

Fully Modular Architectures with Micro Frontends and Kubernetes

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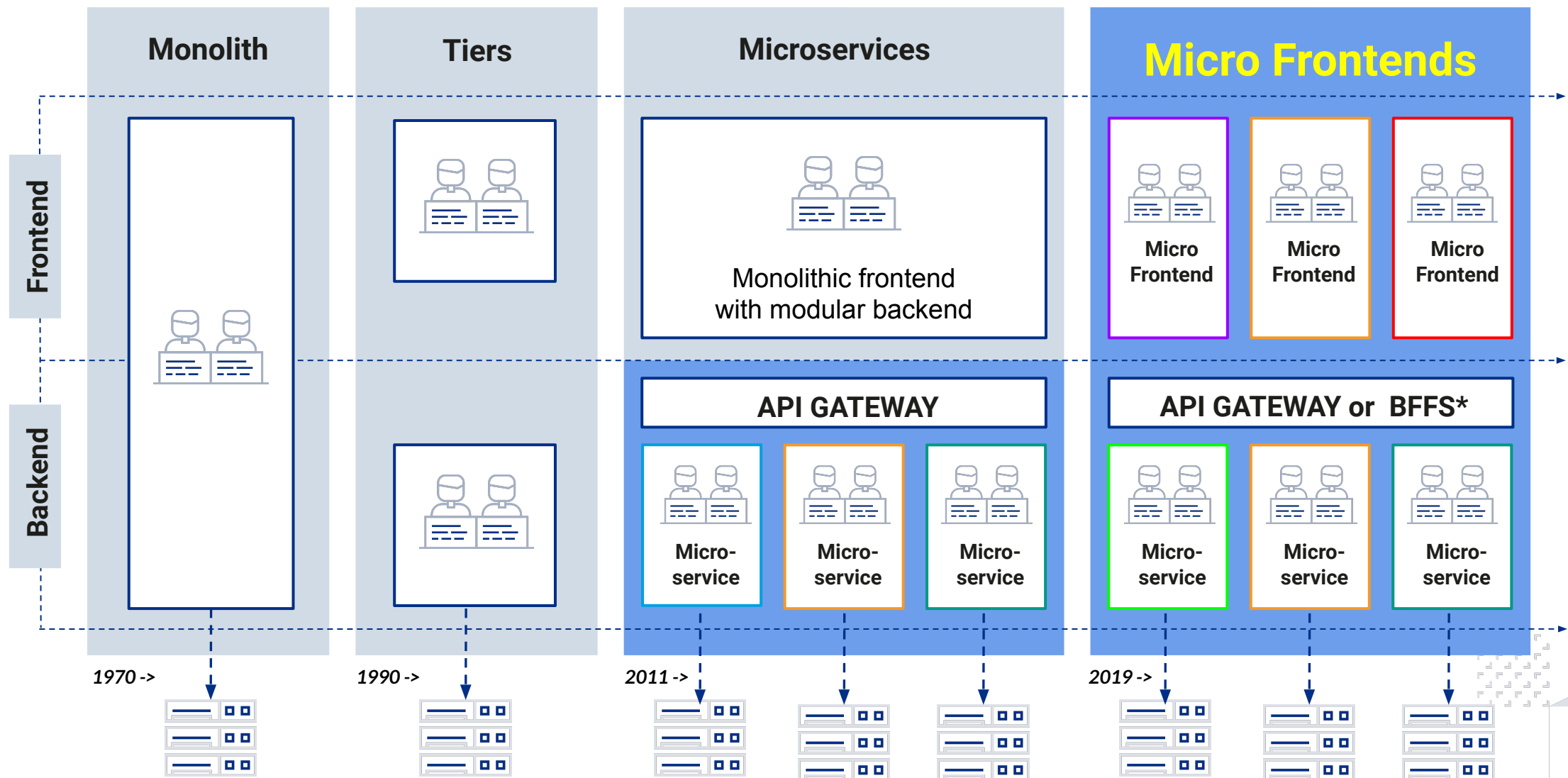
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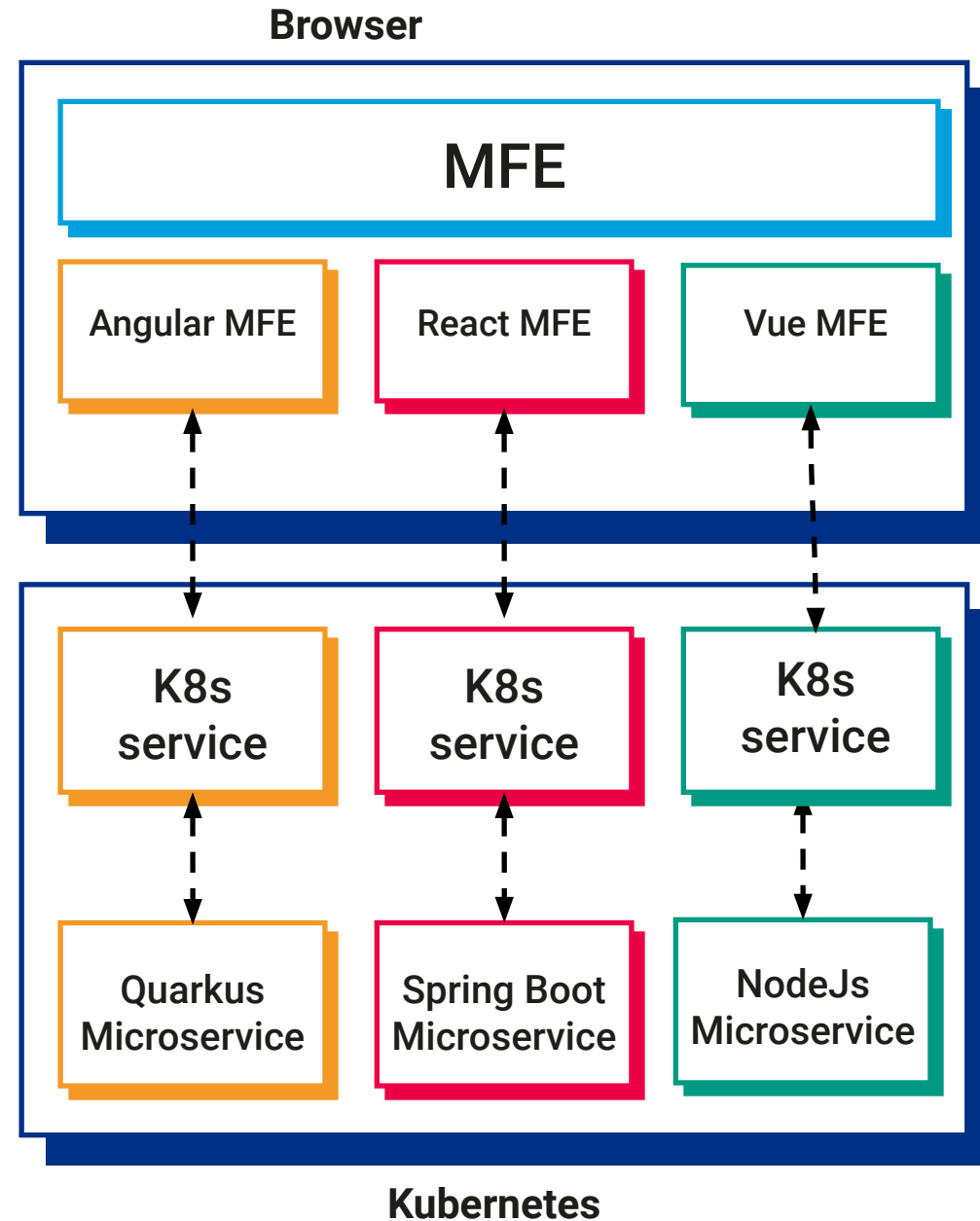
23-24-25 Marzo, 2021



The Evolution of Modularity



Fully Modular Architecture on Kubernetes



What are Micro Frontends?

- Smaller, loosely coupled, and self contained code bases
- Independently testable and deployable
- Composed into a final application for presentation
- Built and delivered using standard technologies
 - Single page apps



Who Uses Micro Frontends

**As of 2020,
24% of developers
have used micro
frontends.**

(2020 State of Microservices Report)

 Microsoft

 Spotify®

 HelloFRESH

 IKEA®

 Skyscanner

 New Relic.

 zalando

 fiverr®



 OpenTable®



 LEROY MERLIN



 SAP®

 smapiot

 illimity

 AMERICAN EXPRESS

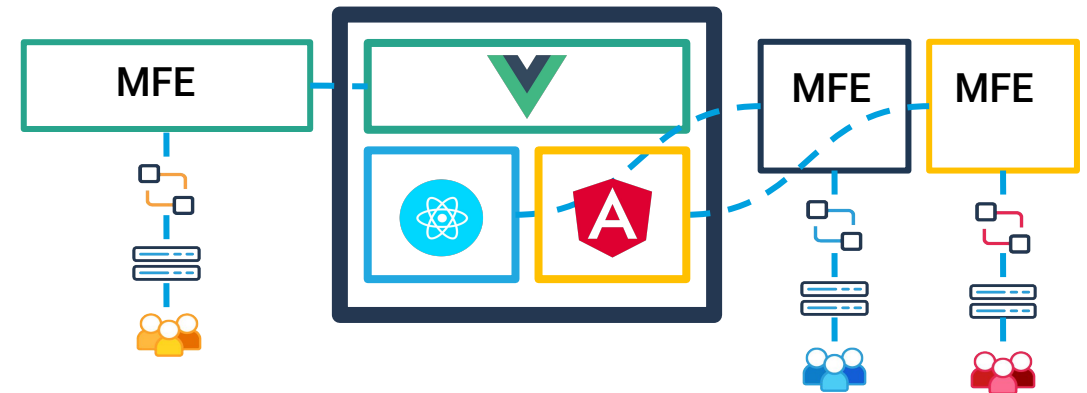


Benefits

Micro Frontends

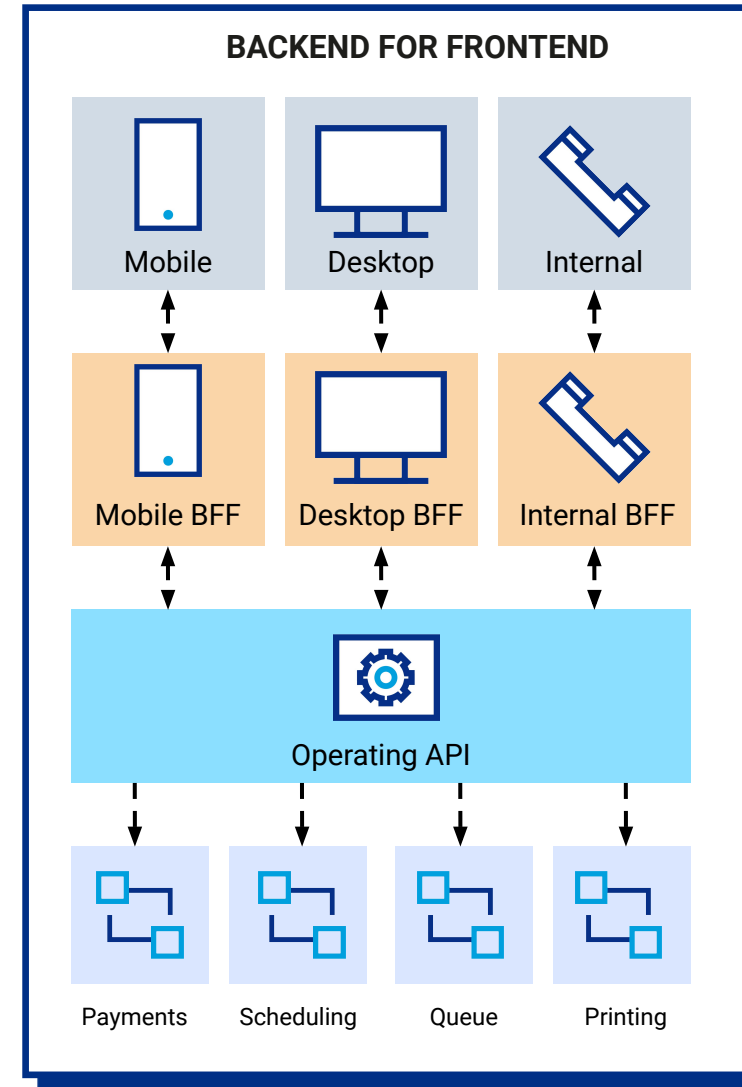
Your teams can:

- Update iteratively and release independently.
- Use their preferred frontend tools.
- Keep codebases manageable and isolate failures.
- Reuse components across multiple projects to standardize UX.



Backend for Frontend Pattern and MFEs

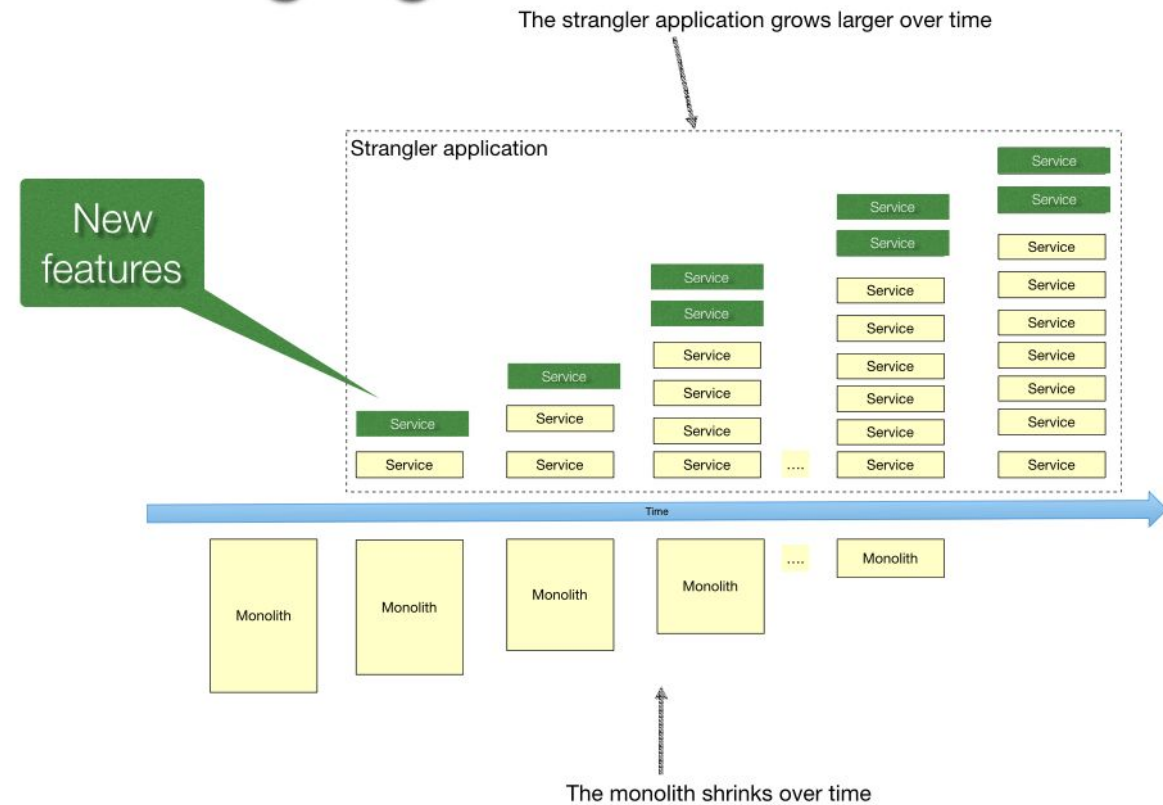
- Backend for Frontend (BFF) advocates creating dedicated services based on type of user experience
 - Mobile vs desktop vs internal user for example
- Create very small, lightweight stateless services
 - Deliver data to dedicated user based on experience type



Strangler Pattern and Modernizing Legacy



Strangling the monolith



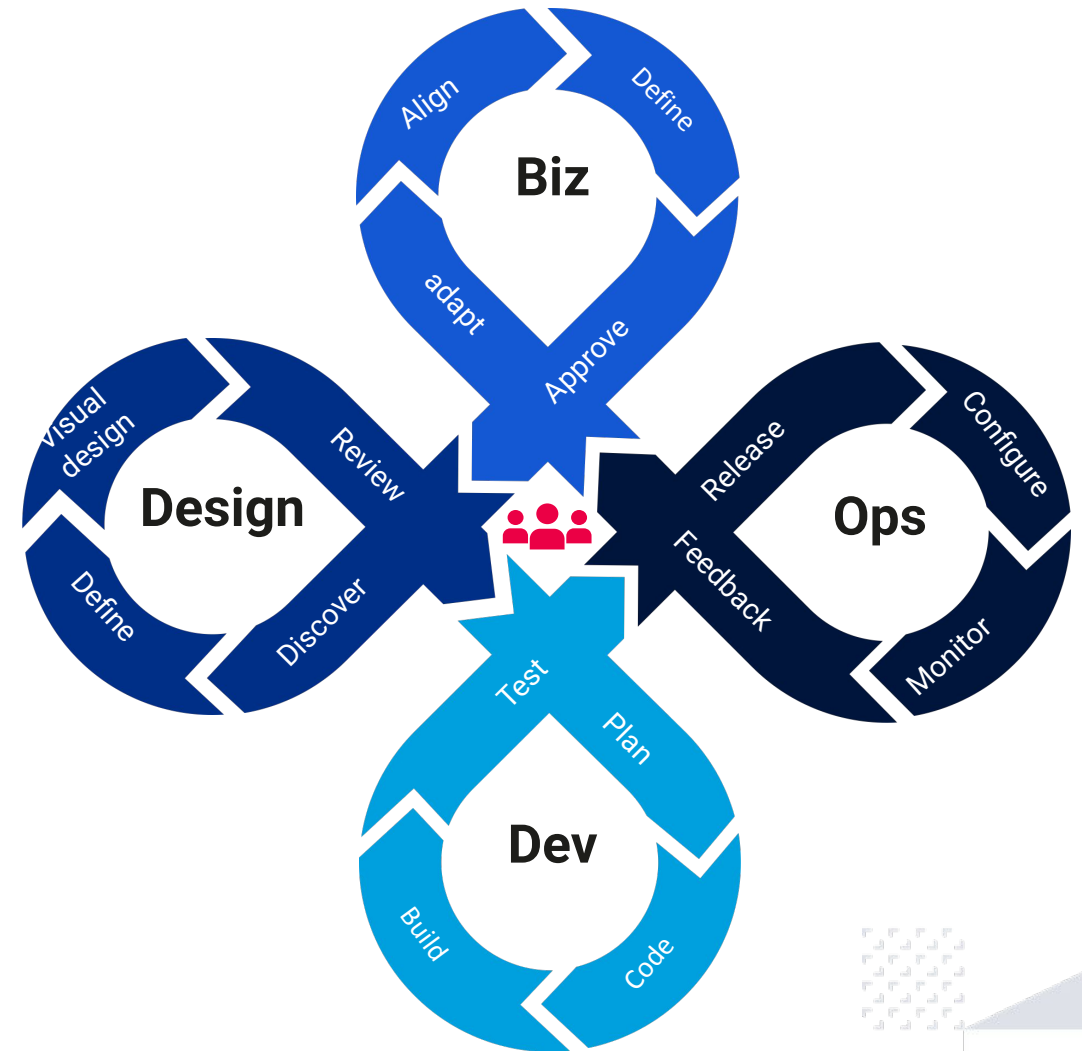
Templating and Standardization

- Micro frontends and microservices are ripe for templating
 - Common patterns
 - Enterprise level standards
- Create runnable functionality out of the box
 - Developer ready
 - Built to be customized
- Encode your rules, style and infrastructure by default

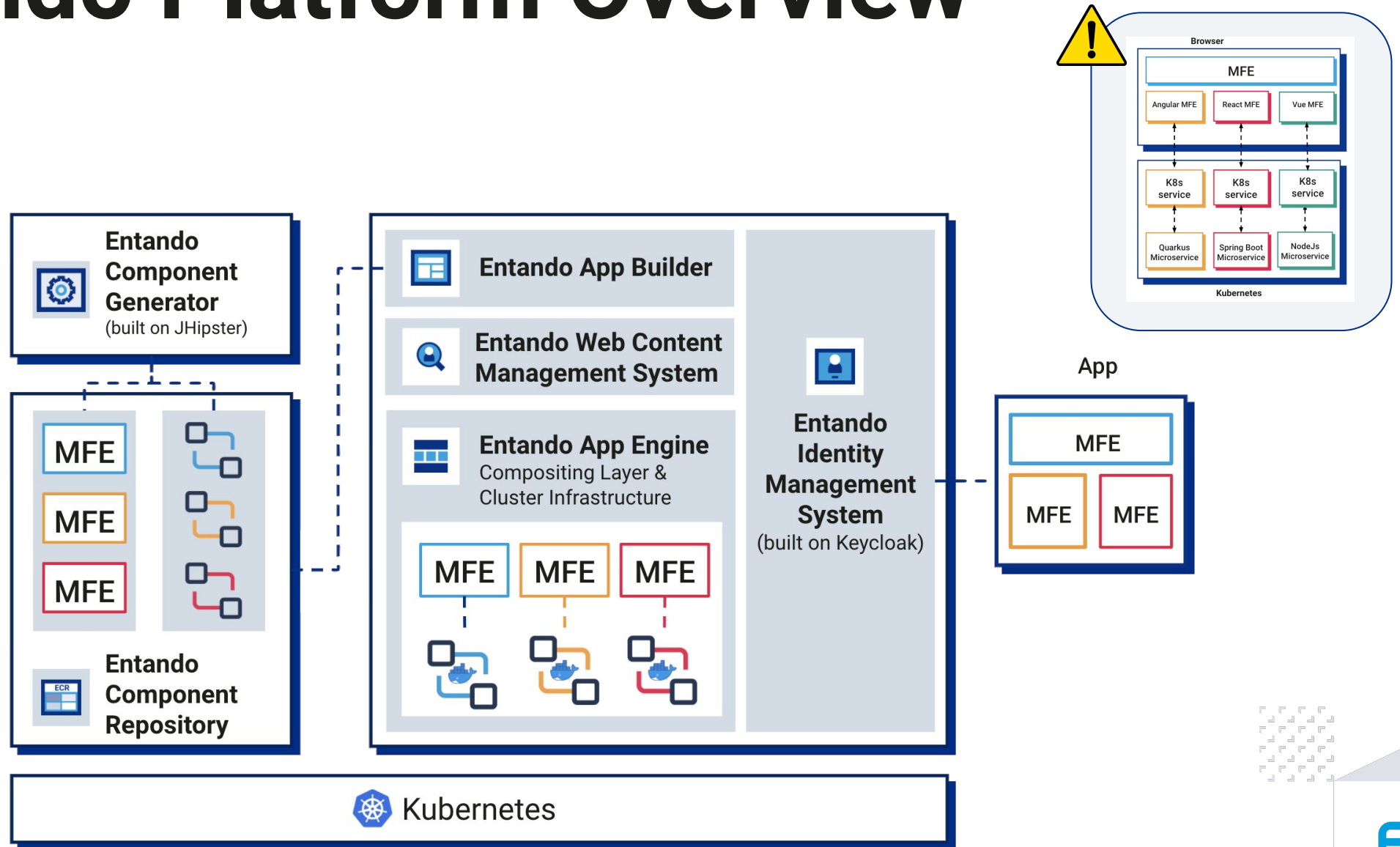


Automate

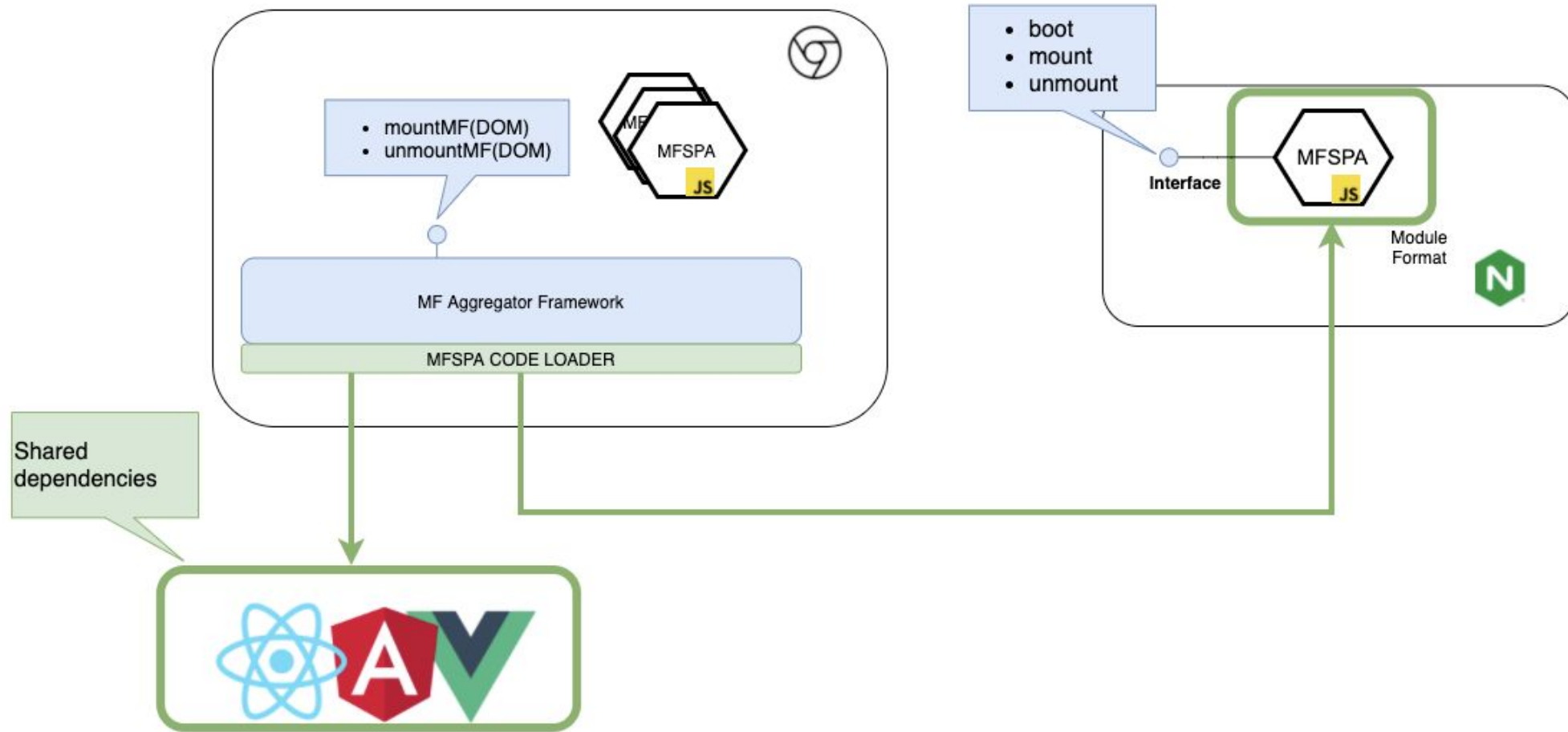
- Modernize the entire enterprise
- Focus on full lifecycle automation
 - Deliver continuously
 - Test automation is key
 - Test at multiple levels
 - Unit, smoke, integration
 - Focus on contracts



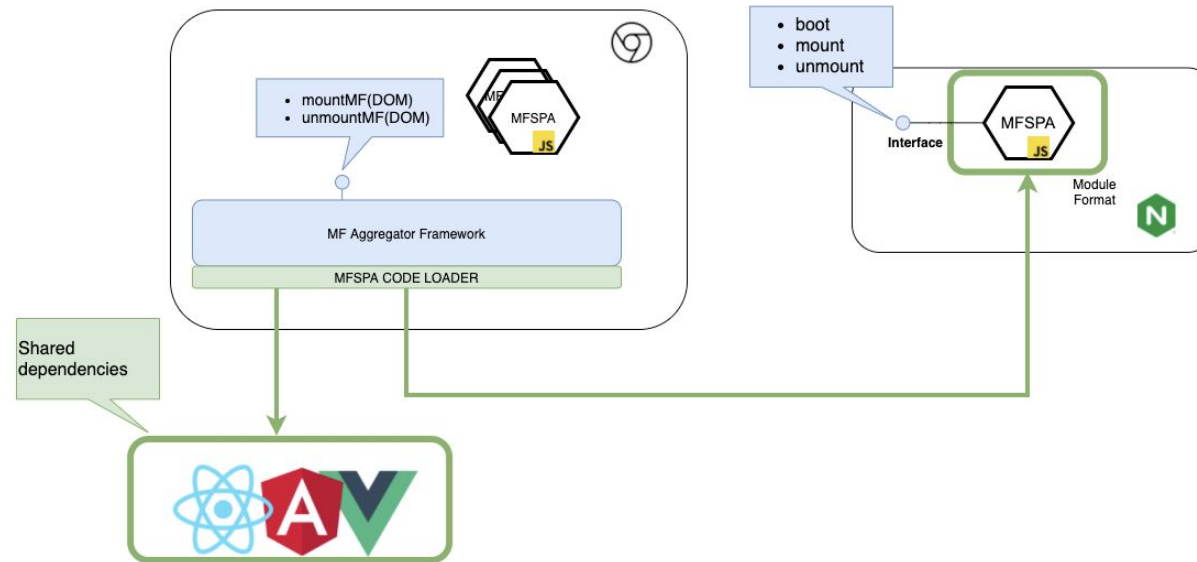
Entando Platform Overview



MF Runtime Aggregator Architecture



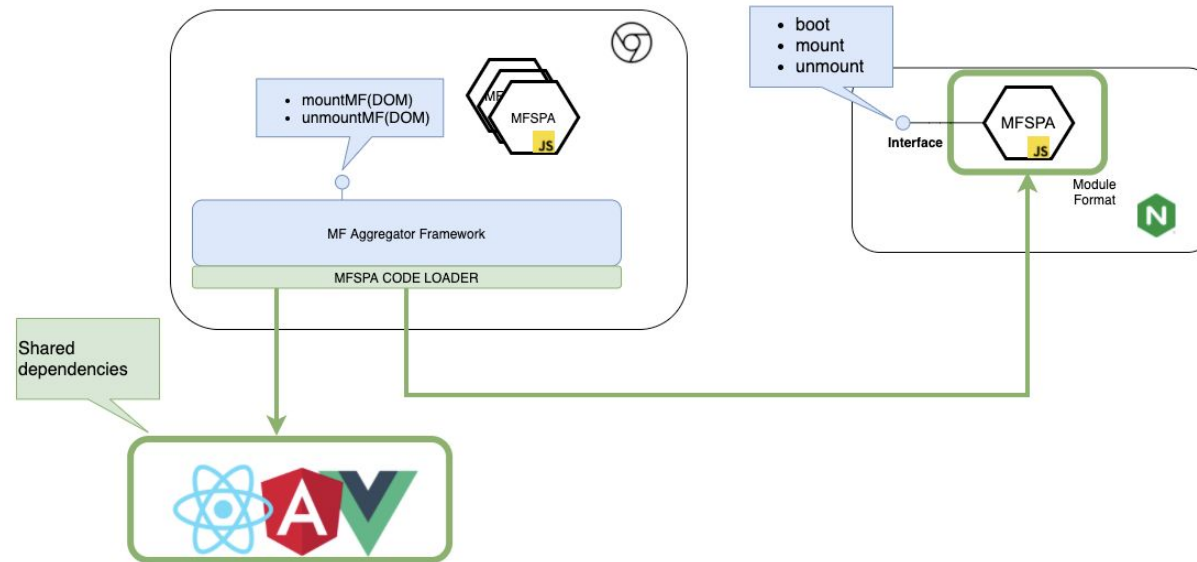
MF Web Component Entando Widget



```
<script src="@wp.resourceURL />bundle/static/js/vendor.js"></script>
<script src="@wp.resourceURL />bundle/static/js/main.js"></script>
<script src="@wp.resourceURL />bundle/static/js/runtime.js"></script>

<conference-table service-url="/bff/0-0-1-snapshot/api"></conference-table>
```

MF SSPA Entando Widget



```
System.import( moduleId: 'single-spa').then(function (singleSpa : Module ) {  
  System.import( moduleId: 'codemotion-card-widget').then(parcel => {  
    const parcelProps = {domElement, url: '/germanogiudici/codemotion-bff/0-0-1-snapshot/api/metrics'};  
    singleSpa.mountRootParcel(parcel, parcelProps);  
  })  
  singleSpa.start();  
})
```


THANK YOU



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