


# 10 lessons every product executive should know about their API program



**“MuleSoft’s API-led connectivity approach improved productivity by 10x. That’s a huge win in a digital world that’s changing constantly.”**

— Simon Post, Group CIO, Dixon’s Carphone



## Introduction

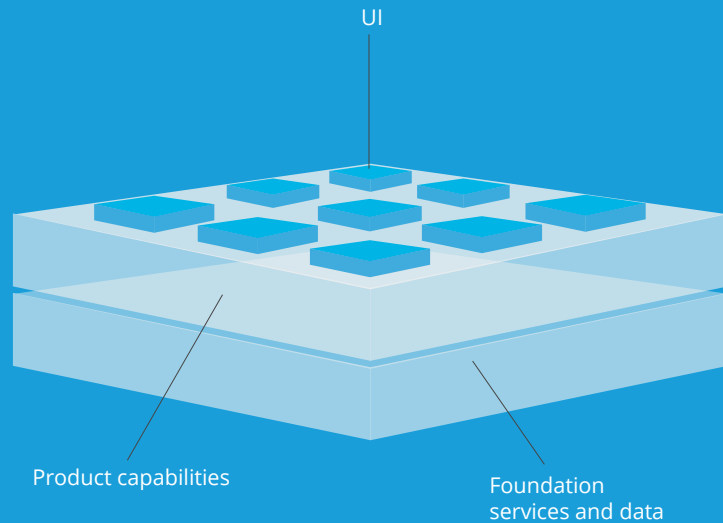
To get customized solutions to market quickly, many product executives build their own stack and seek tools and processes to help product managers and engineers innovate and collaborate. This approach slows down dramatically when teams spend time doing undifferentiated “donkey work”: building connectivity logic to data sources; figuring out how to orchestrate across various backend services and caching mechanisms; or trying to decipher how to accurately map and transform data between two endpoints.

Based on work with customers across many industries and global regions, we have found that the presence of an API-led connectivity program is a critical factor in how quickly teams can innovate in cost-effective ways using sound architectural practices. We have compiled a list of the top ten lessons learned by successful Product Executives in their approach towards becoming an API-led product organization.

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## 01 Build for today while preparing for tomorrow

Today, new UIs and additional product capabilities are requested while existing product features see repeated change, and product strategies shift at an unrelenting pace.

Products should be a dynamic composition of services rather than a inflexible monolith. Creating a highly-modular set of underlying services creates a future-proof network and makes reacting to tomorrow's changes easy.

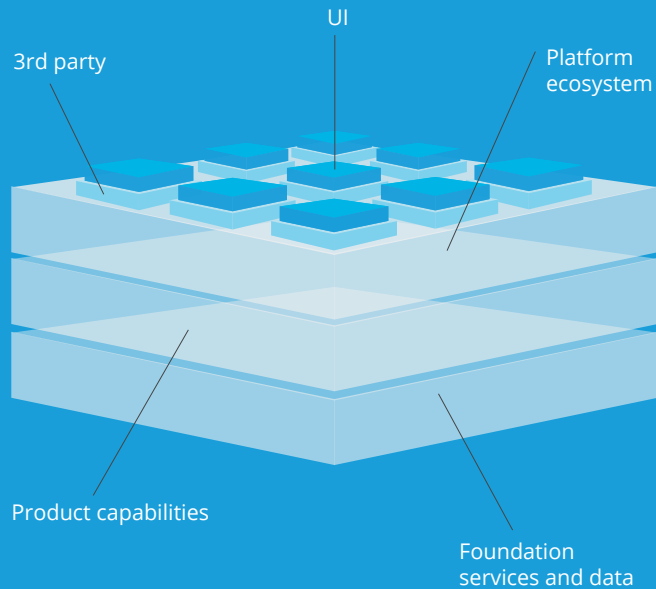
"It's important to discuss how rapidly technology is evolving and the importance of investing in things like the integration layer and APIs. None of us know what's coming next, we know at the end of the day change is the new constant, but how do you continue to deliver value in that world?" -Yvonne Wassenaar, CIO, New Relic



### Lesson

Give up the hardwire band-aid.

## 02 Apply platform strategy as product strategy



Demand surges can be unpredictable.

Even with relatively few APIs exposed, customers and partners will demand new services and continuously updated experiences. As products evolve, demand may grow in unexpected ways: Amazon Web Services is a prime example.

Test and ensure all APIs are ready to meet consumer expectations before publishing. Check the full product architecture is API-enabled from the bottom most foundation of your systems and data all the way to the public UI.



Lesson  
Be platform ready today.



## 03 Treat your API like a product

Today, a product's user interface is the main touchpoint, however, API interfaces are set to become the new normal.

Rapidly piecing together components, via APIs, into a new product, or sub-product, requires each piece to be understood and validated through a feedback cycle. Investing in developer on-ramp and API user experience (APX) is therefore essential for product adoption. API storefronts should attract, and make adoption easy for developers.

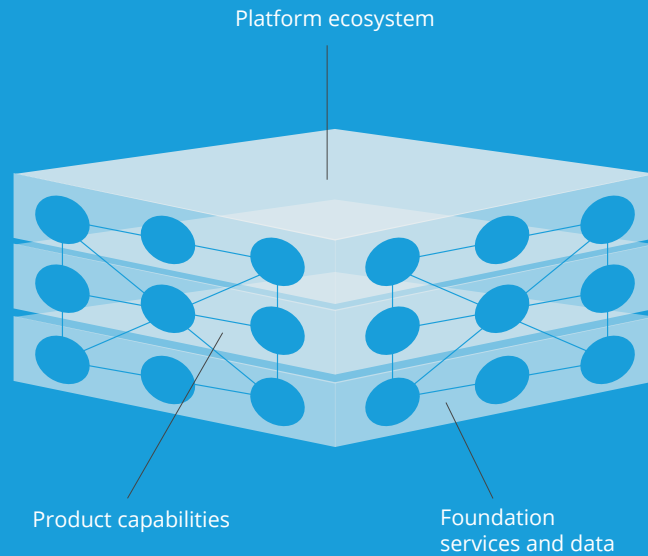


Lesson  
Make APX a priority.

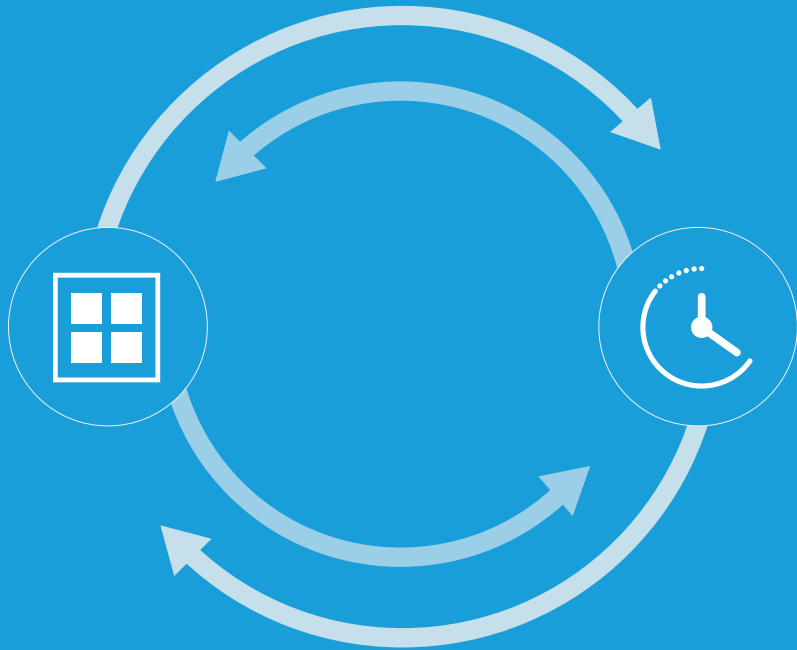
## 04 Be agile in the right way

Agility to respond to customer feedback is key. Teams must quickly prototype beta releases, gather feedback, pivot and course correct without causing mayhem internally.

Agile product organizations think in terms of building blocks with modules of sub-products and functionality that can be quickly composed, disassembled, changed, and recomposed. For this to be possible, APIs for all foundational, product and ecosystem services must be discoverable and well-documented.



Lesson  
Design the API consumption experience.



## 05 Use tools fit for modern delivery

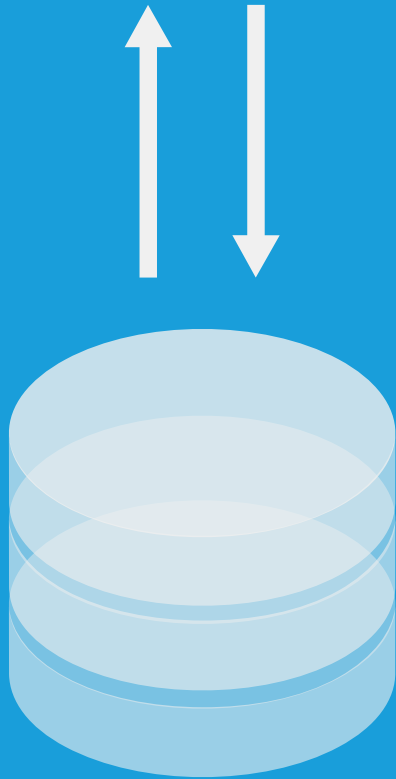
The healthiest product organizations incorporate DevOps best practices for lean requirements, continuous deployment, testing automation and application delivery.

The ability to reduce mean time-to-production by removing latent hand-off and back-and-forth between developers and operators is key. In addition, the cultural aspects of collaboration, process and people management should not be overlooked as delivery is operationalized.



Lesson  
Plug into your DevOps infrastructure.





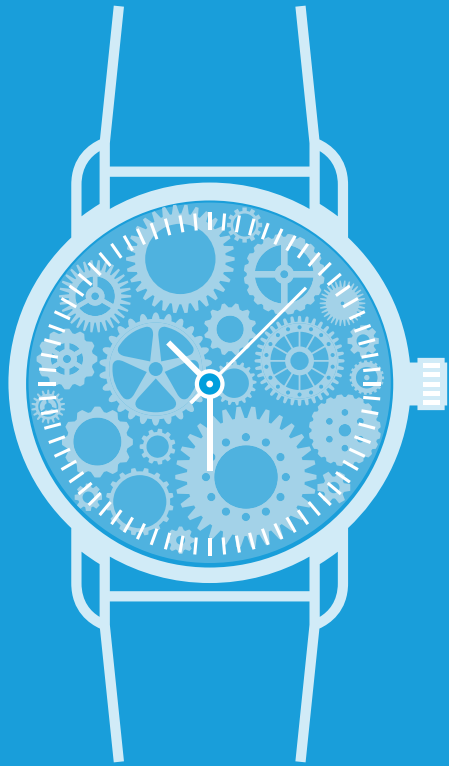
## 06 Have a connectivity strategy

An API-led connectivity approach has become the new standard. It enables strategic use and re-use of connectivity infrastructure. In contrast, when code is written to quickly “hard-wire” APIs to the back-end or to orchestrate multiple APIs, it generally cannot be adapted for use by multiple teams so additional connections are made and hidden dependencies develop which can threaten product quality, reliability and supportability.

The best way to combat the desire to “hard-wire” is to make it easier to connect to backend infrastructure, APIs and services the right way. Publish connectivity templates that can be easily discovered and leveraged during product development. Empower product teams to utilize existing API interfaces and proven architecture patterns. Don’t waste time rebuilding the same connectivity components for every new product release.



Lesson  
Make solving for connectivity easy.



## 07 Collaborate to reduce technical debt

Encourage collaboration throughout the development lifecycle of every component of the API-led connectivity fabric - from API design to business logic orchestration, all the way down to the last database query. Enable product developers to experiment, mock, test and get feedback incrementally and regularly. Involving downstream users early drives product usability, and collaborating with other developers helps ensure best-practices are shared and adopted.

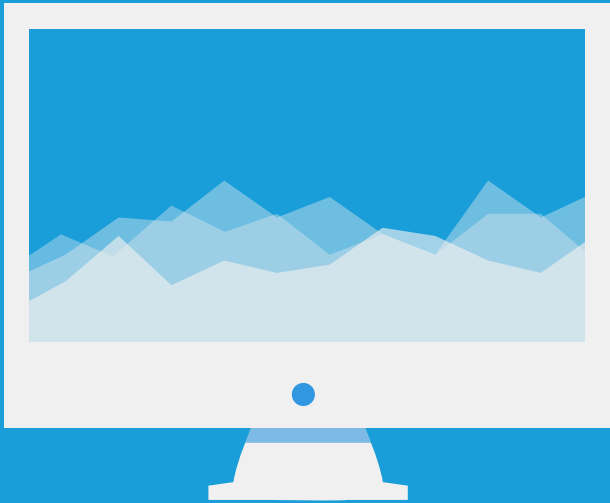
Practicing collaboration at scale will go a long way towards building high quality, reliable, and well architected products.



### Lesson

Extract & codify best practices. Share knowledge. Encourage collaboration.

## 08 Create product architecture transparency



Products powered by an API-connected fabric can have complex interdependencies across hundreds of moving parts. Architecture visibility is the key to understanding critical breakpoints within the product, and for planning management strategies such as how and when to apply rate limits in different areas of the architecture.

Keep a pulse on individual APIs and microservices. Use predictive analytics and preventive maintenance to avoid disasters. If something does break, know how to quickly troubleshoot and respond to issues.



Lesson  
Register and monitor every single API.



## 09 Provide defense in depth

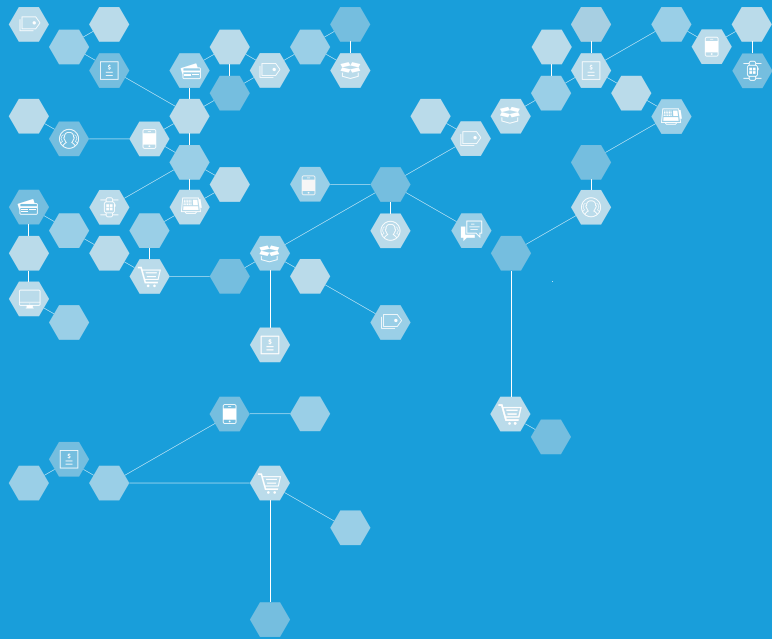
In today's digital world, getting hacked is just a matter of time. Unfortunately, developers often don't prioritize and incorporate security best practices. Instead, downstream teams are called up on to address security after the product is fully developed, resulting in ineffective implementations.

Ensure developers design security in from the beginning by providing them with security best practices in the form of architectural design patterns and runtime policies. Employ controlled governance at the edge, through internal micro-gateways and with global, federated policies.



### Lesson

Secure locally, manage and monitor globally.



## 10 Build a network for your product

The success of an API-enabled product will rely on interconnected exchanges of business data and functional capabilities: A network of microservices. Change is unavoidable, and it will likely require new functionality composed from different entities talking to each other.

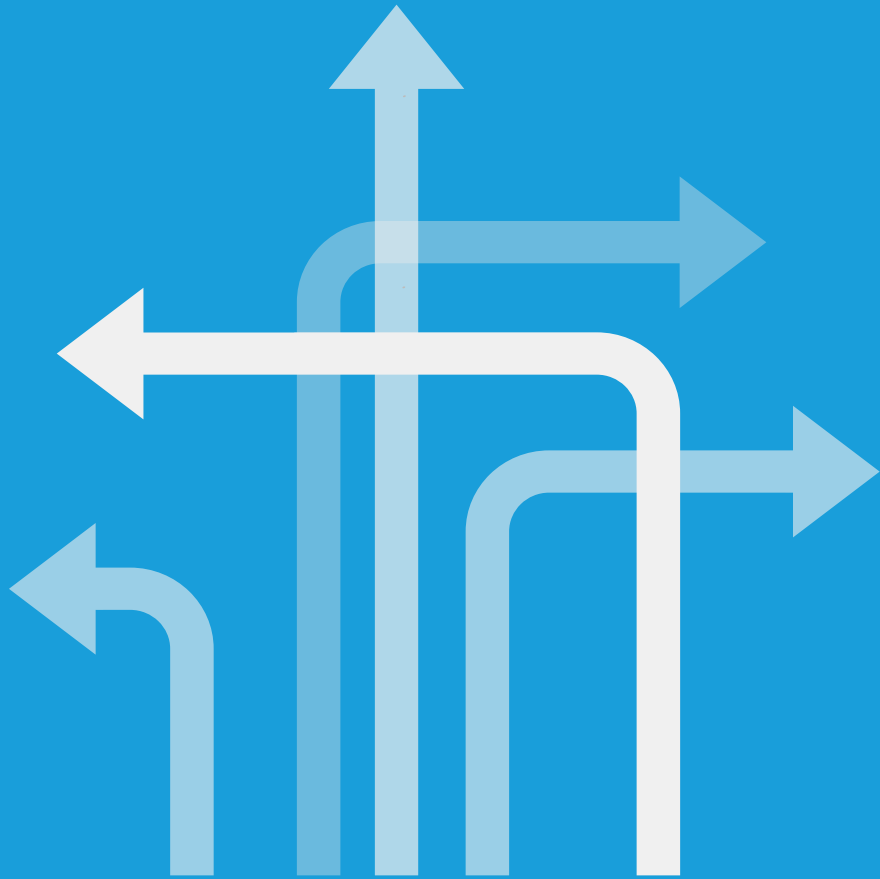
A forward-looking product strategy should include an architectural vision of a vast network of business capabilities. Building out the network requires robust strategies for how product services and capabilities are designed, developed, secured, governed and monitored.

“Our growth over the next 10 years will be driven by our ability to take existing capabilities and compose them together in new and interesting ways. MuleSoft is helping us rapidly unlock those capabilities, make them discoverable and enable their controlled reuse when launching new products to the market.” Andy Lapin, Cox Automotive



### Lesson

Your best moving part will come from the outside. Plan for it now.



## So, now what?

Here are some questions we recommend asking yourself:

- Am I thinking in terms of modular API enabled building blocks?
- Do I have a responsive organization?
- Are my engineers sharing best practices amongst each other?
- Is my product architecture something I can rapidly take a pulse on, and have confidence that it is following best (design and runtime) practices?

How do I start? Where do I start? What's my roadmap for success?

**Contact MuleSoft to figure out the best way to get started.**



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