API Trends

Mark O’Neill
VP Analyst
Chief of Research, Software Engineering
APIs – especially Internal APIs - are now Ubiquitous

Gartner Survey

- Publicly exposed APIs are more commonly used in Europe than North America
- Financial Services industry more commonly use publicly exposed APIs (78%), while 22% of orgs have no plans, and 0% plan to use.
Which Third Party APIs are Most Used?

Use of APIs provided by third parties

- Currently use 82%
- Plan to use 12%
- No plans 6%

Specific API Third Party Providers

- Youtube
- AvePoint
- Zapier
- LexisNexis
- DocuSign
- Central1
- Pexip
- Collibra
- SaaS
- NewRelic
- Twitter
- Finastra
- Certicamara
- Microsoft365
- CMSACA
- Google Cloud
- BMC
- Salesforce
- Experian
- Workday
- SmartFreight
- Adobe
- OpenAPI
- Open Banking APIs
- Pennie
- Uipath
- ServiceNow
- HeathSherpa
- Government Agencies
- Agent Cubed
- Facebook
- Oracle
- Payroll
- Business Partner
- Splunk
- Oracle

© 2023 Gartner, Inc. and/or its affiliates. All rights reserved.
Q01. What are your demand projections for the following roles in the next 12 months?
Source: Gartner Software Engineering Leaders Role Survey

API Roles are in Demand in Software Development

Demand projections in the next 12 months

<table>
<thead>
<tr>
<th>Role</th>
<th>Currently have role and plan to increase in the next year</th>
<th>Currently have and plan to stay the same</th>
<th>Currently have and plan to decrease</th>
<th>Do not have role currently but plan to add in next year</th>
<th>Do not have and no plan to add in next year</th>
<th>Unsure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Software Developer</td>
<td>53%</td>
<td>36%</td>
<td>5%</td>
<td>4%</td>
<td>2%</td>
<td>2%</td>
</tr>
<tr>
<td>DevOps Engineer</td>
<td>42%</td>
<td>40%</td>
<td>5%</td>
<td>6%</td>
<td>7%</td>
<td>2%</td>
</tr>
<tr>
<td>API Engineer</td>
<td>32%</td>
<td>41%</td>
<td>2%</td>
<td>6%</td>
<td>15%</td>
<td>2%</td>
</tr>
<tr>
<td>Security Engineer</td>
<td>31%</td>
<td>43%</td>
<td>5%</td>
<td>6%</td>
<td>12%</td>
<td>2%</td>
</tr>
<tr>
<td>Solutions/Product Architect</td>
<td>28%</td>
<td>52%</td>
<td>4%</td>
<td>6%</td>
<td>9%</td>
<td>2%</td>
</tr>
<tr>
<td>Product Manager</td>
<td>27%</td>
<td>50%</td>
<td>8%</td>
<td>5%</td>
<td>9%</td>
<td>2%</td>
</tr>
<tr>
<td>Quality Engineer/QA Analyst</td>
<td>27%</td>
<td>44%</td>
<td>9%</td>
<td>6%</td>
<td>12%</td>
<td>2%</td>
</tr>
<tr>
<td>UI/UX Designer</td>
<td>27%</td>
<td>40%</td>
<td>8%</td>
<td>6%</td>
<td>18%</td>
<td>2%</td>
</tr>
<tr>
<td>SDET</td>
<td>25%</td>
<td>40%</td>
<td>7%</td>
<td>8%</td>
<td>19%</td>
<td>2%</td>
</tr>
<tr>
<td>Platform Engineer</td>
<td>25%</td>
<td>49%</td>
<td>7%</td>
<td>3%</td>
<td>16%</td>
<td>2%</td>
</tr>
<tr>
<td>Product Owner</td>
<td>22%</td>
<td>53%</td>
<td>7%</td>
<td>6%</td>
<td>11%</td>
<td>2%</td>
</tr>
<tr>
<td>Scrum Master</td>
<td>15%</td>
<td>45%</td>
<td>11%</td>
<td>6%</td>
<td>23%</td>
<td>2%</td>
</tr>
<tr>
<td>Release Train Engineer</td>
<td>14%</td>
<td>34%</td>
<td>8%</td>
<td>5%</td>
<td>37%</td>
<td>2%</td>
</tr>
<tr>
<td>Agile Coach</td>
<td>12%</td>
<td>28%</td>
<td>11%</td>
<td>9%</td>
<td>39%</td>
<td>2%</td>
</tr>
</tbody>
</table>
Gartner Hype Cycle for APIs

As of August 2022

Plateau will be reached: ○ <2 yrs.  ● 2–5 yrs. ■ 5–10 yrs. ▲ >10 yrs. ▼ Obsolete before plateau
Graph APIs

Interest in Graph APIs, including GraphQL, has grown strongly but is levelling off.

gRPC is now showing more growth.
Event-Driven APIs

Now just AsyncAPI, but webhooks, Websocket, and subscriptions within GraphQL

Requirement to manage both request-response and event-driven APIs
Microservices are in the Trough of Disillusionment.
Why Are Microservices in the Trough of Disillusionment?

• Highly complex
• Requires experts in the architecture role
• Requires mature processes and practices
• Data model requirements, since each microservice must “own its own data”
API Management is Changing
Over 2/3 of organizations currently use API Management solutions

Organization Current and Future Plans for API Management Solutions

- Currently Use: 70%
- Plan to Use: 13%
- No plans: 17%
Magic Quadrant

Includes vendors who are not gateway-centric, as well as vendors who also provide service mesh

Honorable Mentions:
- Ambassador Labs
- Gravitee
- RapidAPI (Rapid)
- Stoplight
- Traefik Labs
API Gateway Evolution

Timeline

API Gateways become more complex

“Gateway- Saurus”

Modern, low-footprint API Gateways
The Rise of “Bring Your Own Gateway”

• Many organizations now have multiple API gateways, not one “big honking gateway”
  1. An on-premises API gateway which may be in place for many years
  2. Cloud provider API gateways such as Amazon API Gateway and Google Cloud API Gateway
  3. API gateways as part of platforms such as Spring [Spring Cloud Gateway]
• Developer friendly, automation-friendly, Gateway instrumentation is required
Impact of Generative AI on API Management

1. (Even more) importance of documentation for APIs, as LLMs become major consumers of APIs
2. Requirement to block/throttle LLM access to APIs
3. Further focus on API monetization, as organizations follow Reddit and Twitter and charge for API access to data
4. Requirement to design schema correctly so that you aren't inviting overly broad queries
   – Especially for APIs consumed by prompt engineering
Key Gartner Research

- Reference Model for API Management Solutions
- Market Guide for API Gateways
- Magic Quadrant for Full Life Cycle API Management
- Research Index: Everything You Should Do to Address API Security