastic.io, there is no need for upfront checks whether a new solution, procured either by IT department or through a line-of-business employee, will work with other company systems. Using the standardized development and monitoring tools, developers can easily adapt and integrate already existing connections into the superordinate infrastructure of the integration platform and build new ones considerably faster.

> "Traditional integration tools and approaches cannot effectively support employee's integration needs."

Enhanced Internal Product Offerings

As Gartner analyst Massimo Pezzini put it in his blog article, the "traditional [corporate] integration tools and approaches cannot effectively support personal integration needs". A white-labelled integration platform like elastic.io allows IT departments to build a corporate marketplace for integrations. Thus, it gives line-of-business employees an opportunity to be true "Citizen Integrators" - a term coined by Gartner and describing typically line-of-business employees who build integrations between applications bypassing the IT department. Thus, internal IT meets employees' demand for more access to self-service integration tools to be more productive in their jobs.

> "Having a corporate marketplace for integrations, internal IT meets employees' demand for more access to self-service integration tools."

Regaining Control Over Data Flow

The elastic.io integration platform helps IT departments deal with the most acute issues related to it: It expands the integration potential of the approved as well as non-approved applications and ensures a high degree of transparency and control over the data that goes to third-party software vendors. This way internal IT gains a clear overview over where certain data has gone and, in case of an emergency, is able to make a third-party accountable for any security breaches or violation of data security and/or protection agreements.

About elastic.io

elastic.io GmbH, a young tech company based in Germany, belongs to the generation of the so called "cloud-born" companies and has already established itself on the German market as an expert for integration solutions, due in part to strong partnerships with T-Systems, Shopware and mVise.

elastic.io offers an integration platform as-a-service (iPaaS) that allows developers to build various connectors and connect different systems faster and considerably more cost-effective by using standardized tools and following standardized processes. The new approach has also extended the range of application possibilities for the elastic.io integration platform, in particular towards such fields as Big Data, Mobile and IoT.

GLOSSARY

Citizen integrators

The term ‘citizen integrator’ was coined by Gartner, refering to business users outside internal IT who take connection of disparate applications with each other into their own hands. In fact, Gartner proposes that IT foster citizen integration by enabling business users to build integrations themselves. These tactics are supposed to save own valuable IT resources and allow IT staff to concentrate on the core business needs.

Connectors

In this whitepaper, elastic.io uses the term ‘connector’ to refer to a single, reusable piece of code that enables communication, i.e. data exchange with a system and/or API. In the elastic.io documentation, the term “integration component” is used instead.

Democratization of IT

This term refers here to the phenomenon when companies of all sizes have a full access to a large number of fully-functional business critical software applications. This happened largely due to the growing number of available IT business applications and changes in pricing models (subscription-based and pay-per-use models).

Line-of-business employees

Here, this term refers to members of any other business departments except for the IT department. This terms describes top managers as well as regular employees. It is also assumed that while having no advanced technical, a line-of-business employee is still quite IT-literate. Synonyms used in this paper: ‘line-of-business user’ and ‘line-of-business worker’.

Internal IT

In this whitepaper, the term ‘internal IT’ is used to refer to the employees who provide all aspects of IT support and IT services to their company. In larger organasations, this is equivalent to IT departments. Synonyms used in this paper: ‘IT’, ‘IT staff’ and ‘IT department(-s)’.

SDK

This term stands for Software Development Kit.
In the particular case of the elastic.io integration platform, an SDK provides developers with APIs and tools that are necessary to build, test, and debug integration components (aka connectors).

Self-service integration tools

The term is often used to refer to a suite of easy-to-learn and easy-to-use tools provided for either only line-of-business users or both line-of-business users and IT developers to enable them to build, configure, test and deploy custom integrations between disparate applications. This term is also often used in correlation with the terms ‘citizen integrator’ and/or ‘citizen integration’.

Single sign-on | SSO

The term SSO, or single-sign-on, refers to a mechanism that allows a user to log in only once in order to access multiple applications. Thus, his or her credentials need to be authanticated only once. In this whitepaper, this term is used for the corporate environment.
Not to confuse with the scenario when a user logs into multiple sites and/or applications using the same credentials over and over again.

Shadow IT

In this whitepaper, the term ‘shadow IT’ is used to refer to software applications and services that are used by corporate employees without the knowledge and/or outside the control of internal IT organisations. Synonyms to shadow IT used in this whitepaper are: ‘unauthorized applications’, ‘non-approved applications’.