Service Mesh for Java Developers

AMSTERDAM JUG, NETHERLANDS, 2023

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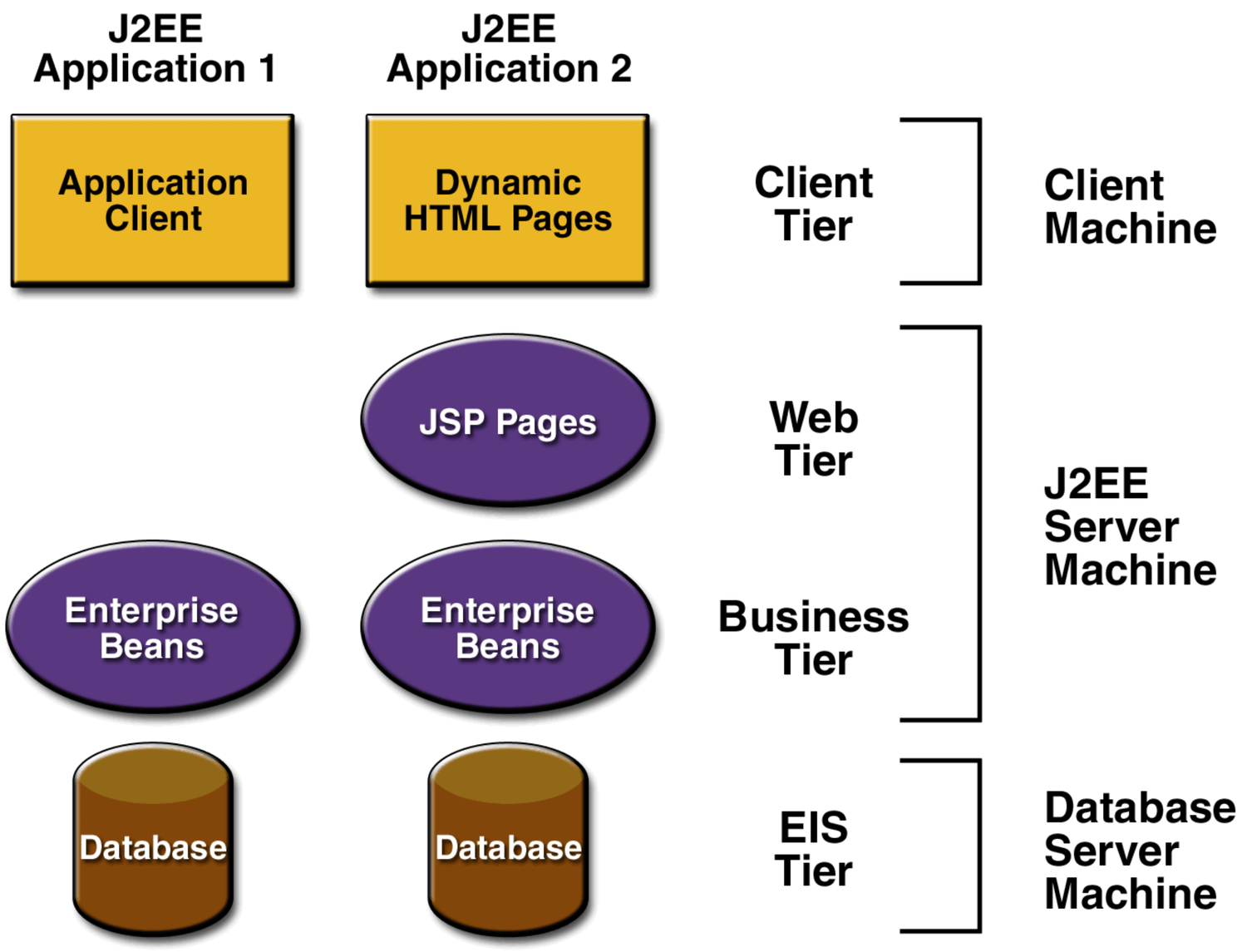
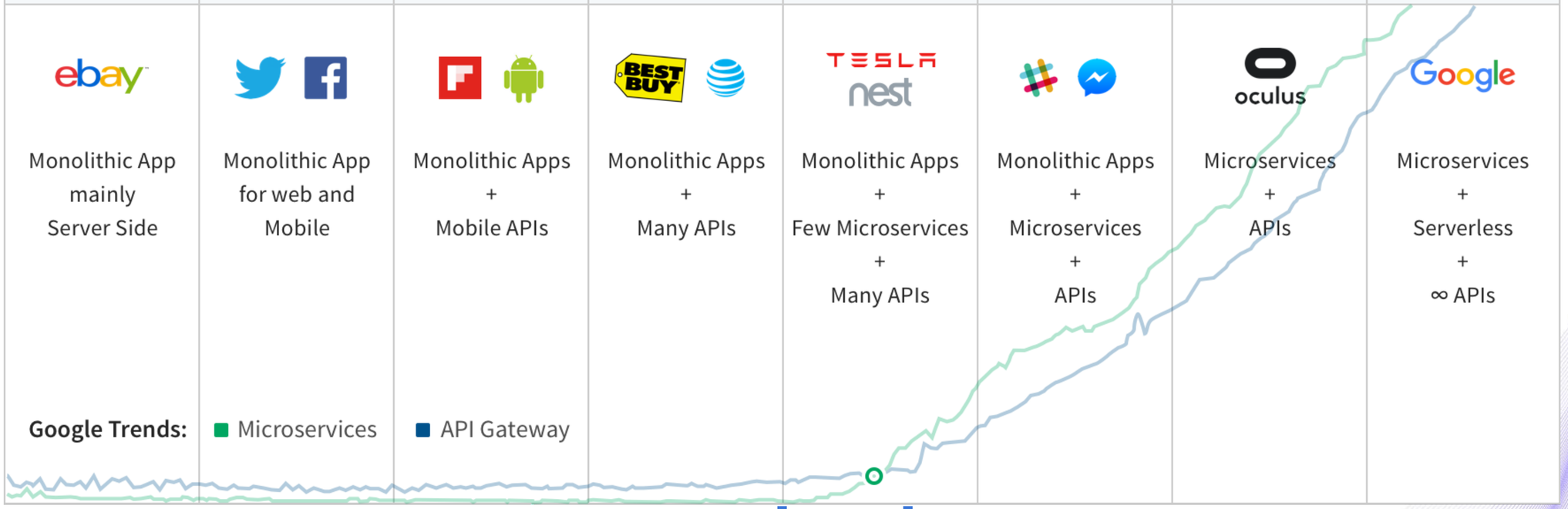
IT USED TO BE SO SIMPLE...


J2EE Application 1
J2EE Application 2
Application Client
Dynamic HTML Pages
Client Tier
Client Machine
JSP Pages
Web Tier
J2EE Server Machine
Enterprise Beans
Enterprise Beans
Business Tier
Database
Database
EIS Tier
Database Server Machine

BEFORE	2008	2010	2012	2014	**2016**	2018	2020+
Web-Only	**iPhone**	**iPad Android**	**Corporate Platforms**	**IoT**	**Bots & Messaging**	**AR, VR**	**AI**
Monolithic App mainly Server Side	Monolithic App for web and Mobile	Monolithic Apps + Mobile APIs	Monolithic Apps + Many APIs	Monolithic Apps + Few Microservices + Many APIs	Monolithic Apps + Microservices + APIs	Microservices + APIs	Microservices + Serverless + ∞ APIs
Google Trends:	■ Microservices	■ API Gateway					




REFACTORING TO
MICROSERVICES

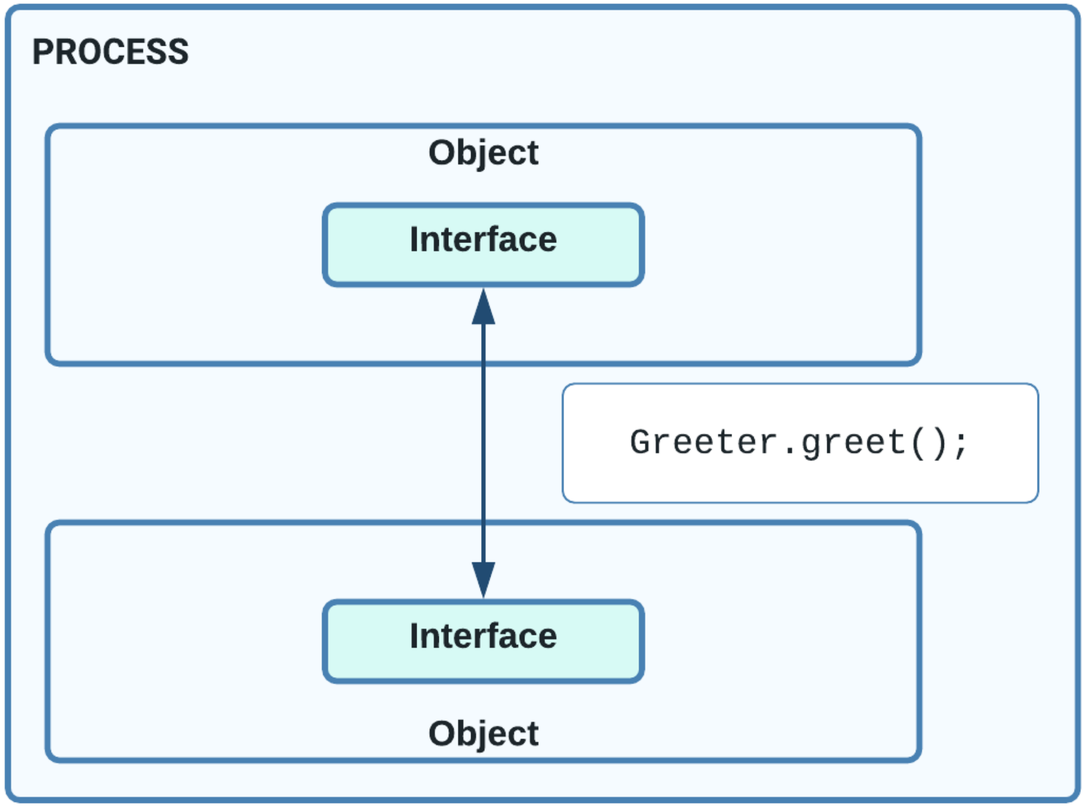
Viktor

GAMOV

Principal Developer Advocate

@gamussa | @kumamesh | @thekonginc

Network is a Computer



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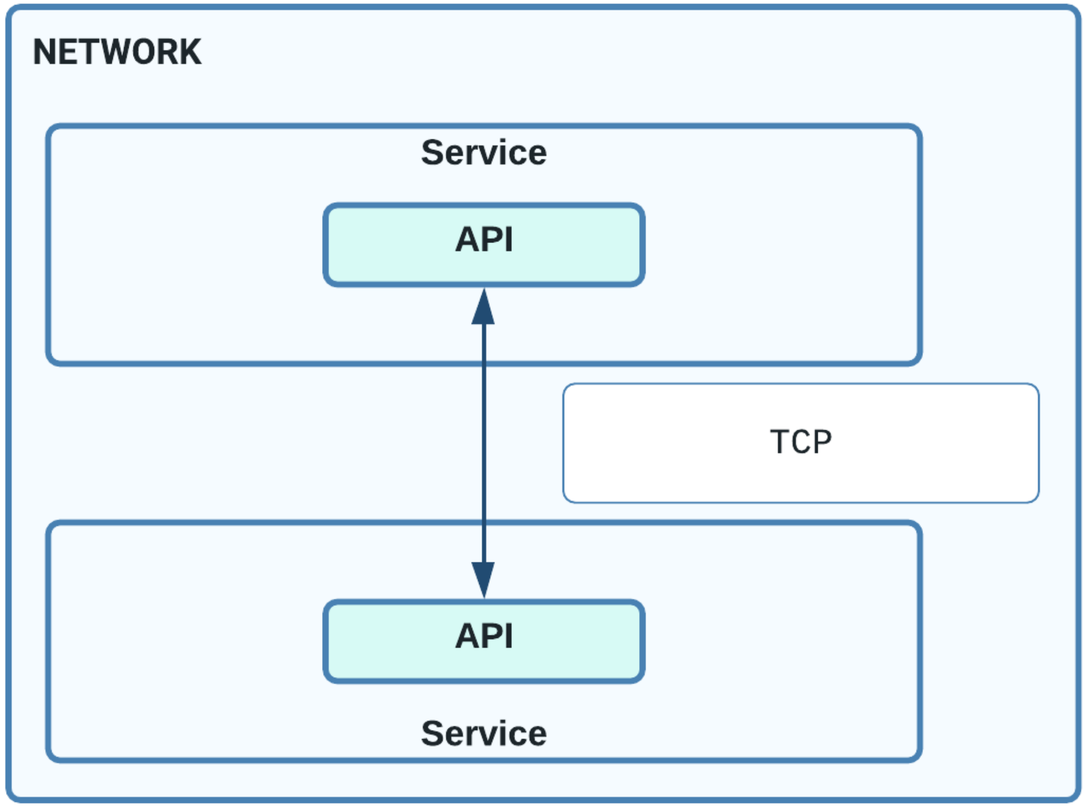
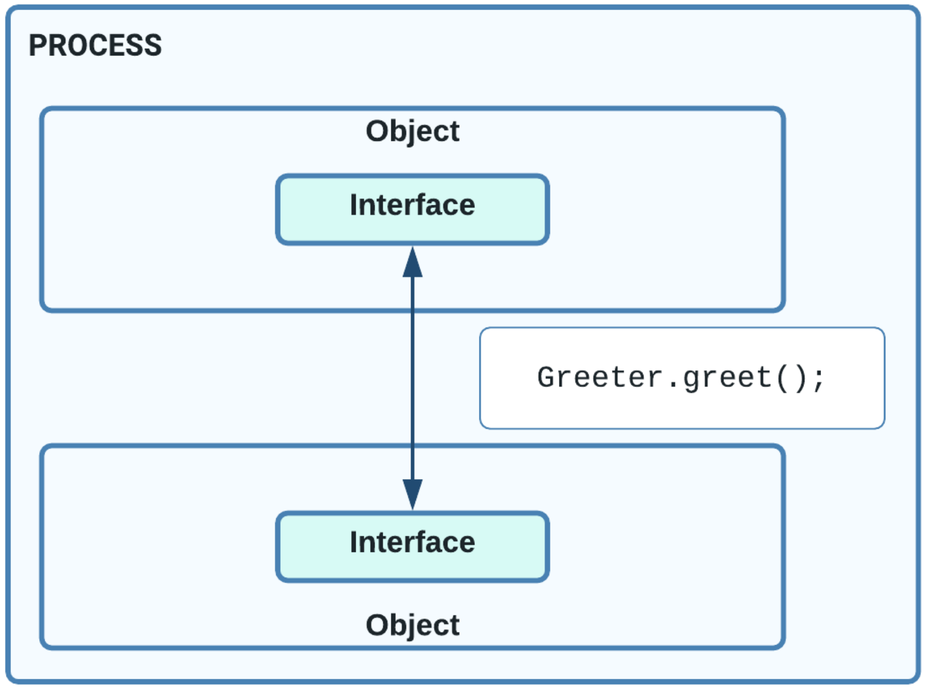
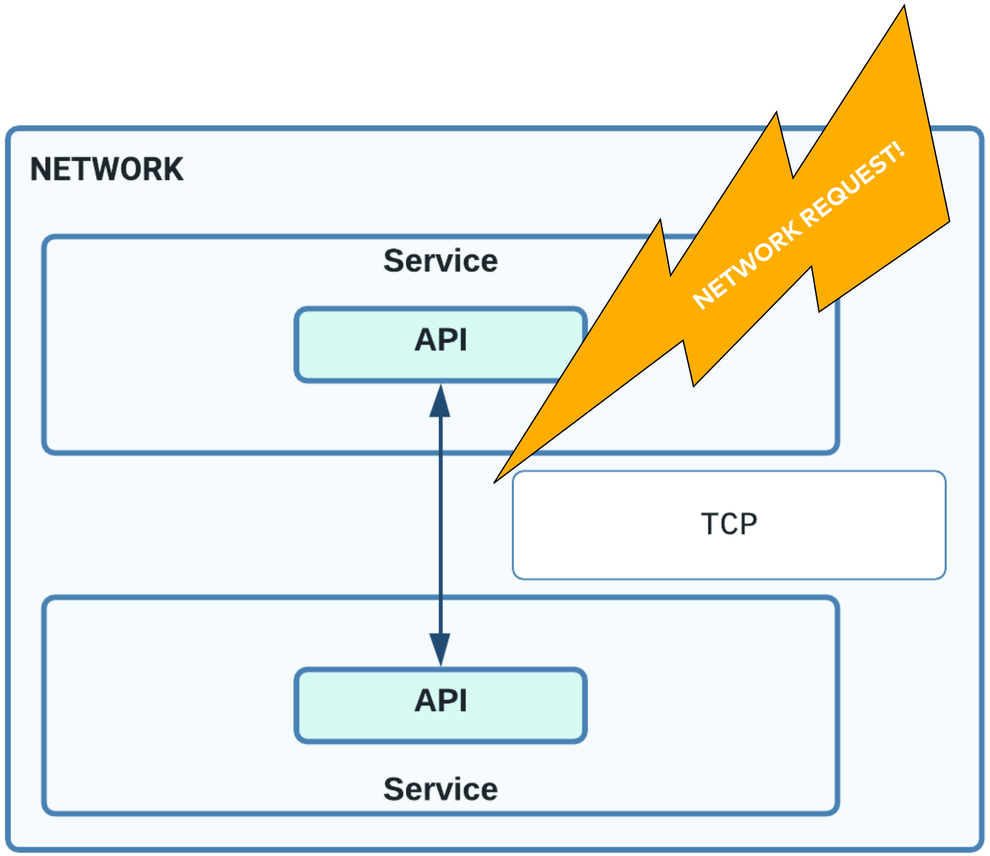
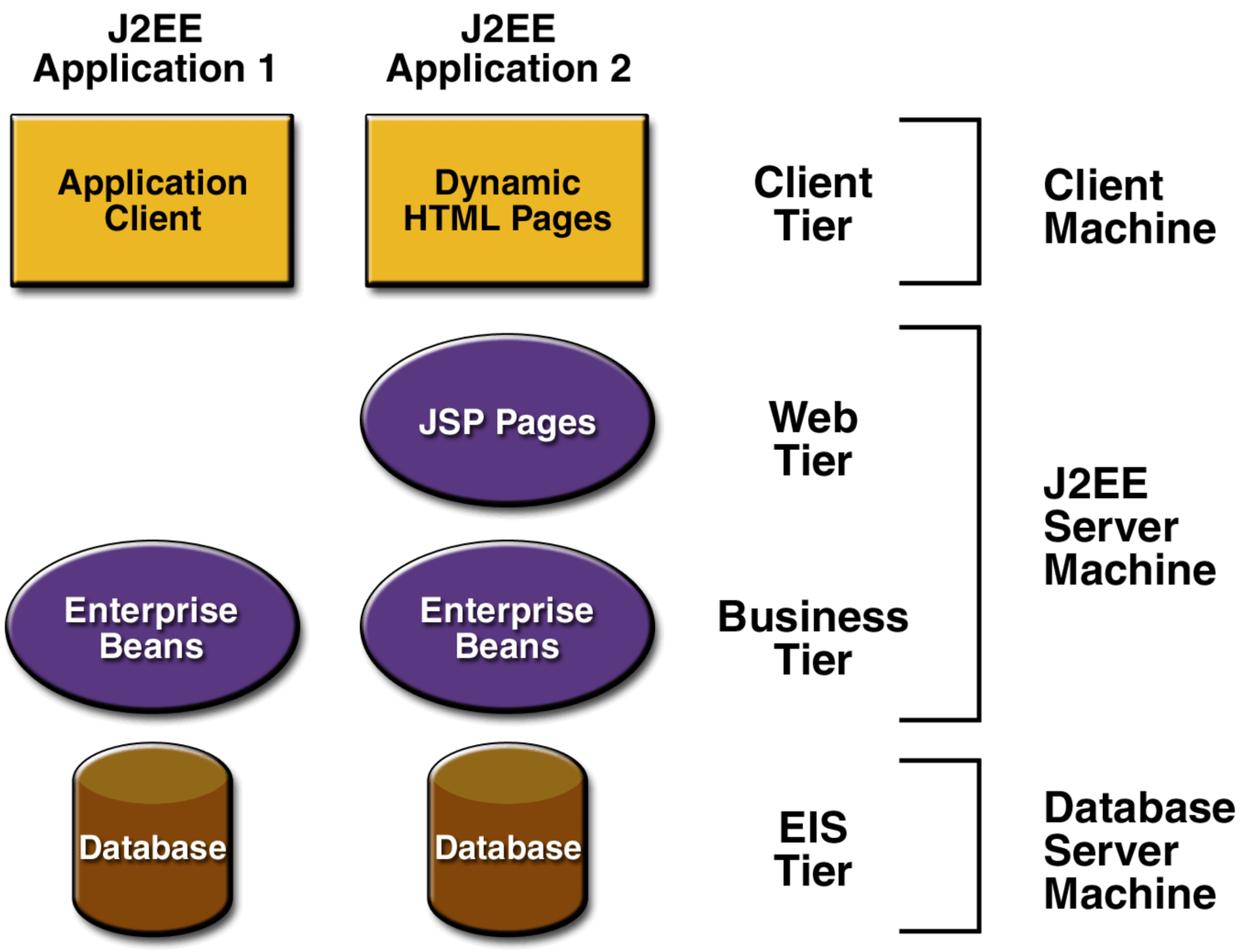


FROM CPU TO NETWORK



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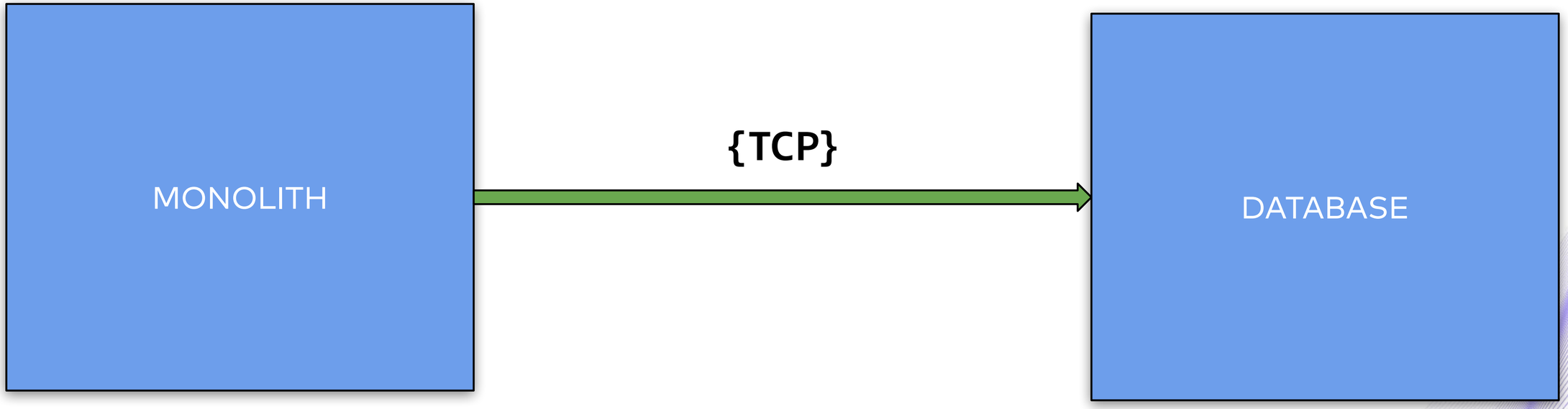
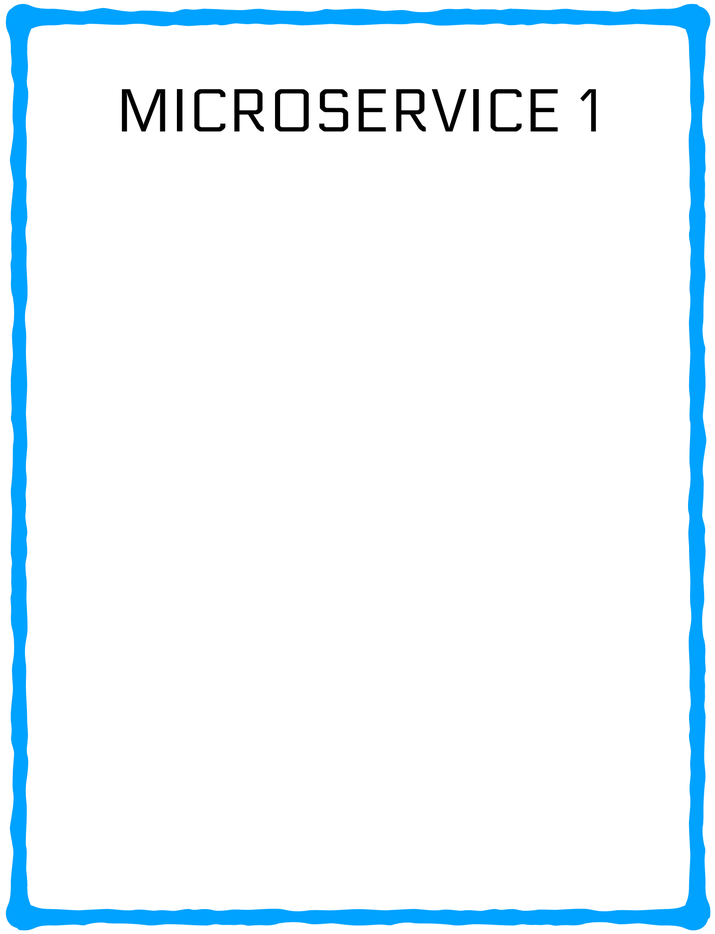

MONOLITH
{TCP}
DATABASE

KNOWN NETWORK PROBLEMS

ENCRYPTION	IDENTITY	TRAFFIC ACL
ROUTING	VERSIONING	DEPLOYMENTS
OBSERVABILITY	LOGGING	TRACING
RESILIENCY	ZERO-TRUST	CHAOS

KNOWN NETWORK PROBLEMS



KNOWN NETWORK PROBLEMS

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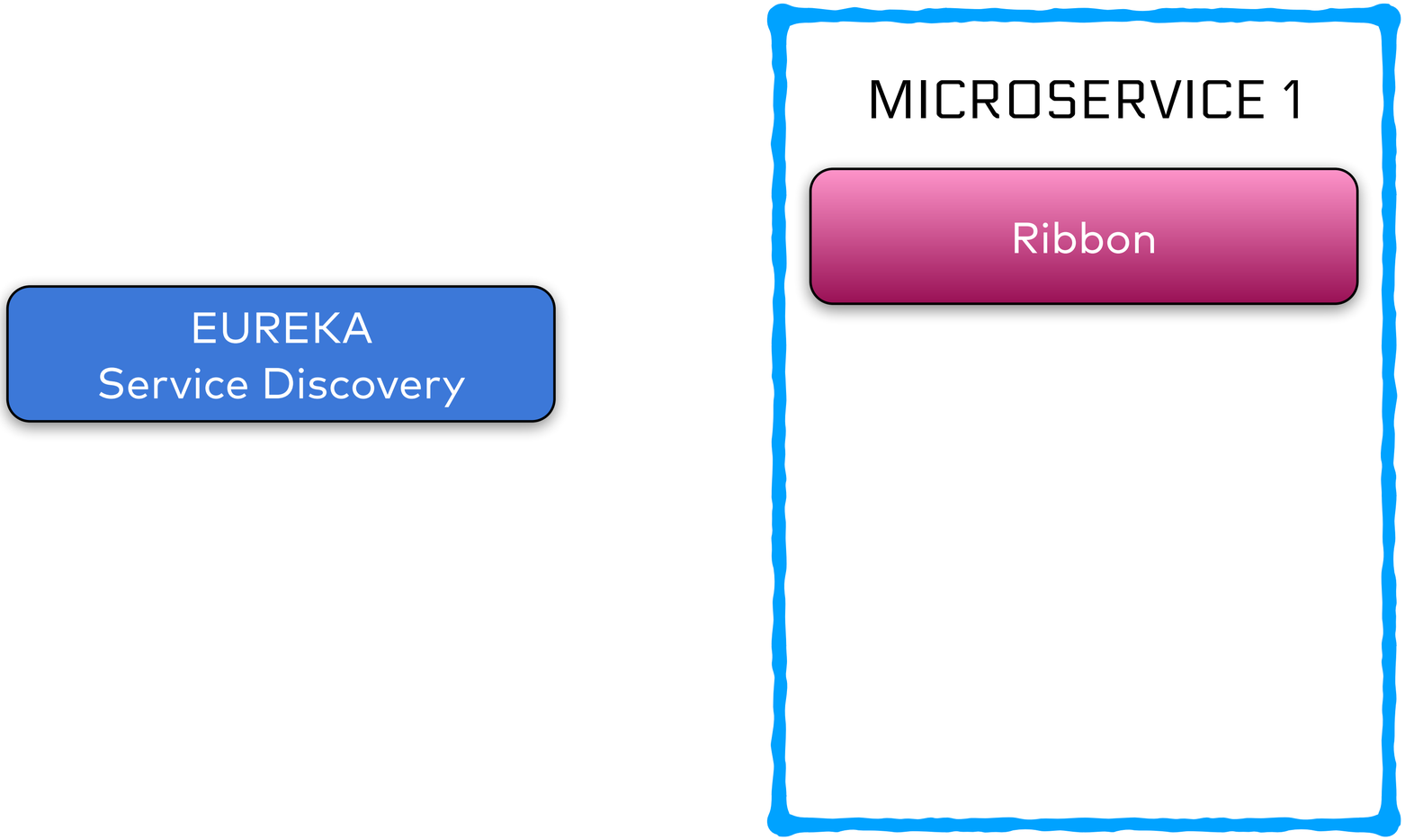

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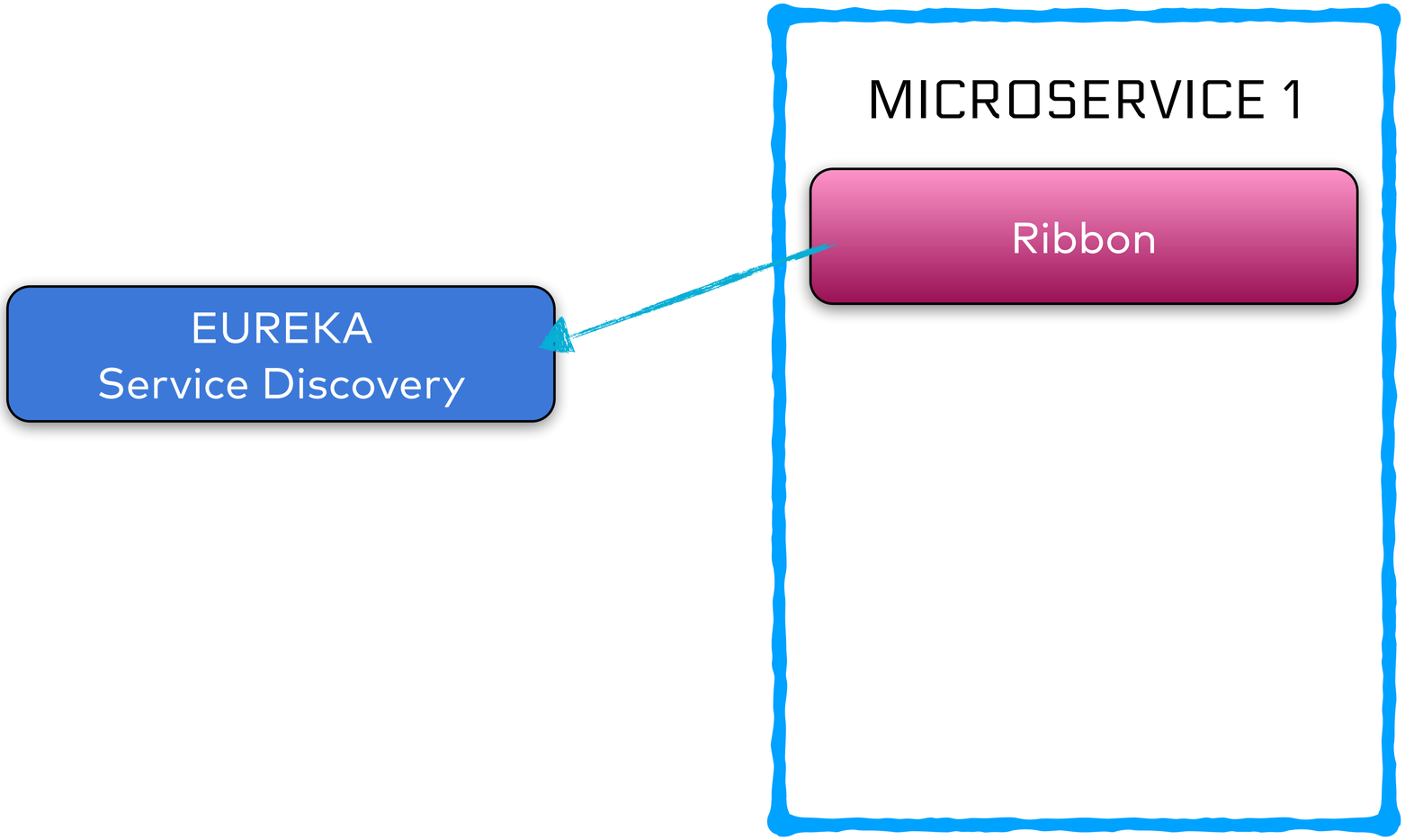

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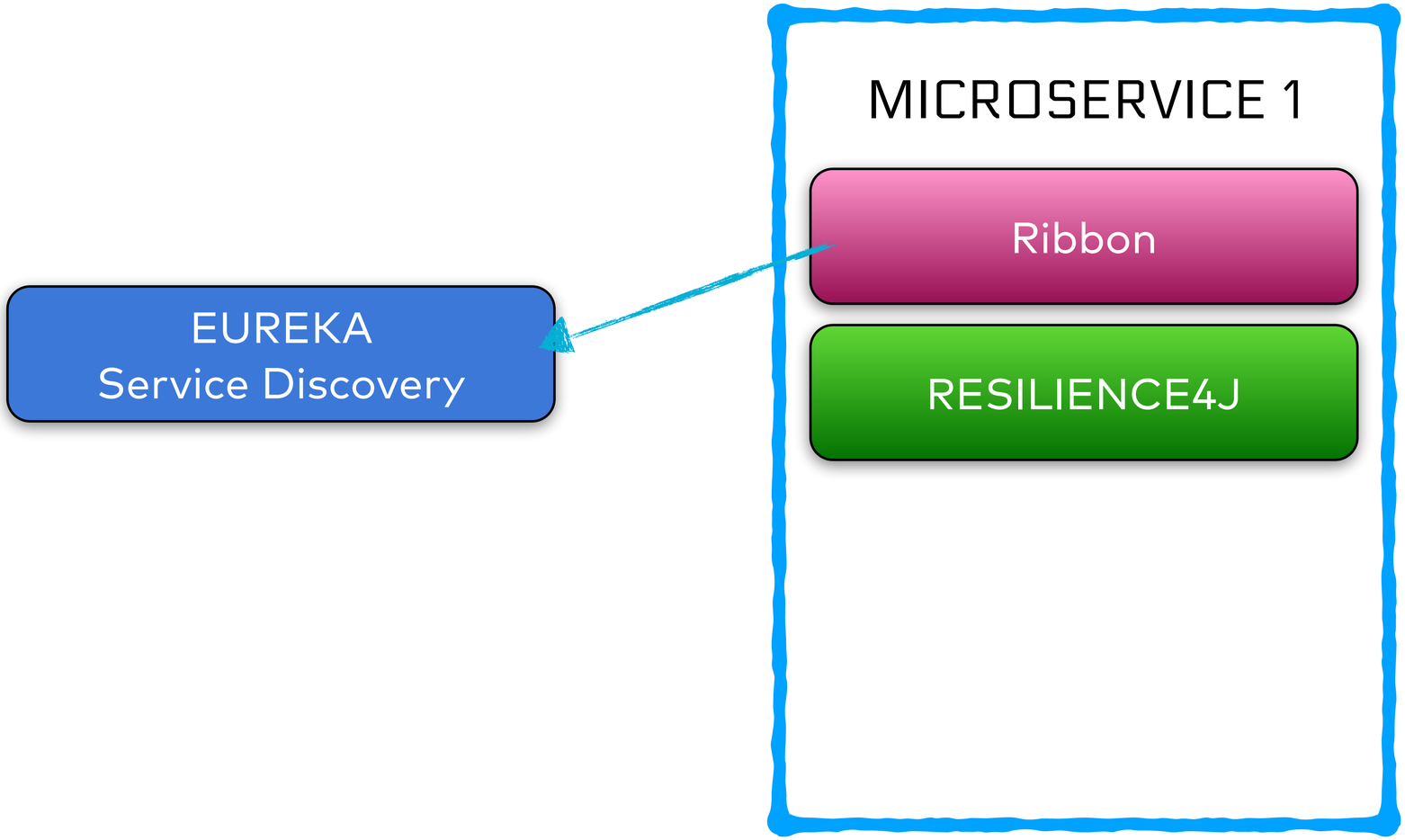

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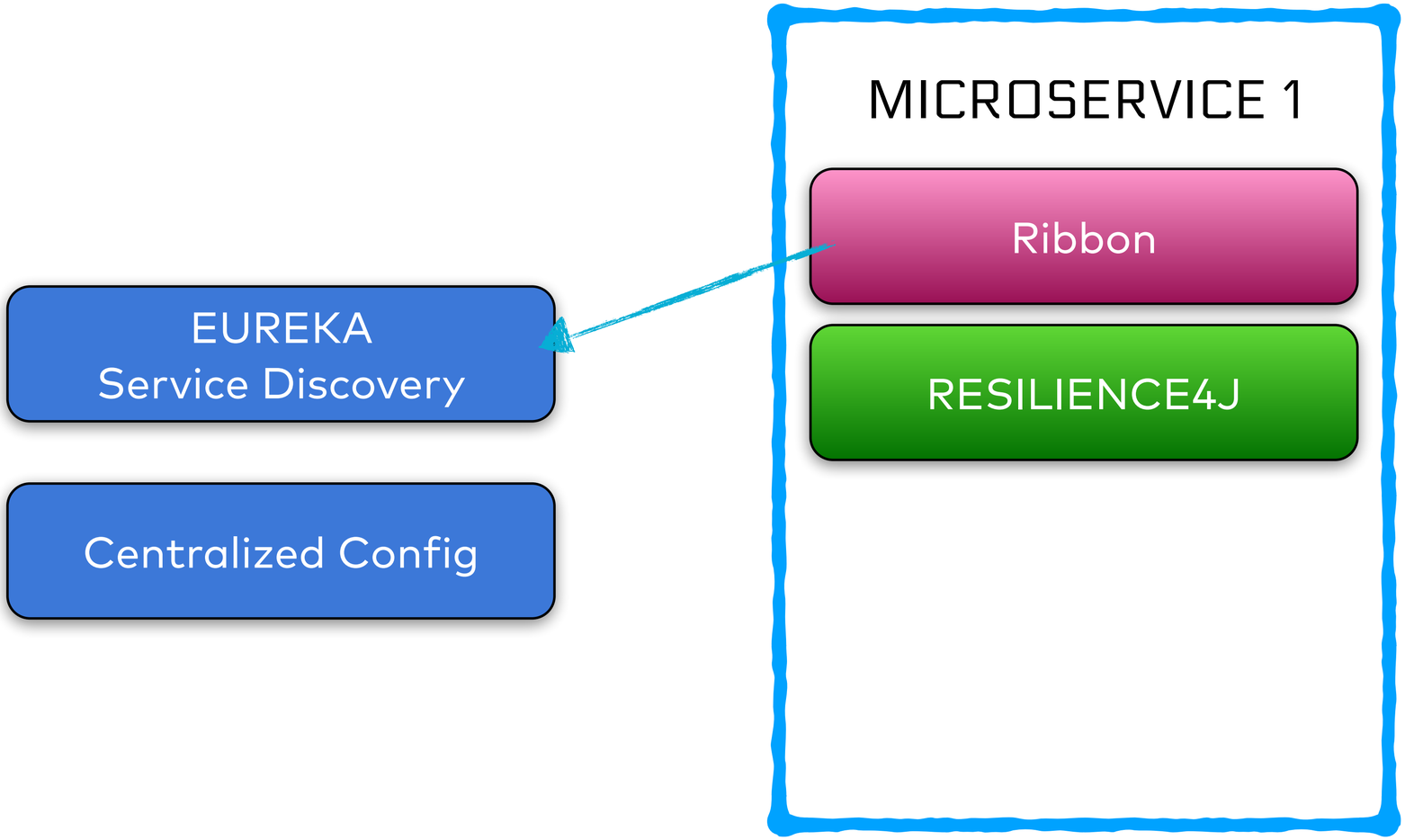

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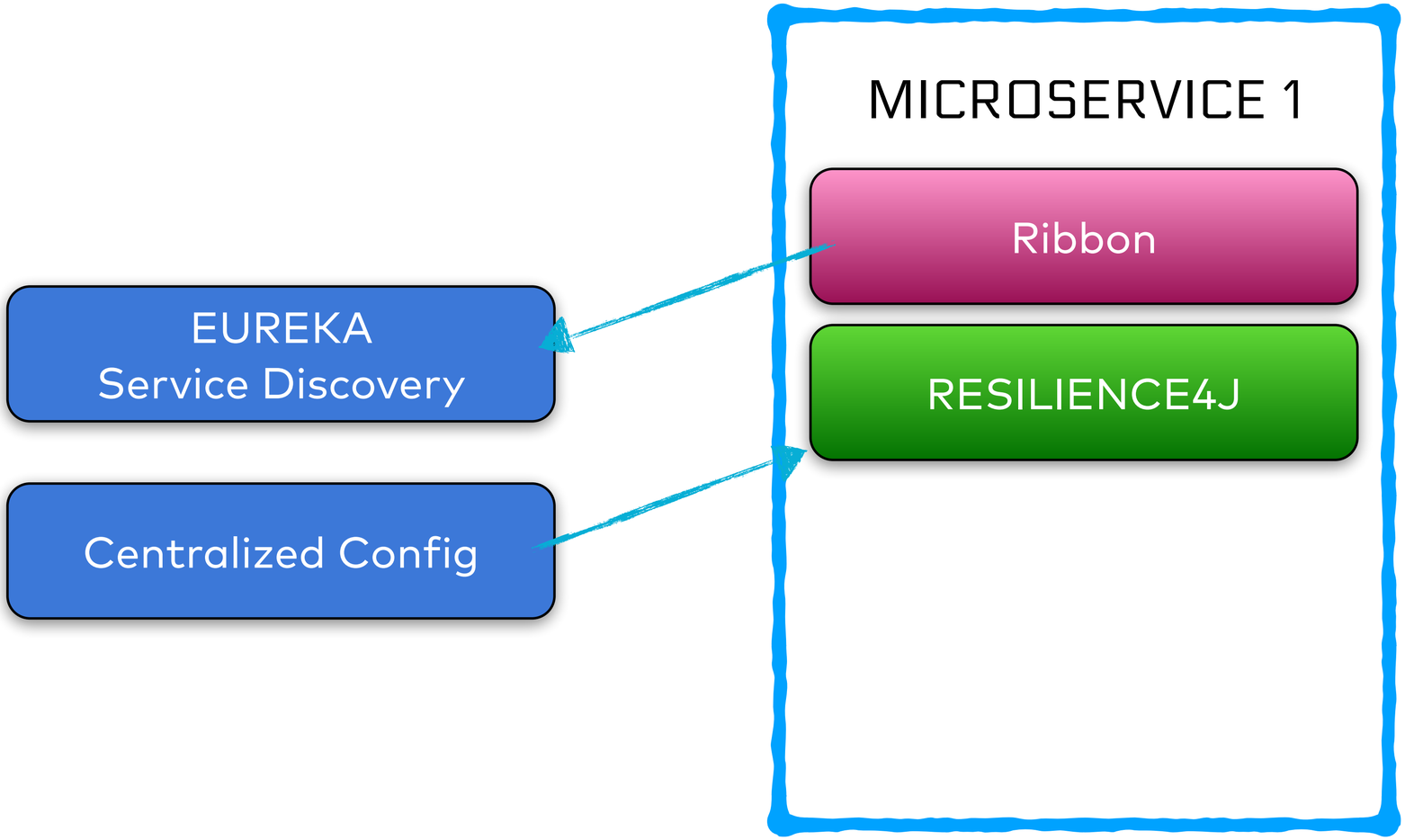

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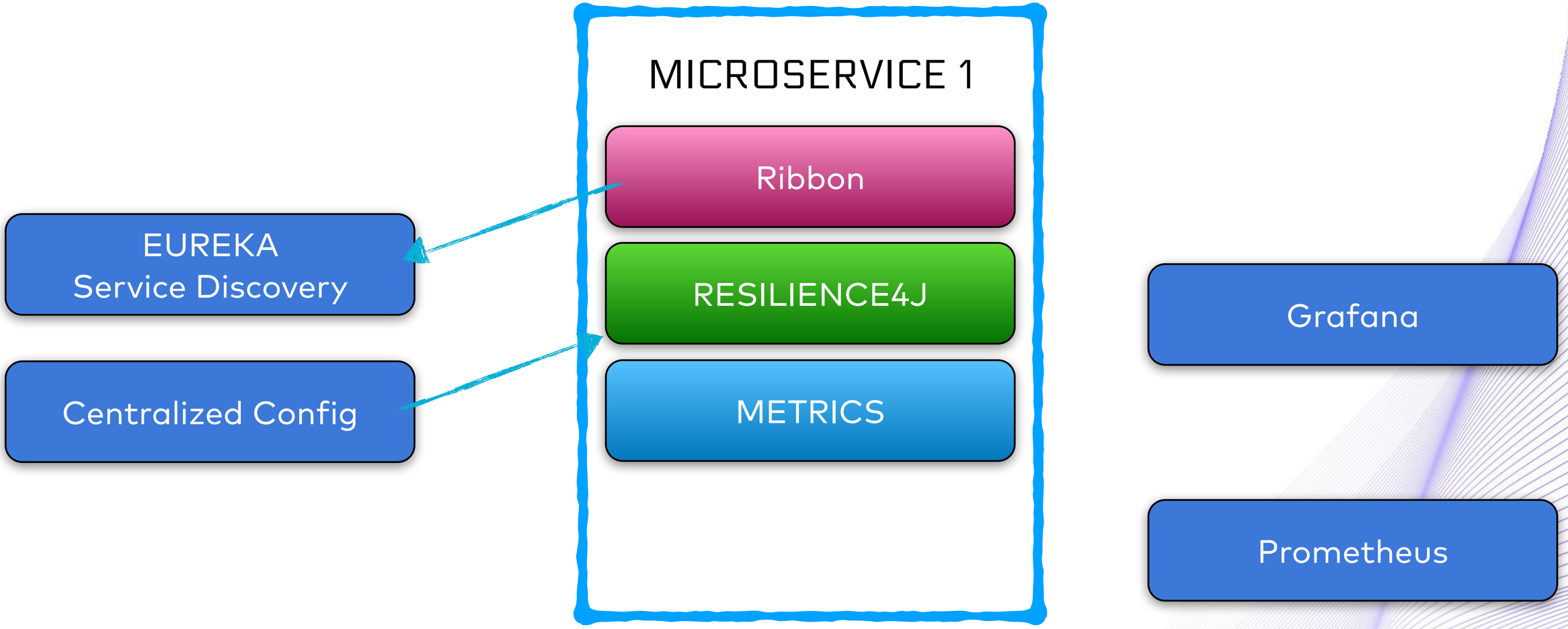

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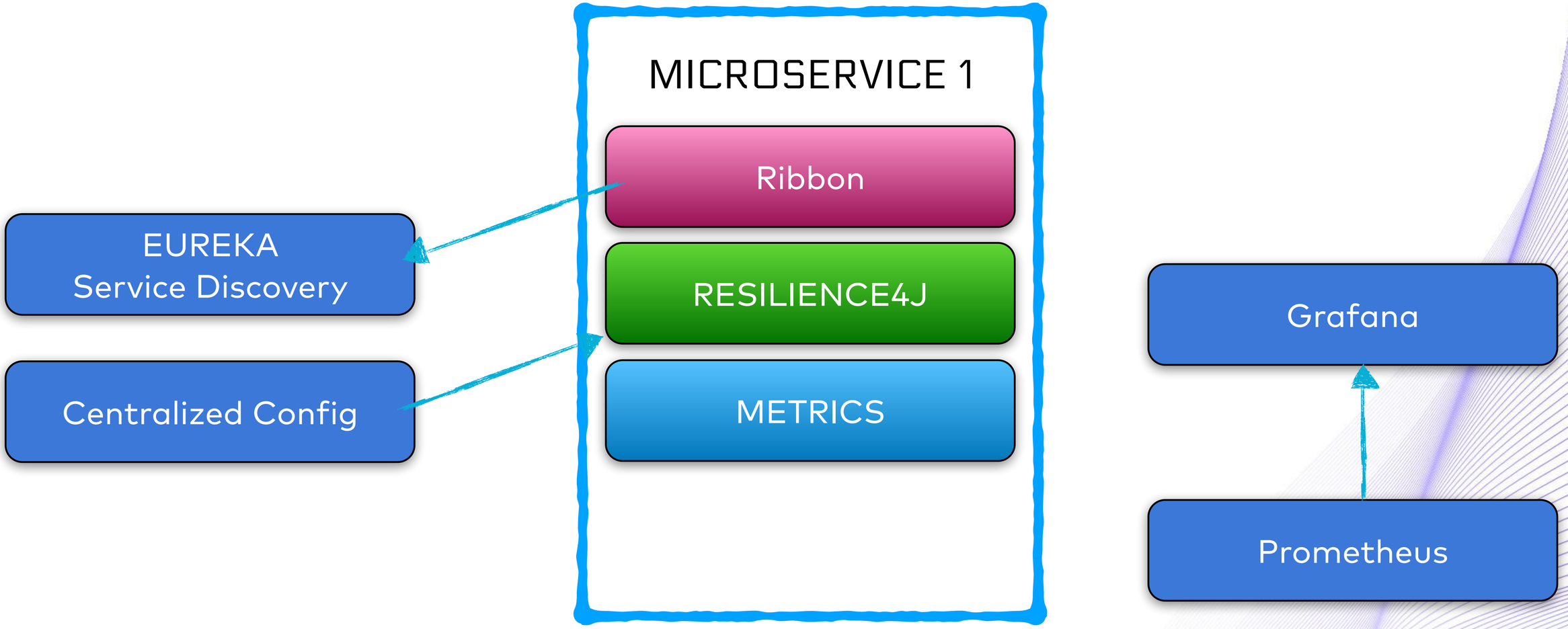

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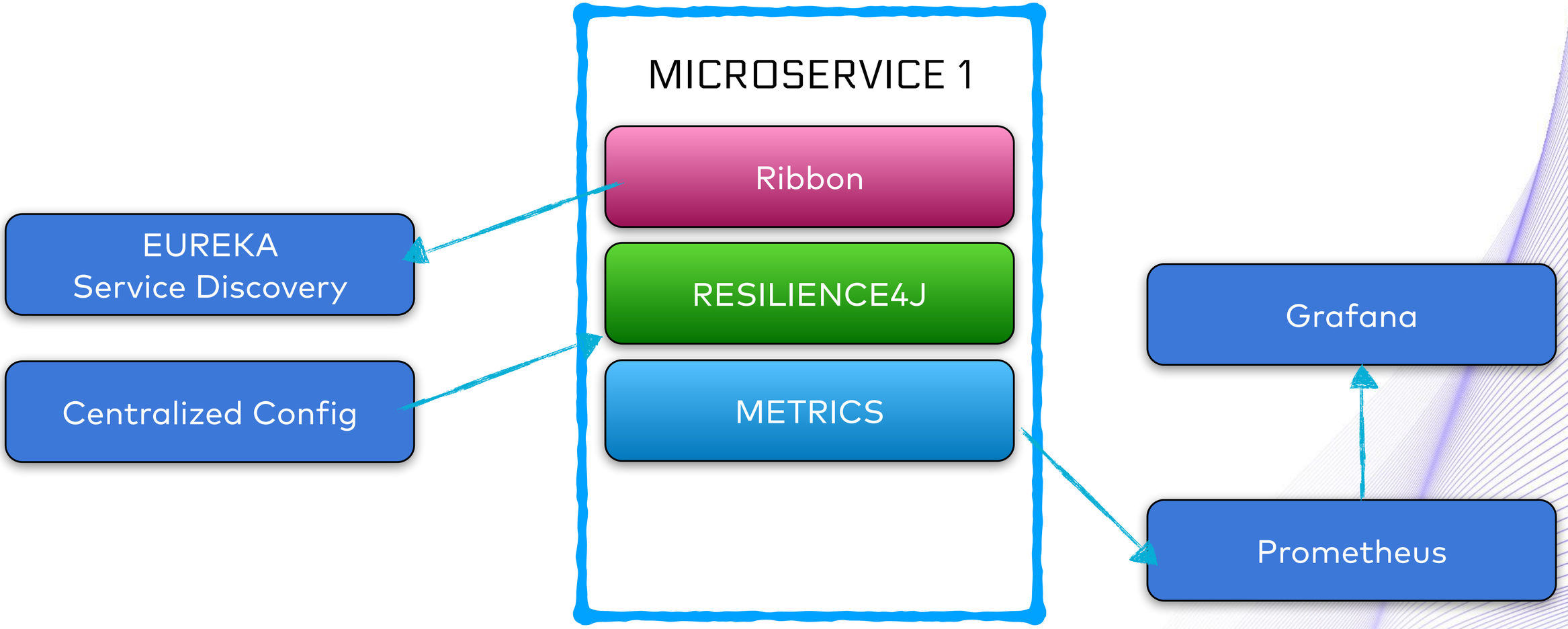

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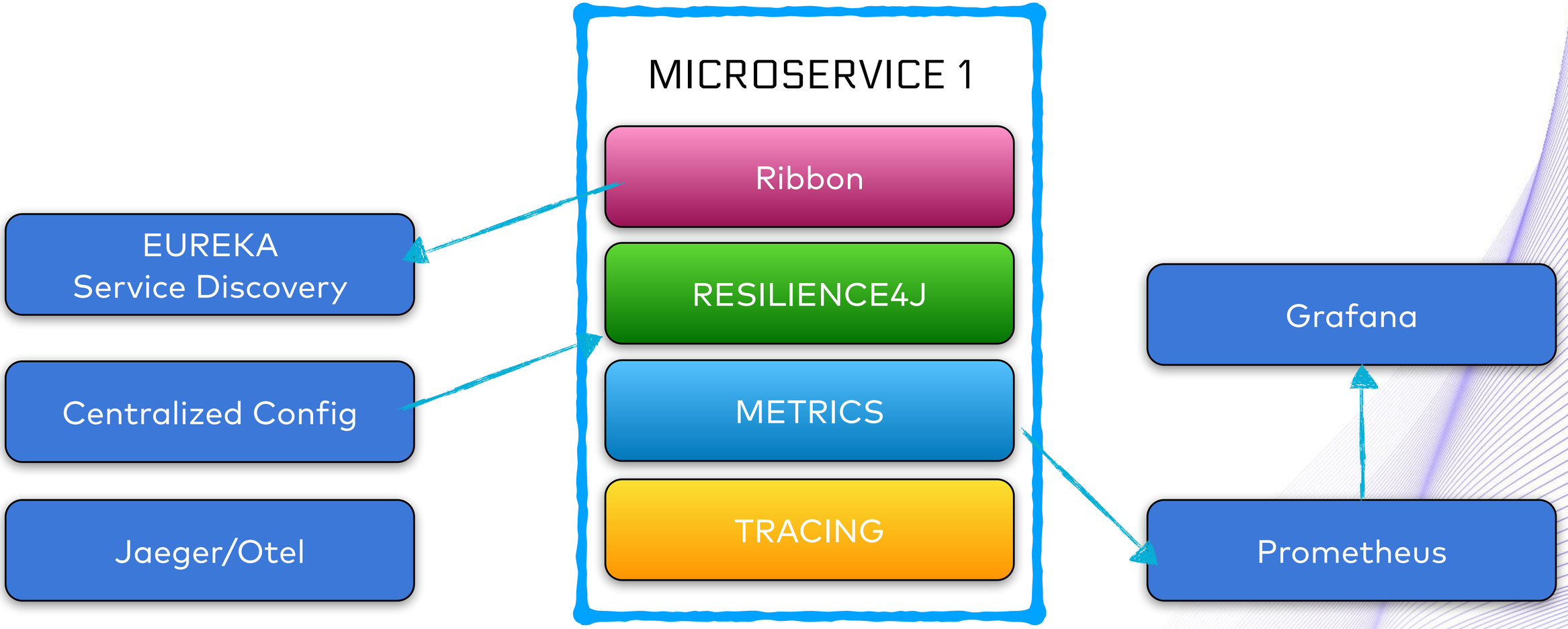

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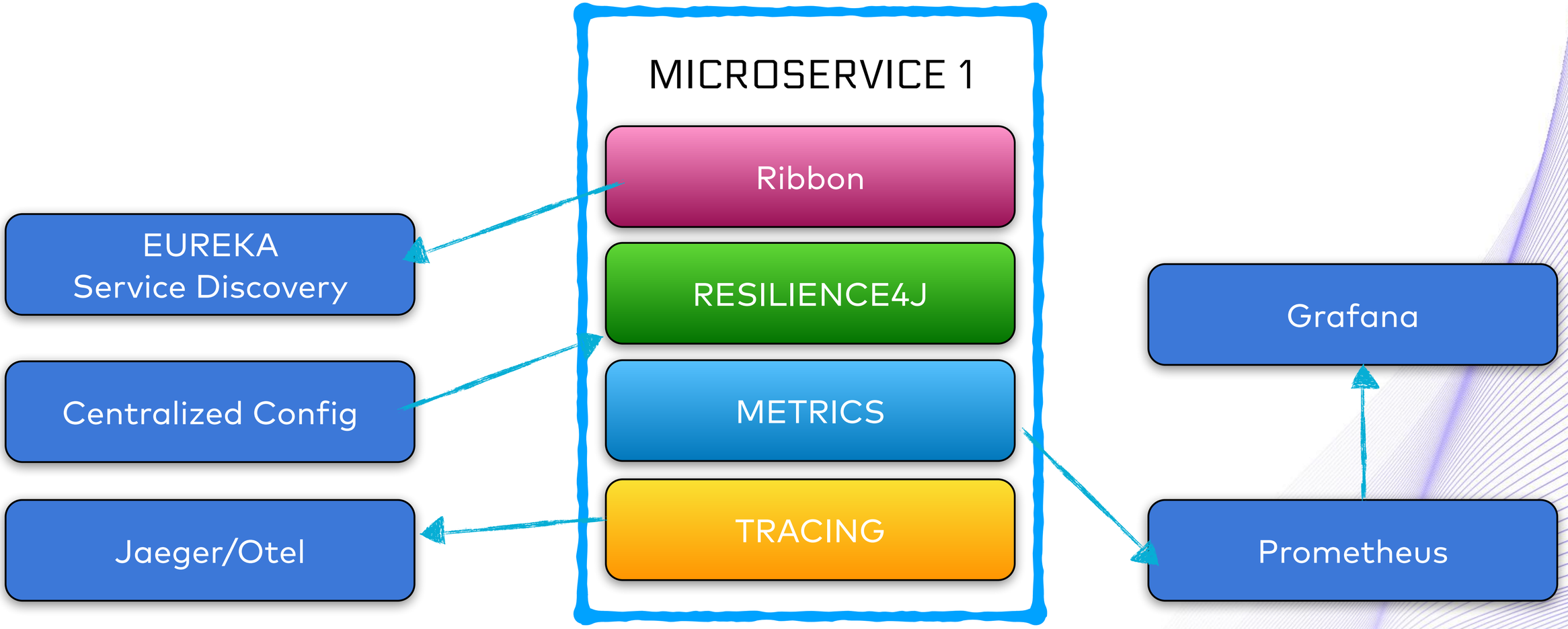

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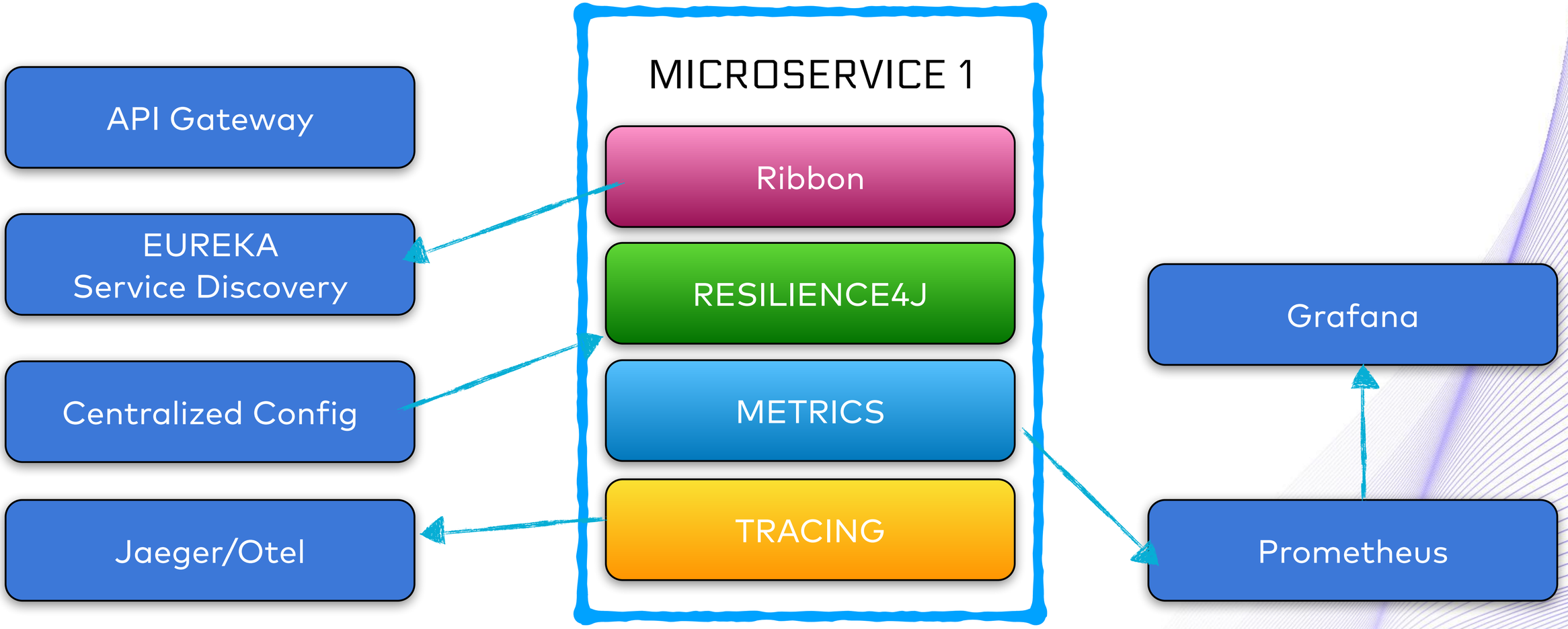

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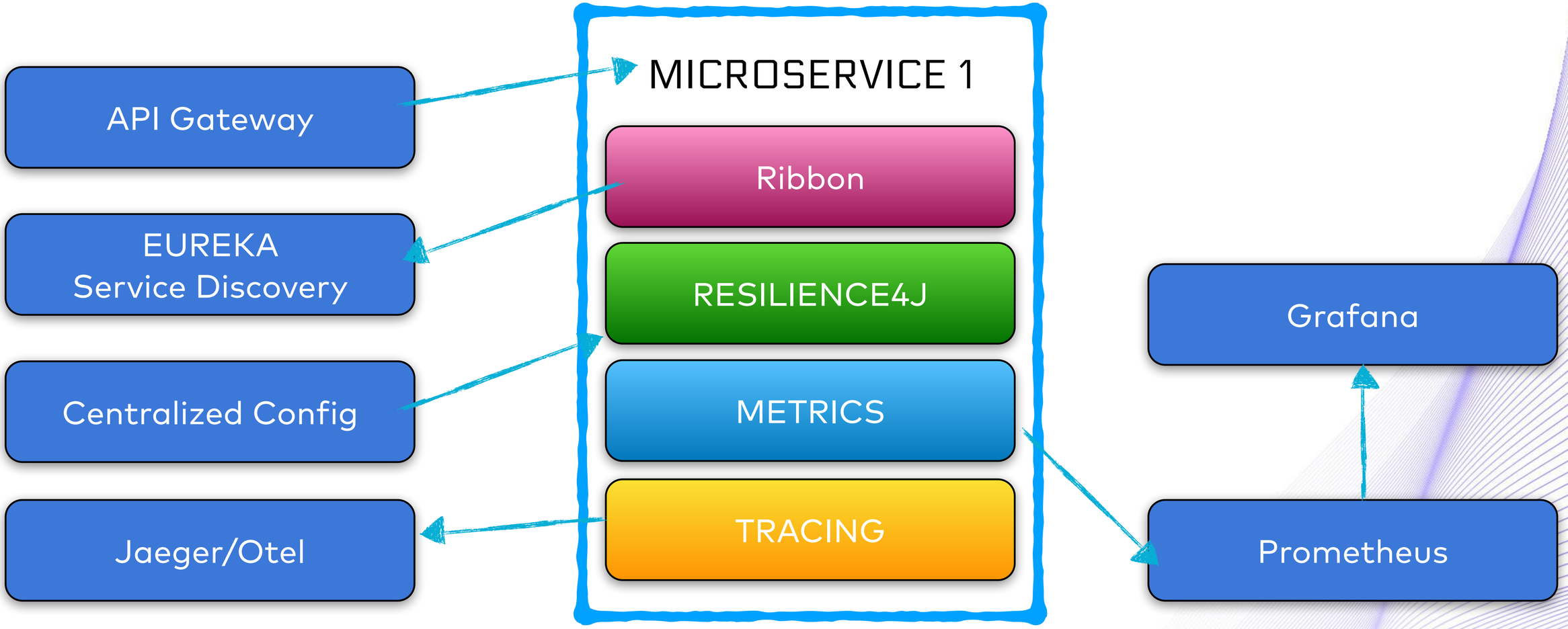

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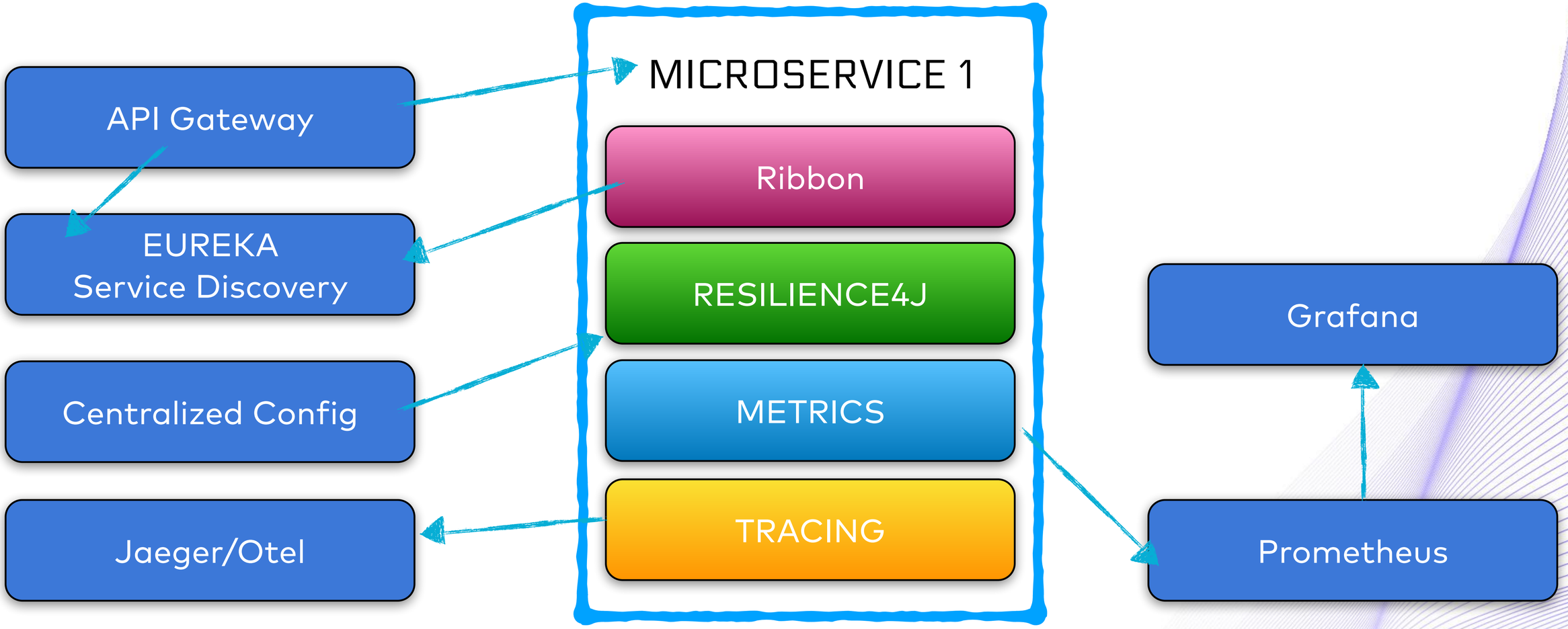
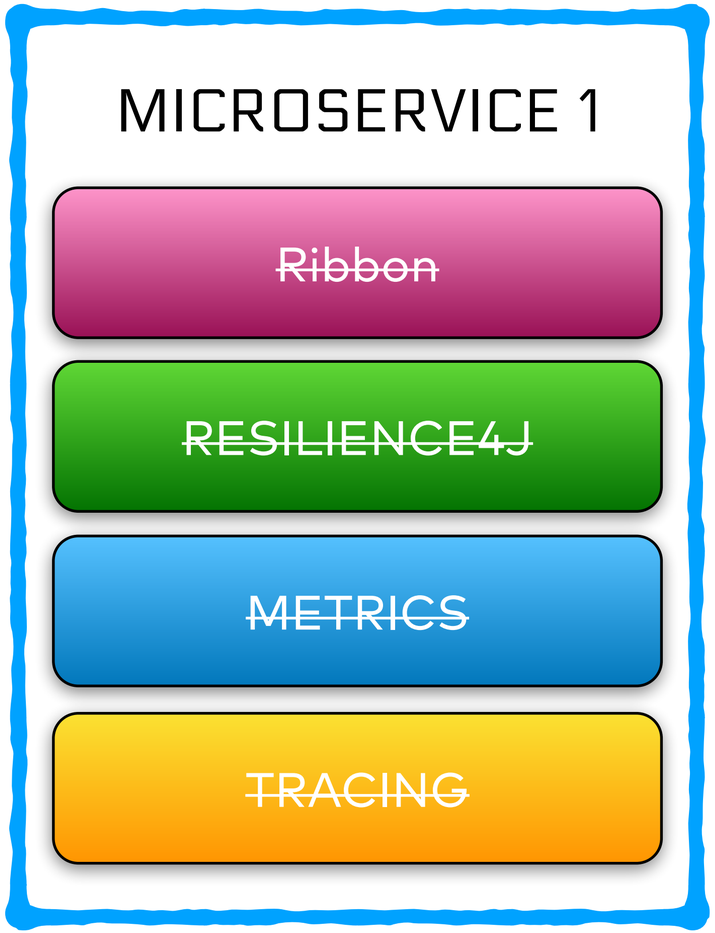


BUILD ONCE, USE EVERYWHERE



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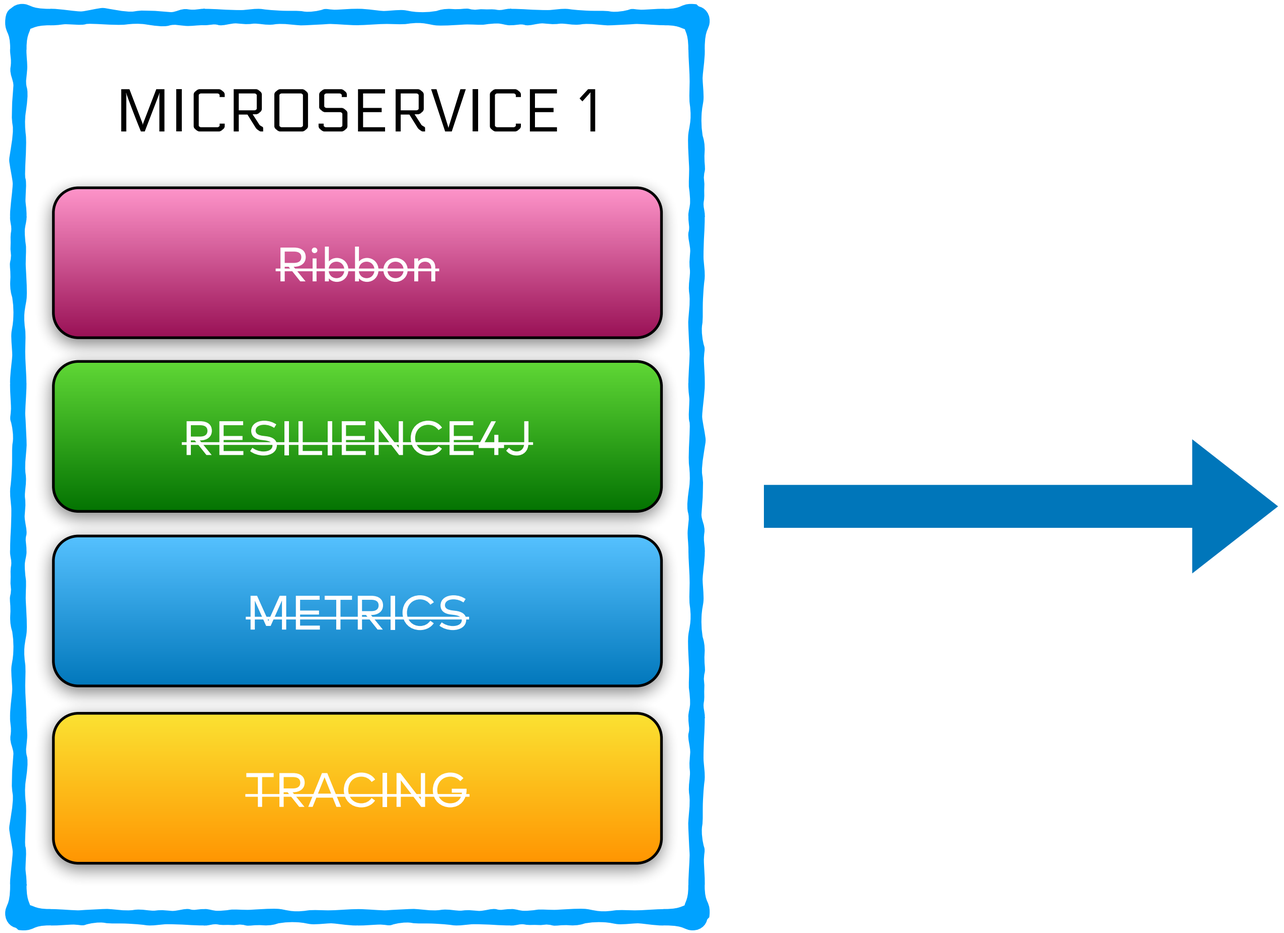

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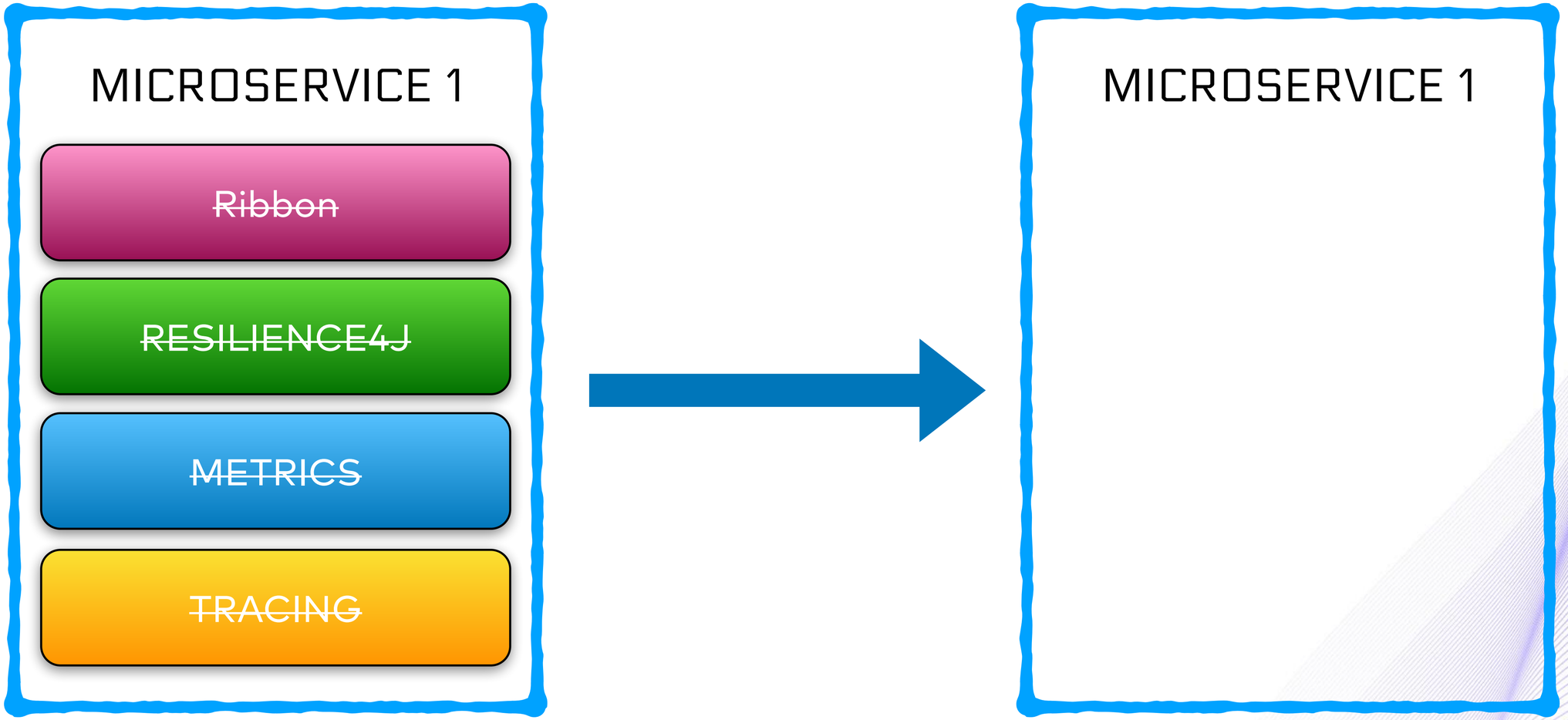

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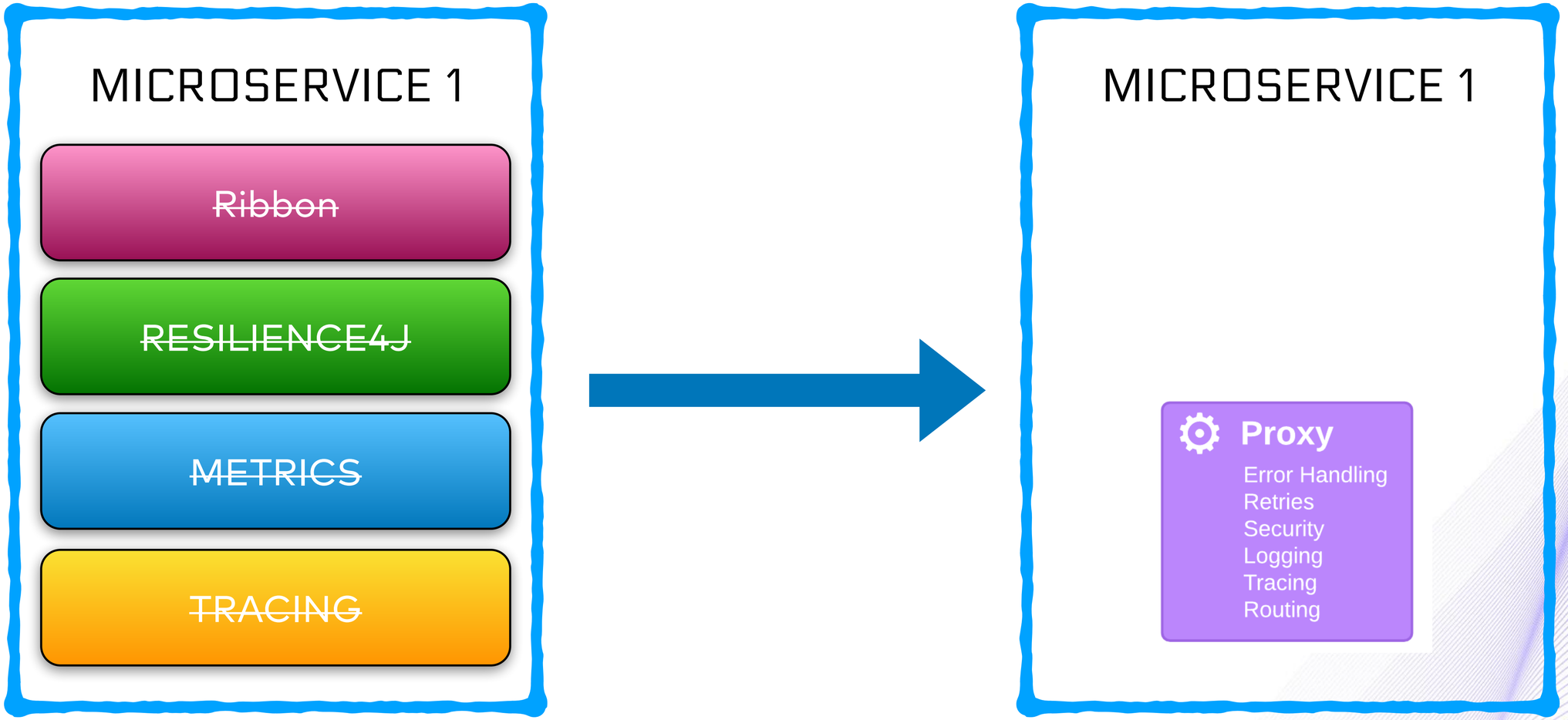
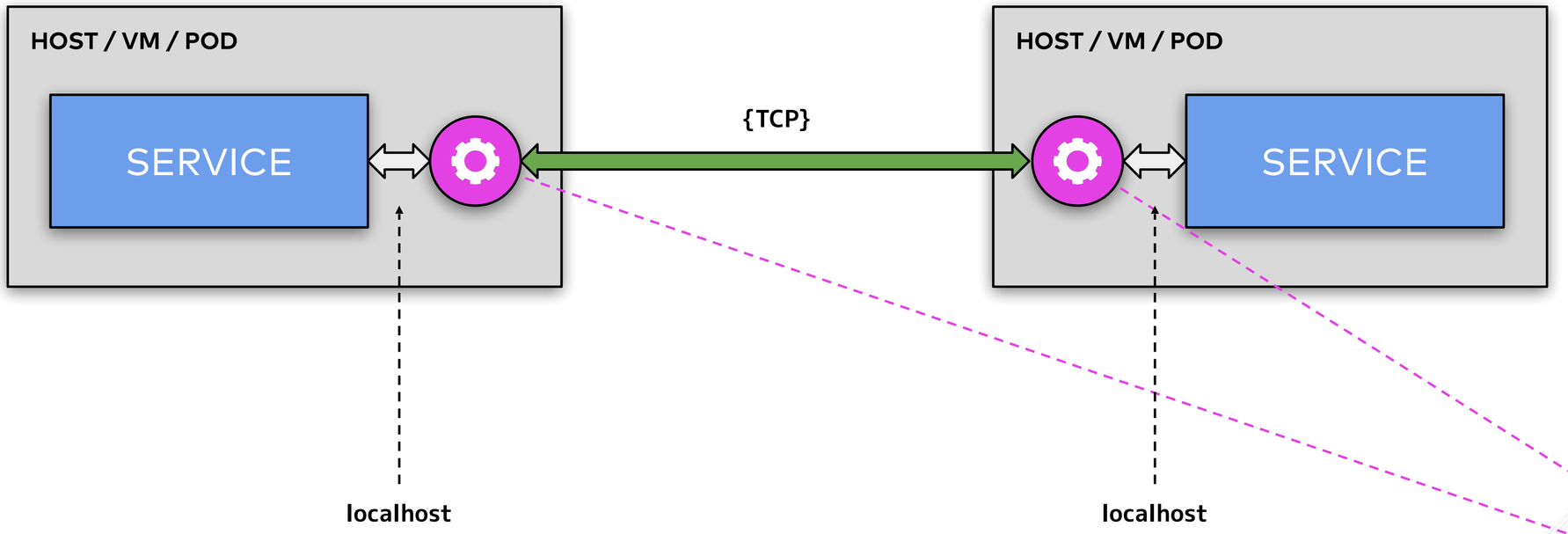
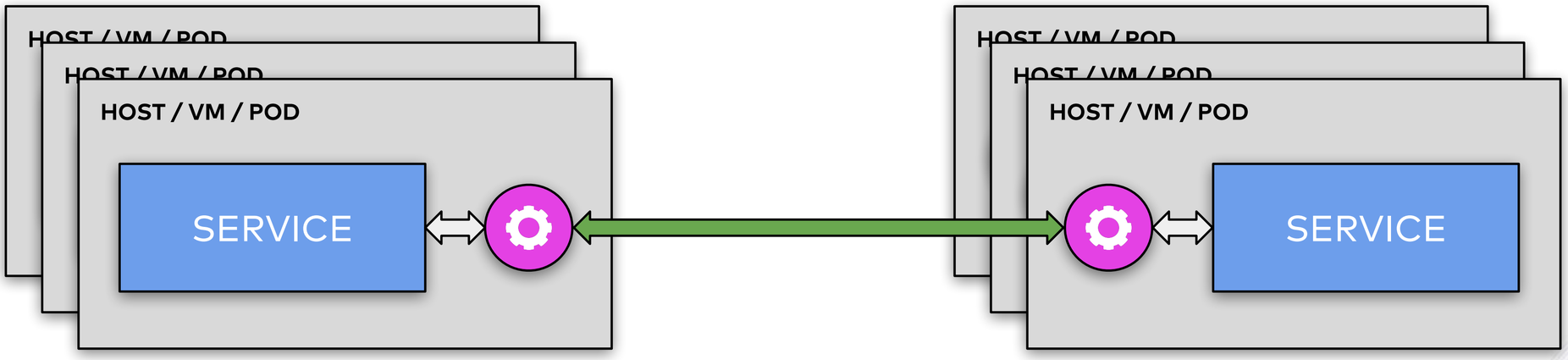


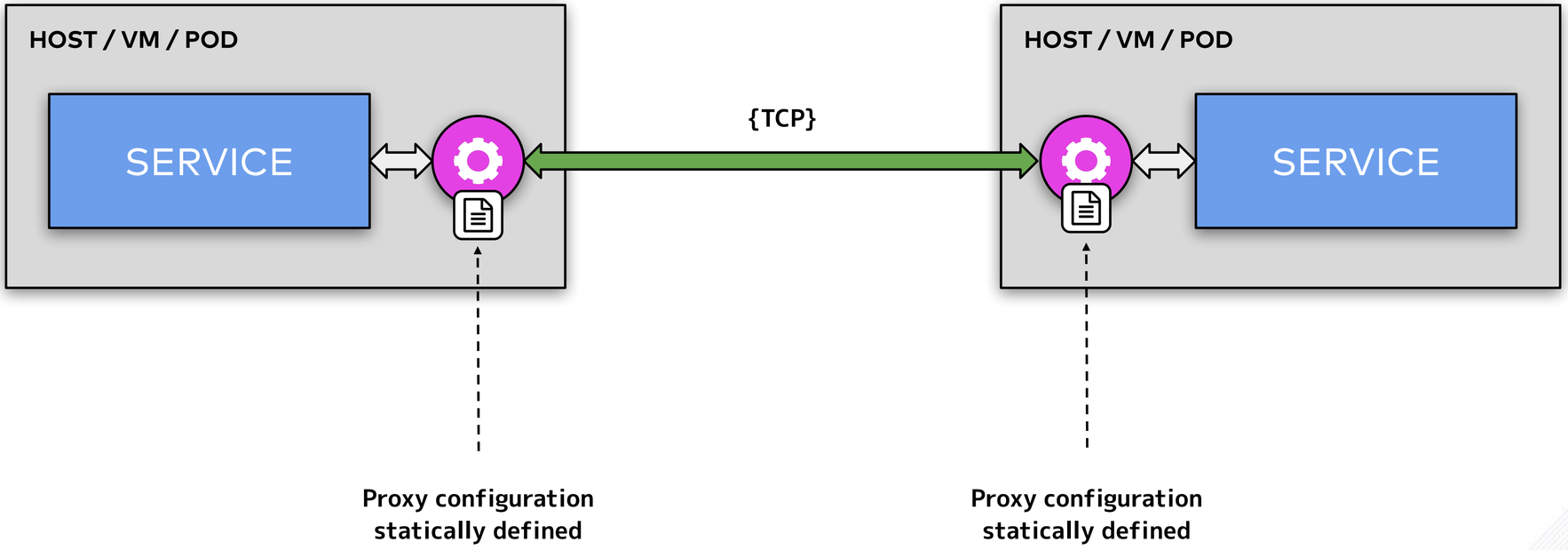


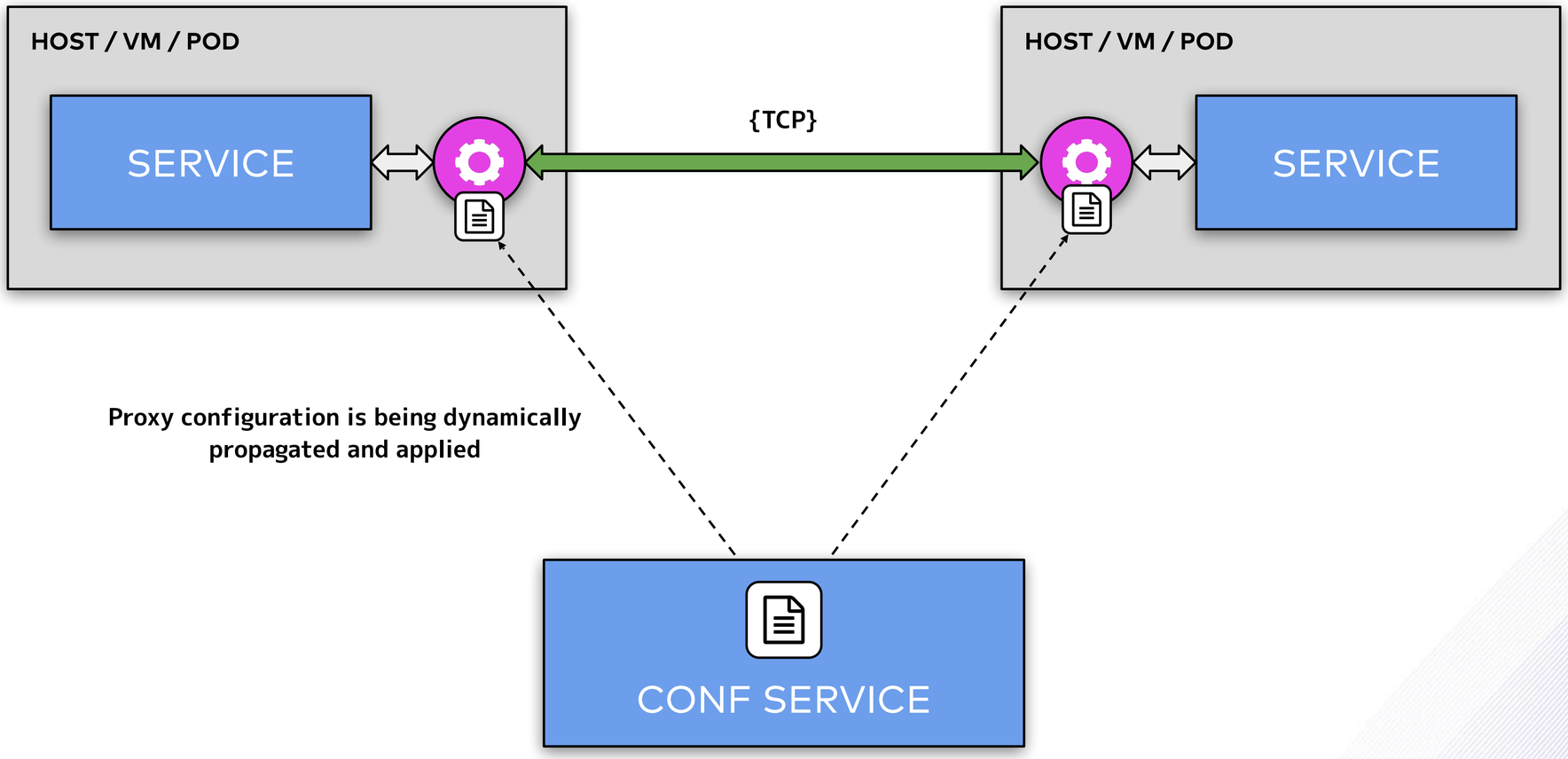
Proxy

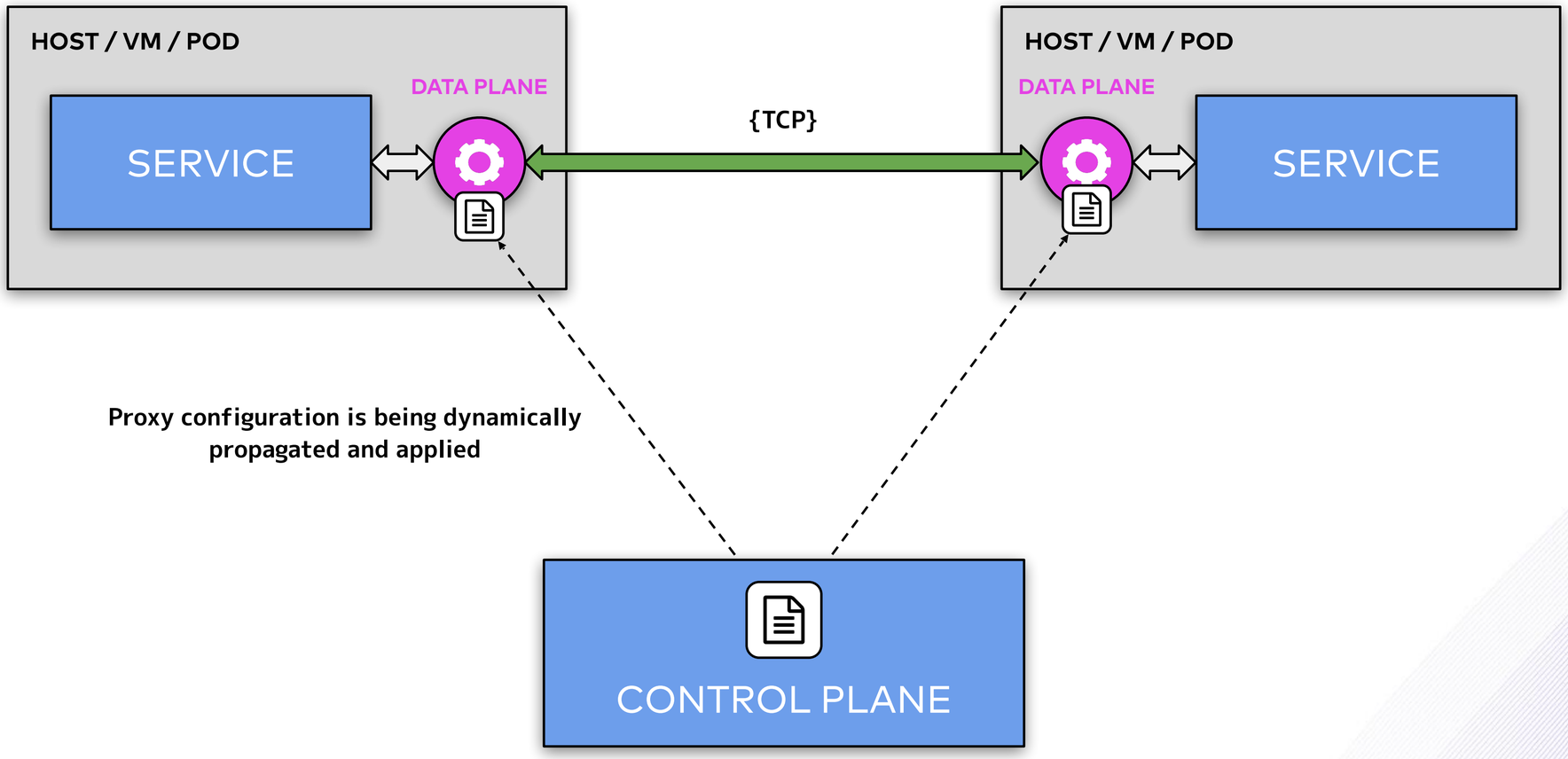
Error Handling
Retries
Security
Logging
Tracing
Routing

ONE INSTANCE OF PROXY ON EVERY REPLICA OF EVERY SERVICE

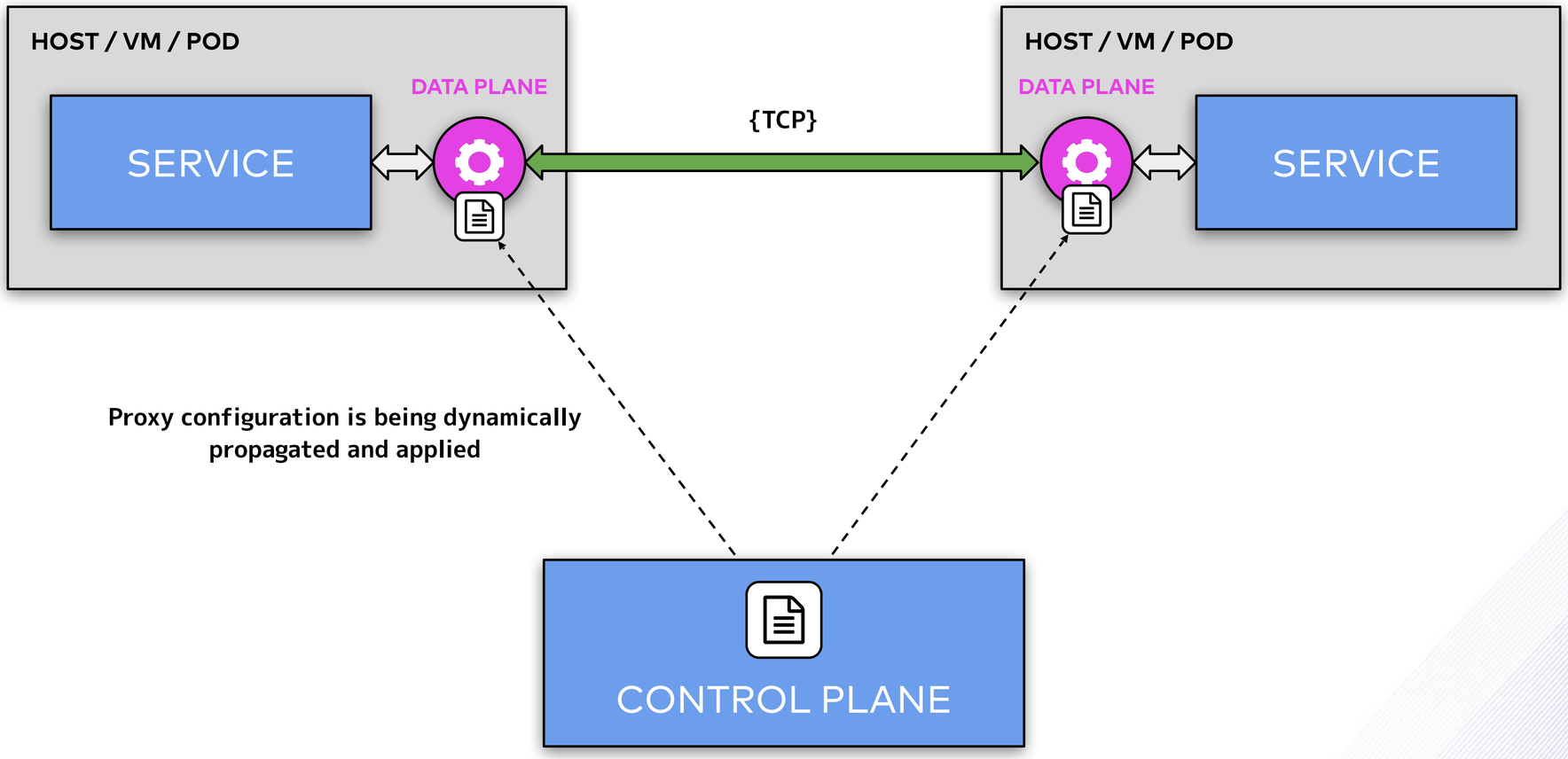


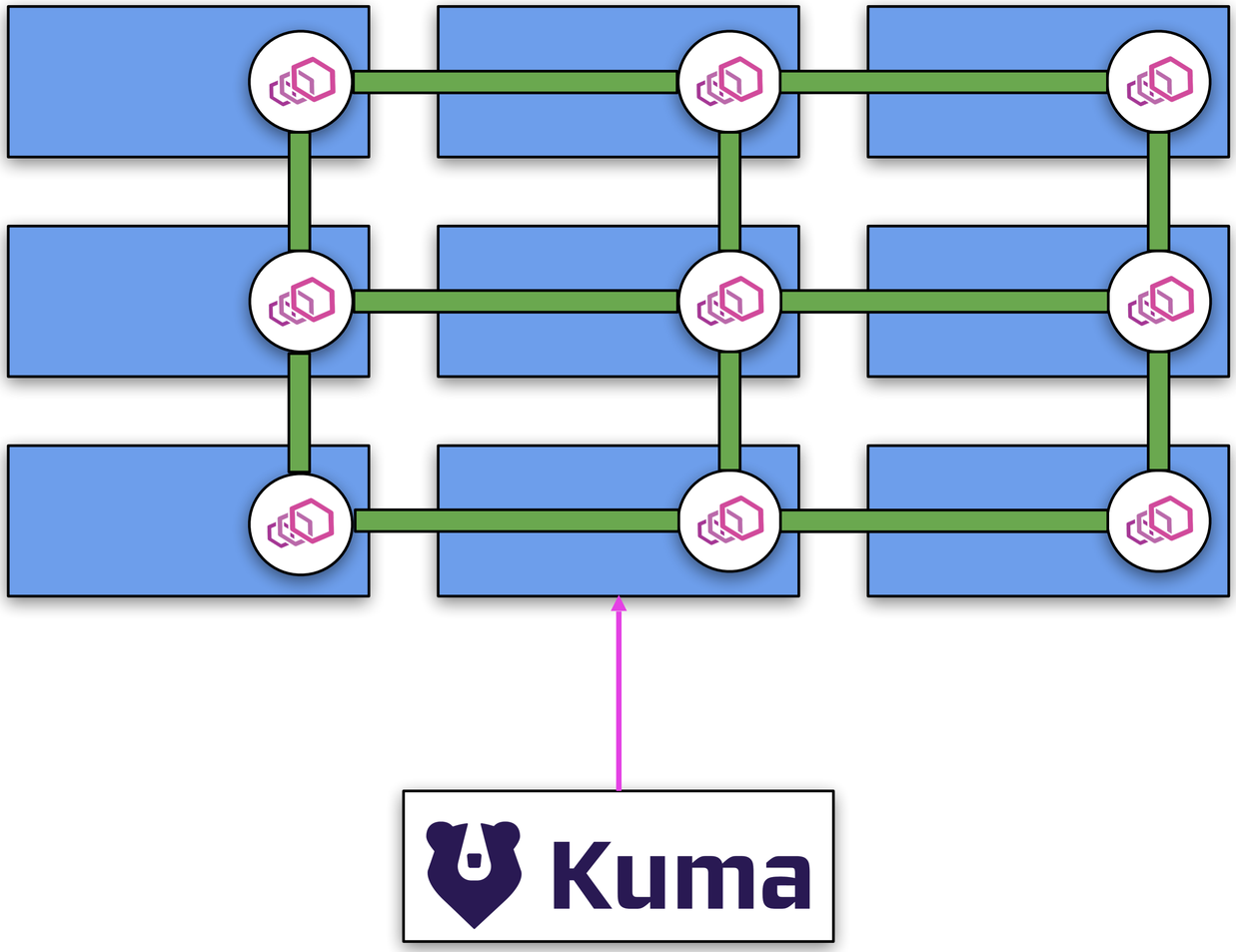

HOST / VM / POD
SERVICE
{TCP}
HOST / VM / POD
SERVICE
Proxy configuration
statically defined
Proxy configuration
statically defined


HOST / VM / POD
SERVICE
{TCP}
HOST / VM / POD
SERVICE
Proxy configuration is being dynamically propagated and applied
CONF SERVICE


HOST / VM / POD
DATA PLANE
SERVICE
{TCP}
HOST / VM / POD
DATA PLANE
SERVICE
Proxy configuration is being dynamically propagated and applied
CONTROL PLANE

SERVICE MESH

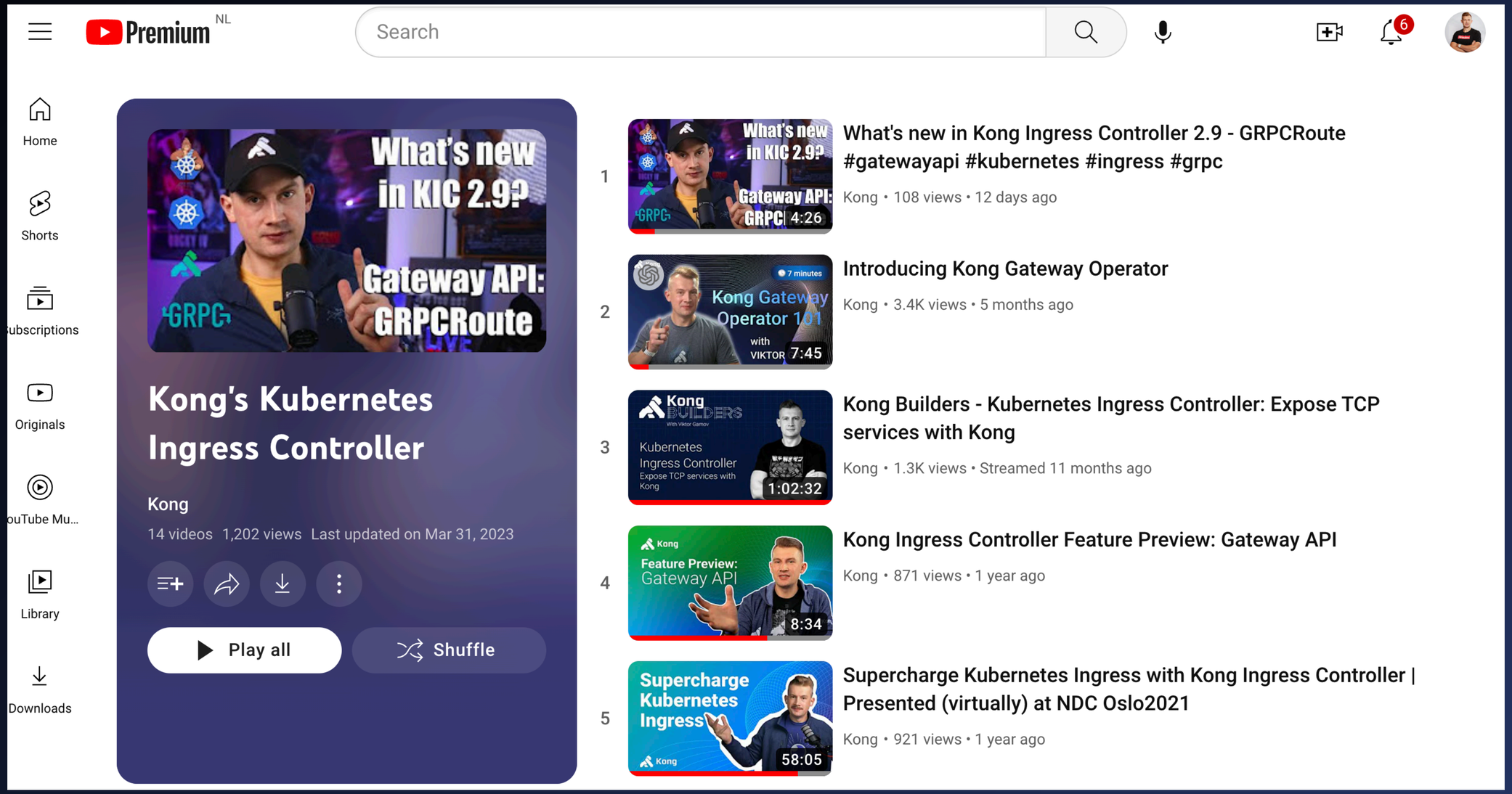




DATA PLANE: **envoyproxy.io**
CONTROL PLANE: **kuma.io**

STOP! Demo time!

Please, subscribe to my YouTube channel ™



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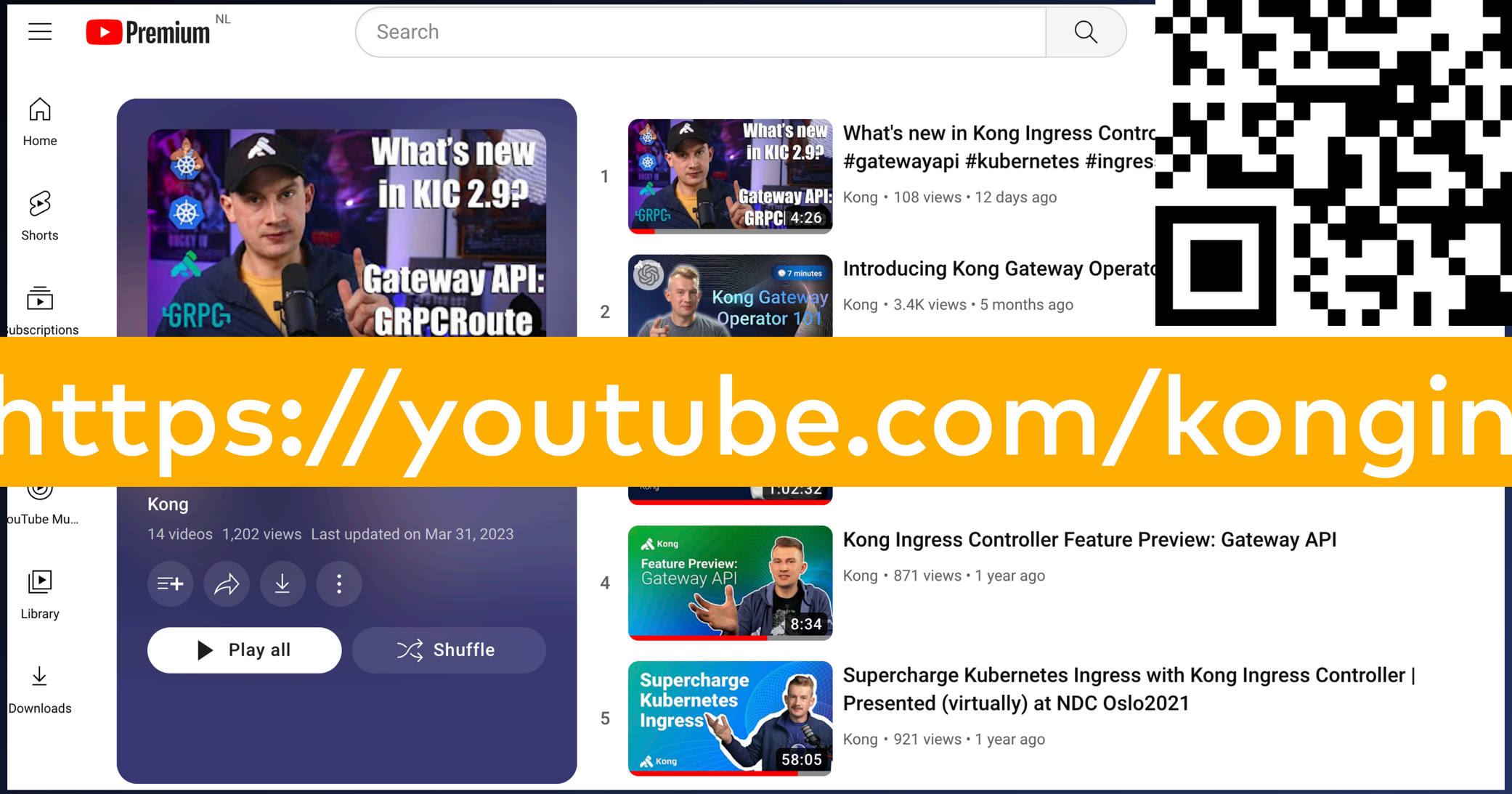

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