Digitalization, why now?

Marius Kjeldahl, CTO
Digitalization, why now?

... because you want to win!
Evolution of software architectures:

- APIs / Platform as a Service (PaaS)
- Software as a Service (SaaS)
- WANs and Internet
- Networked computers and database servers
- Thick client software / Windows
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We’ve seen these battles before, open APIs won!

The battle of the portals

Why Microsoft, Google and Yahoo! are fighting over AOL

As more and more of the world’s business is conducted online, a battle royal is taking shape. The struggle is to decide which company will become the primary gateway to the internet. Three firms, Google, Microsoft and Yahoo!, are aiming to establish the world’s leading

AIM is officially dead

Jordan Crook @jordancrook / 11 months ago

Say “goodbye” (in the AOL voice, if possible) to AOL Instant Messenger.

Back in October, Oath (the combined entity of Yahoo and AOL) announced that it would shutter AIM on December 15. Yes, today is the day.
Who won?
But....!

Keywords: Graph API, AWS, Azure, Google Cloud… Nobody is betting against open API access any more. Possibly except Apple (monopoly accusations pending..).
On the other hand...

We still have natural monopolies that seem to have moved slowly. Banking had to wait for EU regulations or actual competition before doing much. Yes, that goes for Vipps as well, who did virtually nothing until it became apparent that they would outcompeted by the tech giants if they did nothing. That’s interesting, but the most interesting is Bitcoin / cryptocurrencies. How did they “win”? Novel new technology + open access APIs!
APIs are winning!

2. What is preventing you making greater use of the cloud?

<table>
<thead>
<tr>
<th></th>
<th>Data security</th>
<th>Over-reliance on third party</th>
<th>Infrastructure security</th>
<th>Compliance issues</th>
<th>Vendor lock-in</th>
<th>Latency and performance issues</th>
</tr>
</thead>
<tbody>
<tr>
<td>No mission-critical apps in cloud (72)</td>
<td>69%</td>
<td>38%</td>
<td>32%</td>
<td>16%</td>
<td>11%</td>
<td>10%</td>
</tr>
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<td>Mission-critical apps in cloud (57)</td>
<td>54%</td>
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<td>23%</td>
<td>23%</td>
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</tr>
</tbody>
</table>

Base: 129 IT professionals making some use of cloud.

Even if it’s from 2013, it’s interesting data

Apart from that, we would agree that SaaS goes into the opposite direction of a building block for open innovation. SaaS has quite strong lock-in effects: it “owns” the customer data—and its code is closed. That means it’s hard to build something on top of a SaaS provider.

And that was true, until APIs came to the market...

Source: https://medium.com/point-nine-news/open-source-is-losing-saas-is-leading-apis-will-win-663648d9c8d0

APIs will win...

Again, comparing APIs with SaaS might sound counter-intuitive. In practice, most APIs are delivered in the form of a SaaS. But I think there are enough differences between both models to make a distinction.

Some of those differences, in my opinion, allow APIs to solve the key challenges of SaaS:

APIs are building blocks of software by definition

Compared with SaaS, by nature, they are platforms that allow development on top of them.

It brings back the nature of “building block” that open source has and SaaS lost.

API’s businesses focus on solving “smaller” problems but hard to crack

For that reason, there are higher chances that customers will trust an API provider for their core infrastructure.

“If this is the only thing those guys do, there’s high chances they will do it better than myself”.

Obviously, it’s still very early to tell if APIs will end up eating SaaS or just be a natural extension of it. I’m very bullish that the next building blocks of the software will be in the form of APIs, but that’s a topic for another post…

Source: https://medium.com/point-nine-news/open-source-is-losing-saas-is-leading-apis-will-win-663648d9c8d0
Document Driven / SaaS vs API Driven:

- Collects data (input) from legacy systems
- Data flow is one way
- Outputs mostly human readable data (documents, PDFs, Word, pictures)
- Mostly HUMAN feedback loops!

- All systems provide APIs for input and output (two-way communication / data flow)
- Typically supports various 3rd party systems for storage (data lakes etc)
- "Any" leg (data transport) can be digitized / automated (humans or robots)
- Humans are optional
APIs everywhere!
Automated Well Design
Norway can Digitize the Oil Industry

The Oil and Gas Industry is weaved into the fabric of the Norwegian society. It is Norway’s largest industry and it employs highly qualified people. Our collective oil knowledge and skills is a valuable asset.

Norway has a world class oil and gas education system, a financial sector that understands and supports the industry and laws that regulates it - for the benefit of the people.

The Oil and Gas industry is Norway’s competitive advantage and it can be improved by digitalization. No other country is better positioned to build strong clusters of oil software companies that can make the tools and software necessary to digitize the industry successfully.
Oliasoft Integrates Seamlessly in a Digitalized Environment

Automated well planning enables autonomous drilling

Open API enables machine-to-machine communication with any other application. Relevant systems to integrate is reservoir and geomodels, warehouse data, accounting and contract systems, time & cost estimation tools etc.

Oliasoft enables automated, rule based well construction calculations in real time and can output digital operations procedures for use by rig robotics

All calculations will be according to company specific requirements and standards of choice (NORSOK, API, ISO, BSEE, RRC)

www.oliasoft.com/developers
Barrier Schematics Demo

Live and automated based on well design