



Adoption & Practices

AstraZeneca supports strategic cloud shift with 'citizen integrator' platform

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To support a new strategic shift to use of cloud-based applications and software platforms, AstraZeneca needed tools that would help its highly distributed, federated IT capability deliver integration solutions without extensive specialist skills. AstraZeneca turned to SnapLogic and achieved impressive results.

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Case study key facts

Organisation	AstraZeneca
Industry	Pharmaceuticals
Current goals	In late 2014, following the recruitment of a new Global CIO, international pharmaceuticals giant AstraZeneca started to make a radical shift in IT investment – putting 'cloud first' wherever possible. To help this large, complicated, globally-distributed and federated organisation make the shift, it realised it needed to deliver a globally-available integration platform that could be used by distributed teams with minimal corporate support or intervention.
Current approach	In early 2015, AstraZeneca began its global rollout of cloud-based integration technology from SnapLogic, after an in-depth competitive assessment process. An initial focus on implementing integration requirements relating to use of Adobe's Campaign Management platform delivered impressive proof of the platform's value. Although the internal support team for SnapLogic is small, well over 300 integrations were developed in a period of just one year.
Outcome	AstraZeneca's integration architecture and portfolio enables it to integrate systems, technologies and applications across cloud platforms and its own on-premises investments at impressive scale – and do this with a very lean central team of technical support resources. Much of the work in cloud integration in particular is carried out by globally-distributed teams having few deep integration specialists. In the first 6 months of using SnapLogic there were over 50 individuals using the technology across AstraZeneca; now there are well over 100.
Tools and suppliers used	SnapLogic

Organisation background

AstraZeneca is a global, science-led biopharmaceutical business headquartered in London, UK. The company was founded in 1999 through the merger of Swedish-based Astra AB (founded in 1913) and UK-based Zeneca Group (demerged from industrial conglomerate ICI in 1993); in its financial year ending February 2015, turnover reached \$24.7bn and the company spent over \$5bn on R&D. AstraZeneca currently has over 60,000 employees, based in over 100 countries around the world – and is one of the world's top ten pharmaceutical companies.

Industry conditions – including the increased costs associated with developing and marketing treatments, and the increased impacts of generics as licenses expire – are forcing AstraZeneca to prioritise operational efficiencies, as is the case with all other pharmaceutical firms.

Project background and drivers

In late 2013, following the appointment of a new CIO with an innovation agenda, AstraZeneca began to shift its strategic IT focus away from the provision of standard office and business process infrastructure, and towards supporting agility in the enterprise through the promotion of cloud-based platforms and applications. The new 'centres of gravity' became applications and platforms from the likes of Salesforce, RightNow, Concur and others.

A natural extension of this new strategic focus was the next wave of software tools that would help AstraZeneca automate as much as possible of the processes used to develop, deploy and manage this new wave of business solutions. An architecture team in AstraZeneca's corporate Sales and Marketing function saw an opportunity for improvement, and began a search for technology that could help AstraZeneca become more efficient, reduce defects and offer consistency of integration approaches using drag-and-drop tools. AstraZeneca needed the platform to integrate its new strategic cloud-based investments with each other, and also with existing on-premises platforms that the organisation needed to continue to maintain and support.

The team had a clear principle to work to: to deliver tools that could be used throughout the enterprise by relatively unspecialised, generalist IT practitioners. The reason: as a result of the broader IT strategy, the enterprise was already on a path to doing "more with less, and with fewer IT staff". This led to two imperatives: firstly, it wouldn't be possible to maintain a large specialised corporate IT function dedicated to integration – so responsibility for integration development and maintenance would have to be 'pushed out' to individual territories. Secondly, outside of the major territories of the US and UK, AstraZeneca had comparatively small IT teams with broad-based responsibilities – so these teams couldn't themselves dedicate specialist resources to integration, either.

The initial catalyst for investment in a new integration platform and toolset came specifically from AstraZeneca's investment in Salesforce applications. Teams responsible for deploying Salesforce were (unsurprisingly) uncovering new integration requirements; but rather than using AstraZeneca's existing preferred integration technologies (from Informatica and Oracle) the developers were starting from scratch, using Salesforce's own Apex and Microsoft .NET.

Implementation overview and status

In early 2014, the team began its search for an integration platform that was specifically designed to support organisations needing to bridge multiple cloud-based and on-premises platforms and applications.

There were three main requirements the team wanted to fulfill:

- A tool that enabled people to build, deploy and operate integration solutions without detailed specialist technical skills – enabling AstraZeneca to make the capability available around the world.
- A platform that would require no on-premises installation, and a tool that could be accessed from anywhere via a web browser, using no plugins or Java downloads – enabling AstraZeneca to make the capability quickly and cheaply available without needing to maintain any infrastructure.
- A product that shipped with a complete set of pre-built adapters available at no extra cost – so minimizing the chances that any implementing team would have to make additional investment, and so minimizing the risk of teams choosing other platforms for their own local environments and requirements.

After an evaluation process carried out in the first half of 2014, the architecture team – working with the company's CTO and Shared Services organisations – settled on SnapLogic. SnapLogic's technology fulfilled all three of the key requirements, and the company's relatively small size and early business stage (compared to the other key providers evaluated) meant it was particularly flexible and open to developing additional features and functionality that supported AstraZeneca's own integration agenda.

Key use cases

Despite the initial catalyst for AstraZeneca's investment being the widespread adoption of Salesforce applications, the first initiative to be supported with SnapLogic, in the second half of 2014, related to the integration of Adobe's Campaign Manager within the Sales and Marketing function with around 150 data sources via the product's REST APIs. AstraZeneca's partner Accenture, working a combination of onshore and offshore resources alongside AstraZeneca subject-matter experts, delivered integrations with all these data sources using SnapLogic technology in just four months.

In addition to the Adobe Campaign Manager integration work, at the time of writing AstraZeneca has delivered a number of other notable (and varied) successes, including:

- A project to create a regular data extraction from CA Identity Manager, to drive management reports
- Implementation of a number of real-time Master Data Management (MDM) projects
- In Sweden, synchronisation of trouble tickets between an in-house ServiceNow system and a third-party trouble-ticketing system
- In Germany, synchronisation of business data between a cloud-based Oracle reporting tool and Salesforce applications
- In China, building custom SnapLogic adapters for a locally-provided SAS analytics and Business Intelligence (BI) platform and using those to integrate the platform with on-premises applications.

In addition to the integrations delivered as part of the initial Adobe Campaign Manager project, AstraZeneca teams globally had delivered 100 integrations using SnapLogic after 6 months, and over 300 by the end of 2015. Although the widespread adoption of SnapLogic within AstraZeneca came too late for the initial catalyst Salesforce implementation project to be supported, Salesforce implementation teams globally are now starting to work with SnapLogic technology for new integration requirements.

The approach

Strategy

AstraZeneca's Shared Services organisation has identified 15 specific integration design patterns that are relevant to AstraZeneca's business and technology environment, and for most of these design patterns SnapLogic is one of the recommended technology providers (and in some cases, it is the primary strategic recommendation). SnapLogic is the recommended solution of choice today for fulfillment of real-time application integration requirements, and is also recommended as a good candidate for consideration in the fulfillment of data integration scenarios. AstraZeneca has carried out a number of big data technology pilots using Microsoft's Azure PaaS, and as a result of that work Microsoft has now formally embraced SnapLogic technology and offers the AzurePlex integration platform.

Informatica remains an important integration technology provider for AstraZeneca, but its goal is to manage rather than grow the enterprise's Informatica estate. Talend is also part of the portfolio for some groups within AstraZeneca, but the Shared Services organisation recommends that teams still actively consider SnapLogic as an alternative here, too.

Organisation and people

Adoption

The nature of AstraZeneca's global operating model, combined with its constrained resources and diverse range of integration requirements, have created an environment where the question of how to drive effective adoption of SnapLogic technology has had to be creatively addressed right from the start. Teams in countries without the resources to run specialised integration technology teams need to be supported to deliver effective results with SnapLogic, although the technology's ease of use helps in this regard.

Because there aren't the resources to run a centre of excellence, the approach has been (in Shelly's words) "showing teams how to fish, rather than fishing for them." A Shared Services team, driving out initial adoption of the SnapLogic platform across the business, has worked from a simple promise: "spend an hour with us, and we'll show you the value of SnapLogic – in moving data quickly, integrating systems quickly and tactically."

Training starts with a brief introductory session that combines theory and hands-on practice relating to some simple use cases; from there, the team agrees a set of 1-3 use cases with individuals or teams undertaking training and assists them in constructing working solutions over the following few weeks.

Roles and resources

As we've already mentioned, AstraZeneca has driven the widespread adoption of SnapLogic technology with only a lean team. Within AstraZeneca most of the initial implementation work – and then the dissemination of the technology across the company – has been carried out by a team of 3-4 subject-matter experts, supported by between 1-2 Shared Services staff working specifically to support technology deployment and operation.

Technology and infrastructure

AstraZeneca's use of SnapLogic technologies started commercially in early 2015. Around 80% of the SnapLogic platform resources that AstraZeneca uses are cloud-based (SnapLogic calls these CloudPlexes, and they're hosted in various Amazon Web Services regions but managed and billed by SnapLogic); 20% of resources are deployed and managed in AstraZeneca's own data centres by the company itself.

These on-premise resources are principally used to integrate AstraZeneca's cloud-based applications and platforms with on-premises systems, and SnapLogic has no plans to increase its on-premises SnapLogic footprint. The company wants to limit on-premise usage of SnapLogic as it's not an elastic service, and because it doesn't want to continue promoting the usage of on-premise data repositories – because this limits data availability for cloud-based applications and systems.

At the start of AstraZeneca's work with SnapLogic the company secured some professional services from SnapLogic, primarily to help it with training and knowledge transfer. It carried out training initially with staff based in the US and the UK, and subsequently it's also used SnapLogic technical staff to assist with training at AstraZeneca locations in India and China.

Governance

In a globally-distributed technology organisation with federated responsibility for integration, it's obviously important that there are structures in place to manage the risks of poor implementations.

The answer within AstraZeneca is for ownership of SnapLogic technology to sit within the company's Shared Services organisation. This organisation takes responsibility for (and funds) the strategic technologies that AstraZeneca prefers and promotes around the globe.

Initial funding for and exploration with SnapLogic, in the first year was carried out in AstraZeneca's CTO organisation. After the first year of SnapLogic use, ownership passed to the Shared Services organisation (which also regulates AstraZeneca's use of other strategic technologies such as the Oracle SOA Suite and Informatica's integration tools). This team sets policies about the usage of technologies in particular business scenarios, and provides assistance to implementation teams around the world with issues needing resolution.

SnapLogic can deploy its CloudPlex service nodes to any AWS region around the globe, and AstraZeneca's current licensing arrangement means it can obtain these resources easily. AstraZeneca pays by the SnapLogic node, whether that node is hosted on AWS or on-premises.

The results

In the 18 months since AstraZeneca started using SnapLogic technology, it's seen rapid adoption – particularly for real-time integration needs when linking cloud platforms and applications; and when linking cloud-based systems with on-premise systems. Well over 300 individual integration pipelines have been deployed across the enterprise.

AstraZeneca has supported all this work with a very lean core team, along with light technical resource commitment from SnapLogic in the early months of the technology's deployment.

AstraZeneca has not carried out a formal ROI analysis of its investment in SnapLogic technology, but a number of teams have investigated the value of SnapLogic in specific scenarios. One particular evaluation project found that for Salesforce application integration, developing and deploying integration code using SnapLogic technology is four times faster than using Salesforce's Apex language in combination with custom code. What's more, using SnapLogic led to fewer software defects.

AstraZeneca has not found use of SnapLogic without its challenges, naturally. There are a handful of areas where AstraZeneca historically found it's had to work beyond the core capabilities of the SnapLogic tools, both of which are a result of the scale at which AstraZeneca is using SnapLogic. Firstly, it's been challenging to manage code version control and deployment – SnapLogic doesn't have any in-built version control facilities (like those found in Git or CVS). Secondly, the tools have some maturing to do in order to allow centrally-managed reusable patterns to be easily-shared across federated multi-vendor environments. And thirdly, when AstraZeneca first started its work with SnapLogic, scalability at runtime was an issue for some of AstraZeneca's use cases. Improvements to SnapLogic service load balancing and high-availability, together with AstraZeneca's field experience of designing SnapLogic Snaps for multi-tasking and parallelism have resolved this issue however.

Recommendations for adopters

In our conversations with AstraZeneca for this case study, Solution Delivery Architect Don Shelly offered the following recommendations for organisations embarking on a similar initiative:

- Don't wait until your first project to learn about the technology – make sure you know what the product is capable of ahead of time. Your first project should not be the place you do initial learning; you will impact the first project negatively if you do this. You'll need to have three months available to you in order to get your people fully capable, your environment properly configured and standardised approaches set.
- When choosing a first project, think carefully. You should pick a project that will enable you to demonstrate success quickly (within a few weeks); however you also need to be able to deliver results at scale so your wider technical and business community feel they can trust and promote the technology.
- Be proactive with your people – particularly in a distributed, federated organisation. Don't wait for teams to ask for training; if you're going to be successful, you need to communicate early and often about your new integration technology investment, sell them the benefits clearly, and give them the knowledge and examples they need to succeed.

Best practice insights

In its adoption of SnapLogic integration technology across its global and federated IT landscape, AstraZeneca has clearly demonstrated a number of best practices. Four in particular stand out.

Firstly, rather than trying to control all integration technology delivery from the centre of the enterprise, by choosing technology that can be used by relatively unspecialised personnel AstraZeneca has found a way to enable distributed teams around the globe to set their own priorities and agendas, while working in common ways.

Secondly, as AstraZeneca has become familiar with the capabilities of SnapLogic's technology it has moved the ownership of SnapLogic from the Sales and Marketing organisation (where it was first introduced and championed) to AstraZeneca's Shared Services organisation. The Shared Services organisation sets clear practice guidelines for the use of individual tools and technologies across AstraZeneca within portfolios, so it's clear to teams around the world which tools in each capability portfolio should be considered for which scenarios.

Thirdly, AstraZeneca has spent significant effort on communications and training materials for teams considering using SnapLogic for their integration requirements – not waiting to be asked by teams for help or training, but 'getting out in front' of issues and demand so they can help ensure that globally-distributed teams work consistently and effectively to deliver great business results (and thereby further promote the benefit of its cloud integration strategy and technology choices).

Last but not least, AstraZeneca chose a technology provider that places a great amount of business emphasis on delivering and supporting customer success. AstraZeneca was able to call on resources at very short notice on many occasions, and engaged with experienced, helpful staff at all levels (right up to the CEO) when it needed to do so. As Shelly says: "SnapLogic does a good job listening and reacting to its customers' needs, and clearly recognises that customer success drives its success."