Open API Adoption Assessment Reports
V3 (Q2 2020) Vendor & CSP Results
Key Takeaways from V3 survey (Q2 2020)

- 39 companies participated
  - 34% increase since v2 (Q3 2019) with 8 new vendors and 2 new CSPs
- Significant increase in momentum towards Open API adoption
  - Average industry Intent\(^\d\) increased by 9 percentage points
- Vendors are responding to CSP demand
  - Vendor Maturity\(^\d\) increased 7 percentage points
- CSPs and vendors are well aligned on priorities
  - CSPs have a slightly broader focus on a wider range of APIs
- CSP maturity remains (on average) higher than the vendors
  - Average is skewed by the leaders wrapping legacy APIs pending native support in vendors’ products

\(^\d\) See Appendix for explanation of terminology and scoring
Significant Momentum Towards Open API Adoption

• **Good levels of participation in the survey**
  - The V3 (Q2 2020) survey included 25 vendor participants and 14 CSP participants (34% increase on the Q3 2019 survey)

• **Significant industry momentum towards Open API adoption**
  - Average industry Intent* (combined scores for CSPs and vendors) increased by 9 percentage points since the previous survey
  - CSP and vendor Intent are well aligned

• **Increasing maturity of Open API deployments**
  -Vendor Maturity increased by 7 percentage points – faster than CSPs (single point increase)
    • Vendors appear to be responding to CSP demand, with several moving into the top right quadrant
  - CSP Maturity remains (on average) higher than the vendors, but results are skewed by the leaders
    • Leading CSPs (e.g., Vodafone) are wrapping their legacy APIs as a placeholder pending native support in vendors’ products

• **CSP demand creates opportunity for vendors**
  - Average CSP Intent is higher than average vendor Maturity, providing motivation for vendors – demand outstrips availability
  - There is plenty of opportunity to serve CSPs with low Maturity and high Intent
  - Leading CSPs need native Open API support from their vendors in order to replace their DIY wrappers

• **CSP and vendor prioritization of API collections are well aligned**
  - CSPs have a somewhat wider focus (also seen in download stats from the Open API table)

* See Appendix for explanation of terminology and scoring
Perspective of a market-leading CSP

“The majority of our Open API implementations to date have been wrapping our product vendors’ legacy APIs. This is partly driven from the fact that we are building a Digital Experience layer across all our markets, whilst we are modernising the back-end vendor systems-of-record at a slower rate.

“We have started to see native TMF Open API implementations from some of our vendors, and all the new BSS implementations we have done over the last 2 years have included native support for TMF Open APIs.

“In the enterprise space, we are also seeing some enterprise customers mandating the use of Open APIs as part of their RFPs, and we are starting to see inter-operator use-cases based on Open-APIs.”

Lester Thomas
Chief IT Systems Architect
at Vodafone Group
Vendor Results V3 (Q2 2020)

• Each circle represents the scores for an individual respondent (anonymized)
• Size of circle indicates the number of Relevant APIs | Label represents the number of Committed APIs

Significant adoption of Open APIs among vendors with medium to large product portfolios

Large circle = large product portfolio (lots of Relevant APIs)

High label number = full roadmap (lots of Committed APIs)

High Intent but slower progress on Maturity

Higher Maturity with a more focused scope
CSP Results V3 (Q2 2020)

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Large circle = large product portfolio (lots of Relevant APIs)
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Market leaders are embracing Open APIs

Good Intent but limited Maturity and scope

Experimenters
Combined CSP and Vendor Results V3 (Q2 2020)

- Red circles – Vendor results
- Grey circles – CSP results
8 new vendors and 2 new CSPs participated in V3
- 34% increase in participation compared to V2 (Q3 2019)

Significant increase in industry intent to deploy Open APIs
- CSP Intent increased 12 percentage points
- Vendor Intent increased 7 percentage points

Vendor maturity is increasing but still lags CSP maturity
- Average vendor Maturity score increased 7 percentage points
- Several vendors reported significant improvement since V2*
- CSP Maturity remains higher than vendors but increasing more slowly

Average Scores and Growth Trends

<table>
<thead>
<tr>
<th>Participants</th>
<th>Average Maturity†</th>
<th>Average Intent†</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>V3 Number</td>
<td>Increase‡</td>
</tr>
<tr>
<td>Vendors</td>
<td>25</td>
<td>8</td>
</tr>
<tr>
<td>CSPs</td>
<td>14</td>
<td>2</td>
</tr>
<tr>
<td>Combined</td>
<td>39</td>
<td>10</td>
</tr>
</tbody>
</table>

Example: one vendor’s steady progress

† Average Maturity is weighted by the number of Committed APIs | Average Intent is weighted by the number of Relevant APIs
‡ Increase compared to v2 (Q3 2019)
* For participants who did not update their scores, small backwards Maturity moves are due to new availability of conformance certification for some APIs since 3Q19, which increases the maximum available Maturity score (i.e., participants now need certification to score maximum Maturity points)
Vendor Focus by API Collection V3 (Q2 2020)

Vendor Intent around Product, Customer, Resource and Service API collections aligns well with CSP demand.

Large circle = average number of API in that collection

Customer Engaged Party increased in importance since V2 (Q3 2019)

Common and Engaged Party API collections have greater CSP focus

Standalone, 3.4

Product, 3.5

Resource, 4.1

Service, 6.5

Customer, 5.3

Customer Engaged Party, 2.0

Engaged Party, 4.9

Common, 9.1

• Maturity & Intent scores for each Open API collection are averaged across all respondents
• Label and circle size indicate the average number of Relevant APIs
CSP Focus by API Collection V3 (Q2 2020)

- **Maturity & Intent** scores for each Open API collection are averaged across all respondents.
- Label and circle size indicate the average number of Relevant APIs.

Vendor Intent around Product, Customer, Resource and Service API collections aligns well with CSP demand.

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Large circle = average number of API in that collection
Combined Focus by API Collection V3 (Q2 2020)

- Red circles – Vendor results
- Grey circles – CSP results
Useful links

Links to materials and surveys

- Main Open API adoption assessment webpage

- Two V3 Surveys
  - CSP Survey: https://www.surveymonkey.co.uk/r/VAAR_V3_2020
  - Vendor Survey: https://www.surveymonkey.co.uk/r/CAAR_V3_2020

- Open API Table
  - https://projects.tmforum.org/wiki/display/API/Open+API+Table

- CALL TO ACTION
  - TM Forum Members to participate
  - Still open for inclusion in V3 update planned for our Q4 events
V3 (2Q20) Comparisons to v2 (3Q19)
Vendor Results V3 (Q2 2020)

- Each circle represents the scores for an individual respondent (anonymized).
- Size of circle indicates the number of Relevant APIs | Label represents the number of Committed APIs.

Significant increase in adoption of Open APIs among vendors with medium to large size portfolios.

Large circle = large product portfolio (lots of Relevant APIs).

High label number = full roadmap (lots of Committed APIs).

More mature deployments are increasing; vendors with larger portfolios entering this area.
Each circle represents the scores for an individual respondent (anonymized).

- Size of circle indicates the number of Relevant APIs
- Label represents the number of Committed APIs

Large circle = large product portfolio (lots of Relevant APIs)

High label number = full roadmap (lots of Committed APIs)
CSP Results V3 (Q2 2020)

- Many CSPs have increased intent compared to previous surveys although with limited scope.
- Increasing number of market leaders embracing Open APIs.

Each circle represents the scores for an individual respondent (anonymized).
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Large circle = large product portfolio (lots of Relevant APIs).
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CSP Results V2 (Q3 2019)

- Each circle represents the scores for an individual respondent (anonymized)
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Large circle = large product portfolio (lots of Relevant APIs)
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## Comparison of survey results

<table>
<thead>
<tr>
<th>Vendor</th>
<th>Average Maturity†</th>
<th>Average Intent‡</th>
<th>Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pilot (1Q19)</td>
<td>30%</td>
<td>44%</td>
<td>12</td>
</tr>
<tr>
<td>v2 Q3 2019</td>
<td>31%</td>
<td>49%</td>
<td>17</td>
</tr>
<tr>
<td>v3 Q2 2020</td>
<td>38%</td>
<td>56%</td>
<td>25</td>
</tr>
</tbody>
</table>

<table>
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<tr>
<th>CSP</th>
<th>Average Maturity†</th>
<th>Average Intent‡</th>
<th>Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pilot (1Q19)</td>
<td>33%</td>
<td>39%</td>
<td>7</td>
</tr>
<tr>
<td>v2 Q3 2019</td>
<td>56%</td>
<td>47%</td>
<td>12</td>
</tr>
<tr>
<td>v3 Q2 2020</td>
<td>58%</td>
<td>59%</td>
<td>14</td>
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† Average Maturity is weighted by the number of Committed APIs | Average Intent is weighted by the number of Relevant APIs
* For participants who did not update their scores, small backwards Maturity moves are due to new availability of conformance certification for some APIs since 3Q19, which increases the maximum available Maturity score (ie participants now need certification to score maximum Maturity points)
Open API Table Downloads
API downloads from the Open API Table and resource library

Each month we consistently have:

- Over 1,800 unique users
- From over 350 unique companies
- Downloading more than 10,000 API assets
Most popular APIs

Downloads since Jan-20

- TMF666 Account Management API
- TMF662 Product Ordering API
- TMF620 Product Catalog Management API
- TMF559 Customer Management API
- TMF641 Service Ordering Management API
- TMF637 Product Inventory Management API
- TMF632 Party Management API
- TMF640 Activation and Configuration API
- TMF639 Resource Inventory Management API
- TMF679 Product Offering Qualification API
- TMF621 Trouble Ticket API
- TMF558 Service Inventory Management API
- TMF633 Service Catalog API
- TMF708 Customer Bill Management API
- TMF663 Shopping Cart API
- TMF621 Agreement Management API
- TMF646 Appointment API
- TMF645 Service Qualification API
- TMF681 Communication API
- TMF676 Payment Management API
- TMF677 Usage Consumption Management API
- TMF654 Prepay Balance Management API
- TMF670 Payment Methods API
- TMF652 Resource Ordering Management API
- TMF673 Geographic Address Management API
- TMF648 Quote Management API
- TMF660 Party Role Management API
- TMF642 Alarm Management API
- TMF554 Resource Catalog Management API
- TMF604 Resource Function Activation and Configuration API
- TMF683 Party Interaction Management API
- TMF635 Usage Management API
- TMF667 Document Management API
### Most popular APIs by CSP & supplier

<table>
<thead>
<tr>
<th>CSPs (blue)</th>
<th>Suppliers (orange)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Are downloading a wider variety of APIs than suppliers (longer tail)</td>
<td>Are focused on the top APIs</td>
</tr>
</tbody>
</table>

#### % of CSP and Supplier downloads since Jan-20

![Chart showing the comparison of CSP and Supplier downloads](chart.png)

- CSPs (blue) are downloading a wider variety of APIs than suppliers (longer tail).
- Suppliers (orange) are focused on the top APIs.
1. 24 APIs have more than 1000 downloads since Jan 2020 (9 have more than 2000 downloads)
2. 38 companies are each averaging at least 50 downloads per month in 2020
3. 26 companies have each had at least 100 unique users downloading APIs in 2020
Terminology & Scoring Algorithms
Scoring Algorithm

**Y axis: Intent**
- Score **Intent** points for each **Relevant API**
- A **Relevant API** is one which is relevant to the respondent’s product(s) / systems
- Score points for existing API conformance and near-term roadmap plan, fewer points for longer term plan...

**X axis: Maturity**
- Score **Maturity** points for each **Committed API**
- A **Committed API** is one which the respondent already conforms with or has plans to conform with in the future
- Most points for certification (if available), fewer points for conformance against older versions of the API, fewer points for ‘in development’

Scores for each respondent are expressed as a percentage of the maximum possible score for all of that respondent’s Relevant / Committed APIs
### Scoring Algorithm

<table>
<thead>
<tr>
<th>Response</th>
<th>Intent score</th>
<th>Maturity score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Latest version (N or N-1 Version) of this TM Forum API is certified in my commercial product today</td>
<td>4</td>
<td>10</td>
</tr>
<tr>
<td>Latest version (N or N-1 Version) of this TM Forum API is conformant but NOT certified in my commercial product</td>
<td>4</td>
<td>9</td>
</tr>
<tr>
<td>An Older version (N-2 or older) of this TM Forum API is certified in my commercial product today</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>An Older version (N-2 or older) of this TM Forum API is conformant but NOT certified in my commercial product</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>API will be TM Forum conformant / certified and available in my commercial product WITHIN 12 months</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>API will be TM Forum conformant / certified and is in the roadmap, but BEYOND 12 months</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>No plans for this API to be conformant or certified</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>This API is NOT relevant to my product</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

- Committed APIs are all Relevant APIs where the respondent has a roadmap to conform in the future (no matter what timescale)
- Maturity score is capped if certification is not available so that respondents can score maximum points for a “...conformant but NOT certified” response
Glossary of terms for compliance in the AAR survey

- Terms used in the responses for the survey
  - Conformant:
    - There is full correspondence between architecture specification and implementation.
    - All specified features are implemented in accordance with the specification and there are no features implemented that are not covered by the specification.
  - Certified
    - There is full correspondence between architecture specification and implementation.
    - All specified features are implemented in accordance with the specification and there are no features implemented that are not covered by the specification.
    - This is been reviewed, passed and a certificate received from TM Forum

- Other Terms that are commonly used but not used in the survey
  - Alignment:
    - Some or all the features in the architecture specification are implemented in accordance with the specification. But some more features are implemented that are not in accordance with it.
    - This is not seen been able to directly interoperate and would need significant development to receive TM Forum certification
    - This is not used in the survey as this level is below the level we are working towards
VAAR / CAAR response definitions

• Latest version (N or N-1 Version) of this TM Forum API is certified in my commercial product / System today
  — Your implementation of the current or immediately previous version of the API have passed TM forum certification process

• Latest version (N or N-1 Version) of this TM Forum API is conformant but NOT certified in my commercial product / System
  — Your implementation of the current or immediately previous version of the API fully conforms to the TM Forum intent and CTKs but not yet passed TM forum certification process

• An Older version (N-2 or older) of this TM Forum API is certified in my commercial product / System today
  — Your implementation of the older version (≥ two releases) of the API have passed TM forum certification process

• An Older version (N-2 or older) of this TM Forum API is conformant but NOT certified in my commercial product / System
  — Your implementation of the older version (≥ two releases) of the API fully conforms to the TM Forum intent and CTKs but not yet passed TM forum certification process

• API will be TM Forum conformant / certified and available in my commercial product / System WITHIN 12 months
  — Within 12 months of this survey it is your intent to make this API either conform or be certified to the TM forum certification process

• API will be TM Forum conformant / certified and is in the roadmap, but BEYOND 12 months
  — Beyond 12 months of this survey it is your intent to make this API either fully conform or be certified to the TM forum certification Process

• No plans for this API to be conformant or certified
  — You have this API but have no plans to move it to fully conform or certify against the TM Forum certification process

• This API is NOT relevant to my product
  — This API is not in your portfolio