

7 maggio 2022

#GlobalAzureTorino



What are Minimal API

```
var builder = WebApplication.CreateBuilder(args);  
  
var app = builder.Build();  
app.MapGet("/", () => "Hello World!");  
  
app.Run();
```

No API is ever that simple!

Minimal API marries DDD

Alberto Acerbis



alberto.acerbis@intre.it



I have already seen this code

```
var express = require('express');  
var app = express();  
  
app.get('/', function(req, res) {  
  res.send('hello world');  
});
```

Minimal vs MVC



How deep is the rabbit hole?

Minimal != Simple

- No support for content negotiation. Just JSON
- No native support for API versioning
- No support for validation
 - But we have FluentValidation
- No enforcement about project structure
 - and that is good!

We Like to Brew Beer

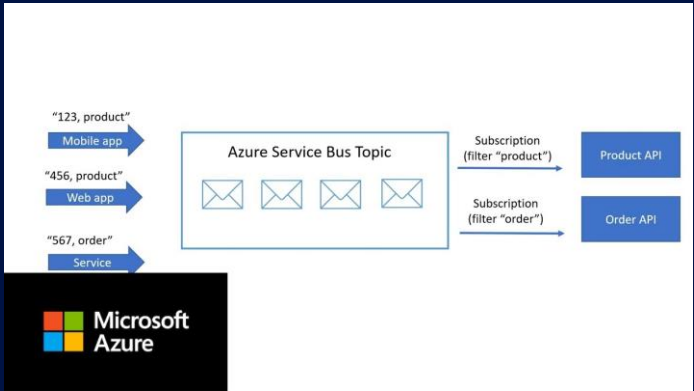
Suppliers



Production



Pubs

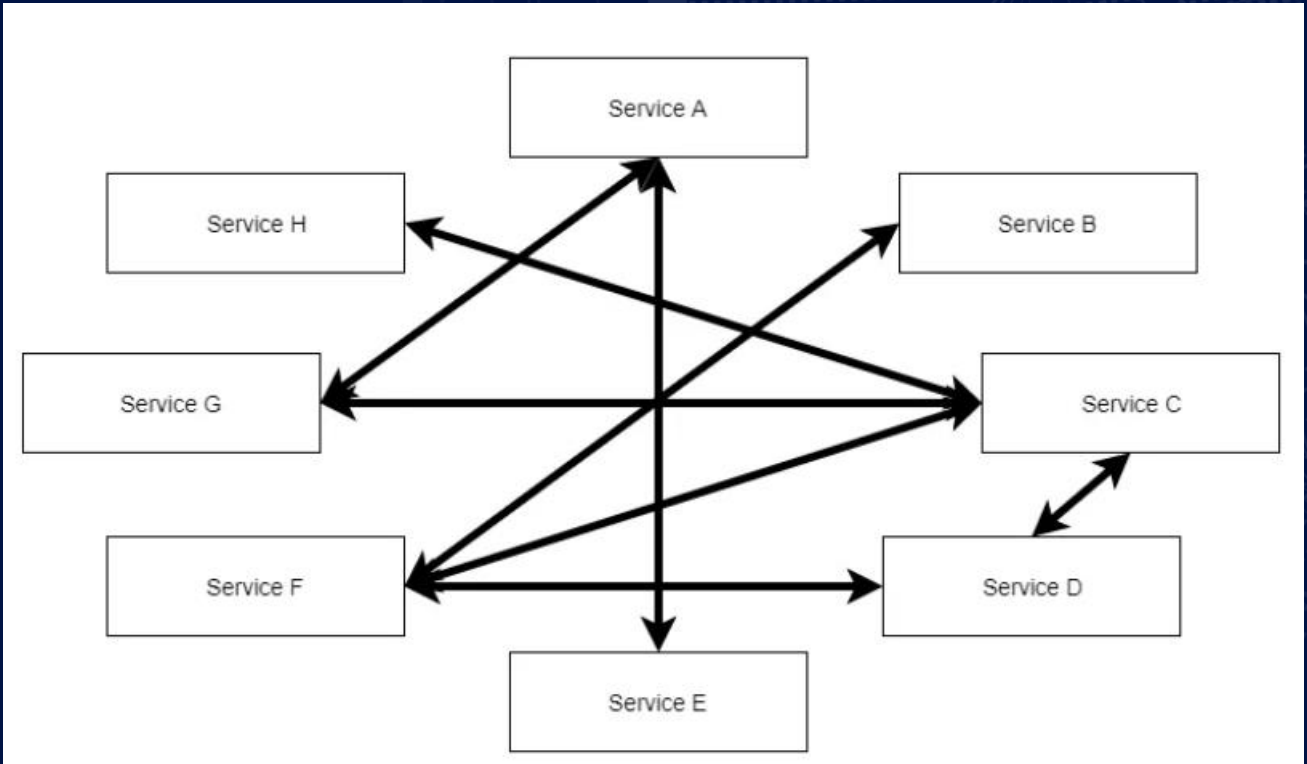


Talk is Cheap ... Show me the code



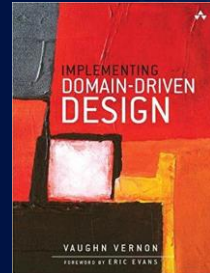
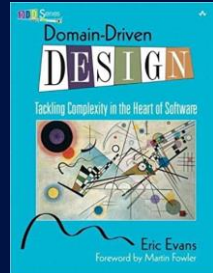
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The Big Ball of Mud



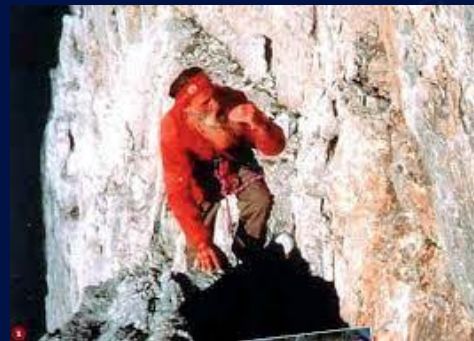
The problem is not «The Big Ball» ... the problem is «Mud»

DDD – The Silver Bullet?



Tackling complexity in the heart of software

E.Evans – V.Vernon

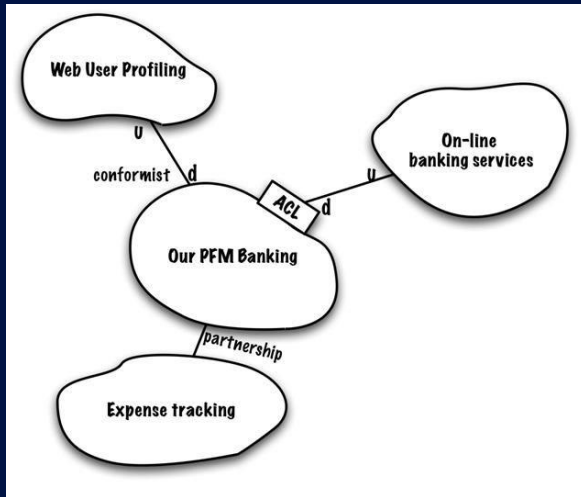


Cercare il facile nel difficile

Bruno Detassis

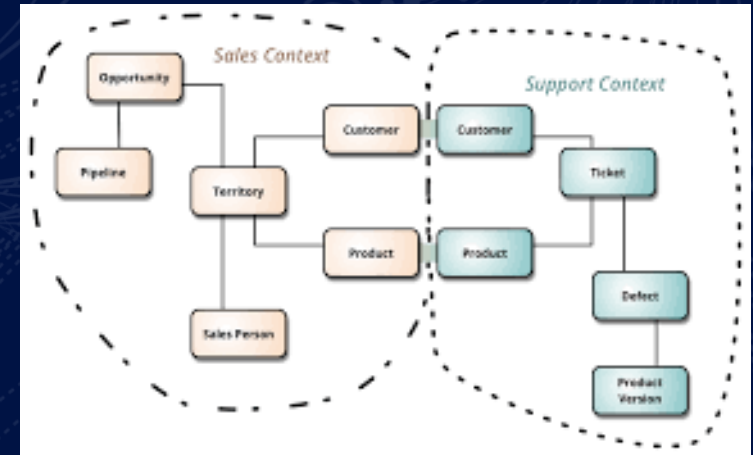
DDD – Strategic Patterns

Context Mapping



<https://www.infoq.com/articles/ddd-contextmapping/>

Bounded Context



<https://martinfowler.com/bliki/BoundedContext.html>

Ubiquitous Language



<https://blog.carbonfive.com/ubiquitous-language-the-joy-of-naming/>

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Microservices ... What?



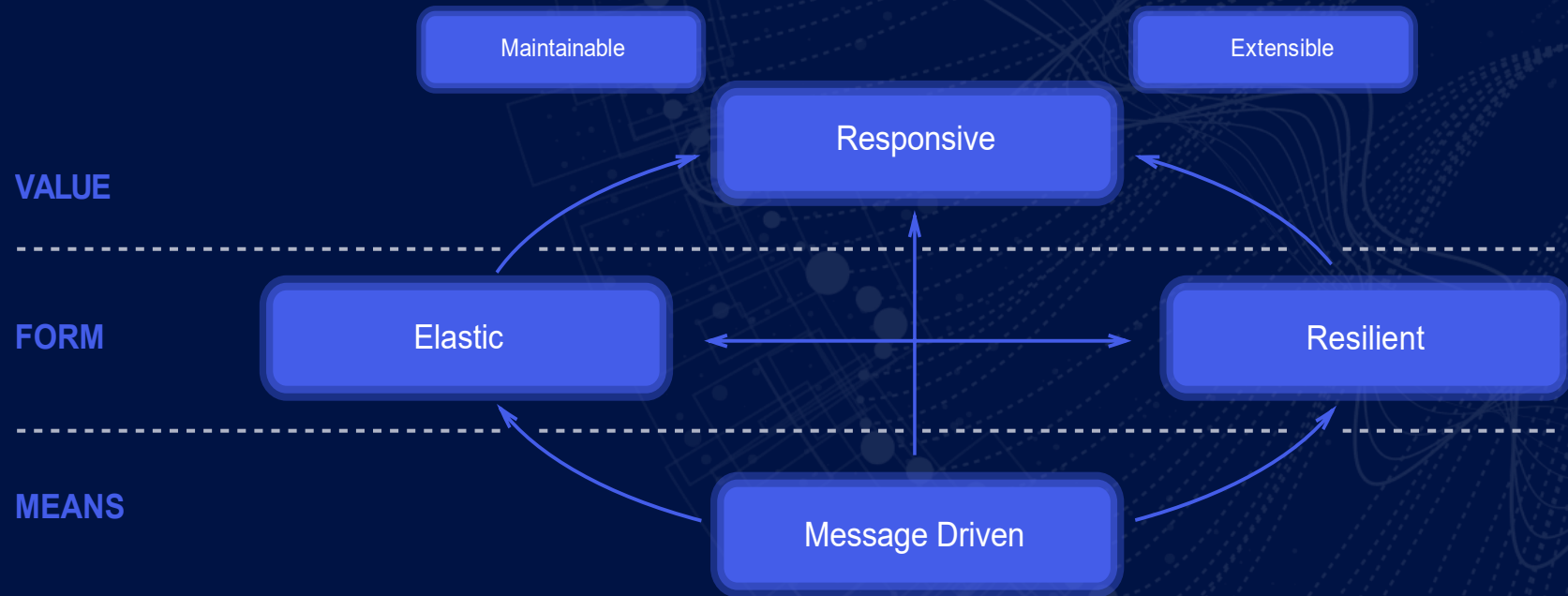
Microservice & Bounded Context

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Feature	Bouded Context	Microservice	Compatibility
Organized around Business Capabilities	È implicitamente inteso nel concetto stesso di Ubiquitous Language, che è il pattern principale per identificare un Bounded Context	Teams Cross-Funzionali specifici per una funzionalità di business	Perfetta!
Decentralized Governance	Un modello condiviso per ogni scopo	Vengono favorite/incentivate le scelte locali, che devono essere indipendenti.	Perfetta!
Decentralized Data Management	La persistenza privata è fondamentale per la consistenza del linguaggio, ma soprattutto necessaria per l'evoluzione sicura e indipendente del modello	Ogni microservizio deve persistere i propri dati in un database privato! Pena l'impossibilità di evolvere autonomamente dagli altri	Perfetta!
Evolutionary Design	Ogni modello può, e deve, evolvere indipendente dagli altri	E' una key feature	Perfetta!
Smart endpoints and dumb pipes	Raccomandato come modello strategico	Key feature. SOA docet!	Fattibile
Language Consistency	Ubiquitous Language! Obbligatorio!	Implicito e raccomandato	Nessun problema
Componentization via Services	Context Map	Key feature	Nessun problema
Products not Projects	Raccomandato per la conoscenza approfondita del modello	Key feature	Nessun problema
Design for Failure	DDD incentiva l'evoluzione continua	Key feature	Nessun problema

The Reactive Manifesto

1. Jones Boner, Dave Farley, Roland Kuhn, Martin Thompson – 16.01.2014
2. The absolute, most important thing is it to be responsive.
This means that a reactive system needs to remain responsive event when a failure occurs.

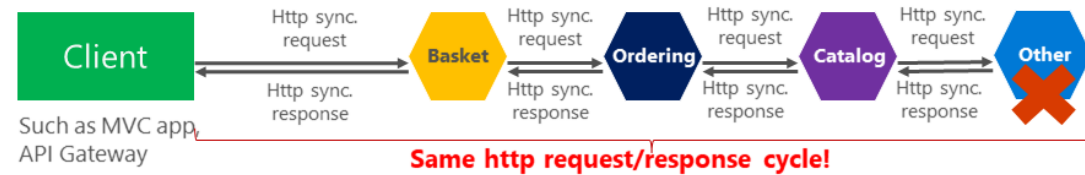


Communication in a microservice architecture

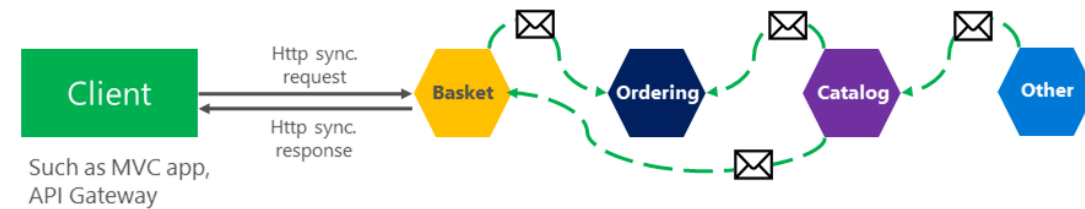
Synchronous vs. async communication across microservices

Anti-pattern

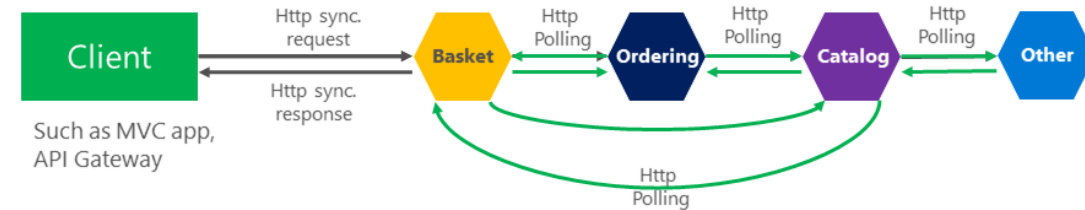
Synchronous
all request/response cycle



Asynchronous
Comm. across internal microservices
(EventBus: like **AMQP**)



"Asynchronous"
Comm. across internal microservices
(Polling: **Http**)



<https://docs.microsoft.com/en-us/dotnet/architecture/microservices/architect-microservice-container-applications/communication-in-microservice-architecture>

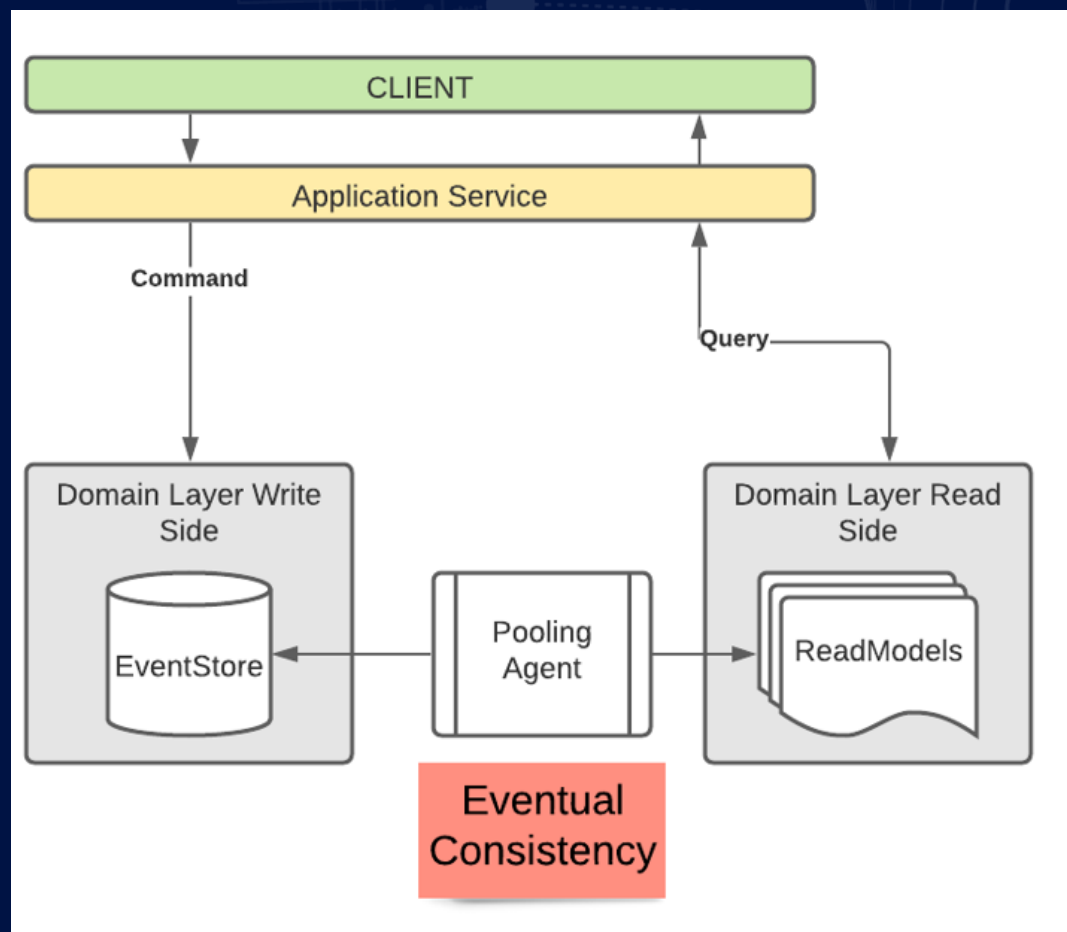
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CQRS – Eventual Consistency



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Minimal API marries DDD



alberto.acerbis@intre.it



[@aacerbis](https://twitter.com/aacerbis)



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<https://github.com/brewup>



<https://github.com/Ace68/GlobalAzure2022>



<https://github.com/cqrs-muflone>