

# Istio

*As An*

# API Gateway

# Discussion Flow

- What is an API Gateway?
- What is a Service Mesh?
- Common Features
- API Gateway + Service Mesh together!
- Istio as the API Gateway
- Advantages
- Challenges
- Where It Isn't a Good Fit?

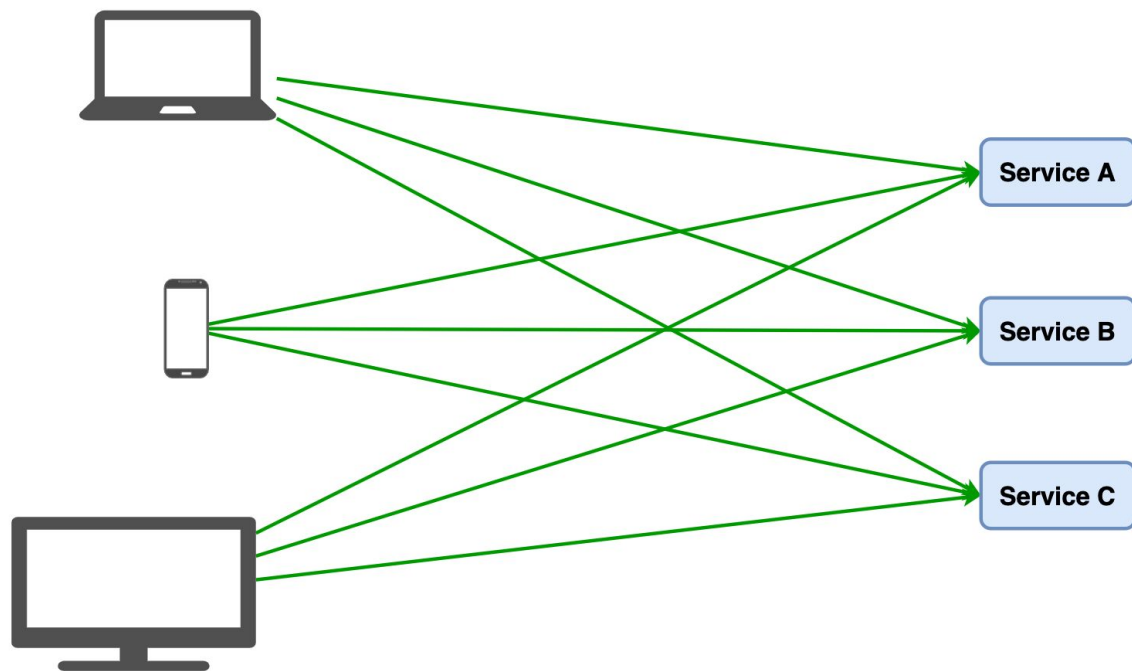
**What is an API Gateway?**

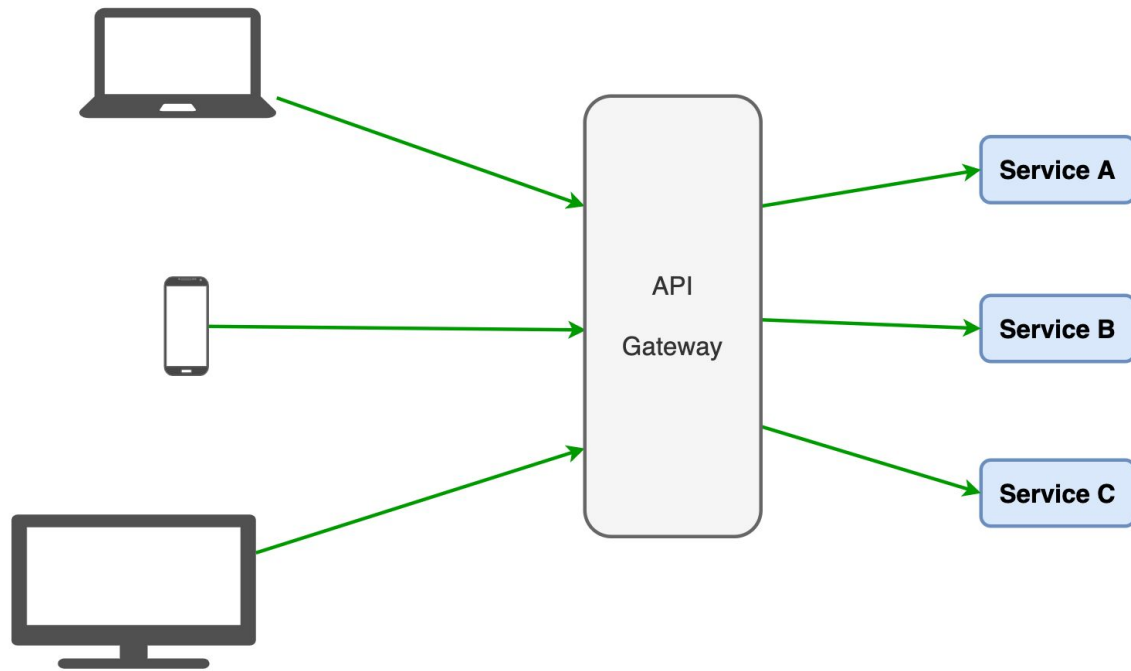


**Service A**

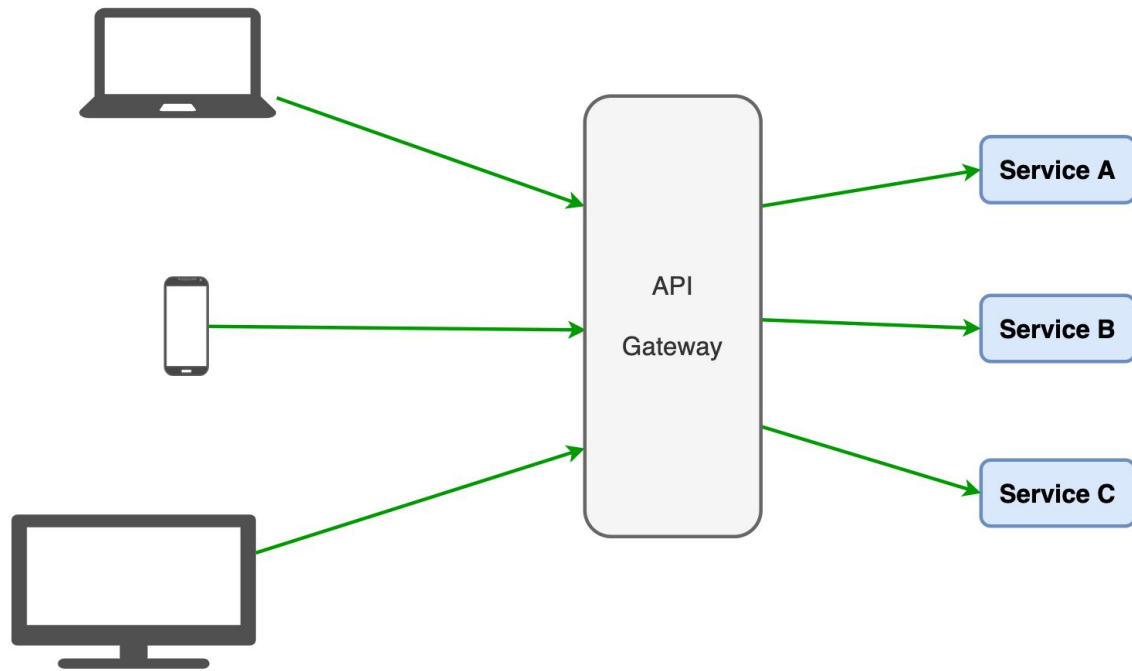
**Service B**

**Service C**

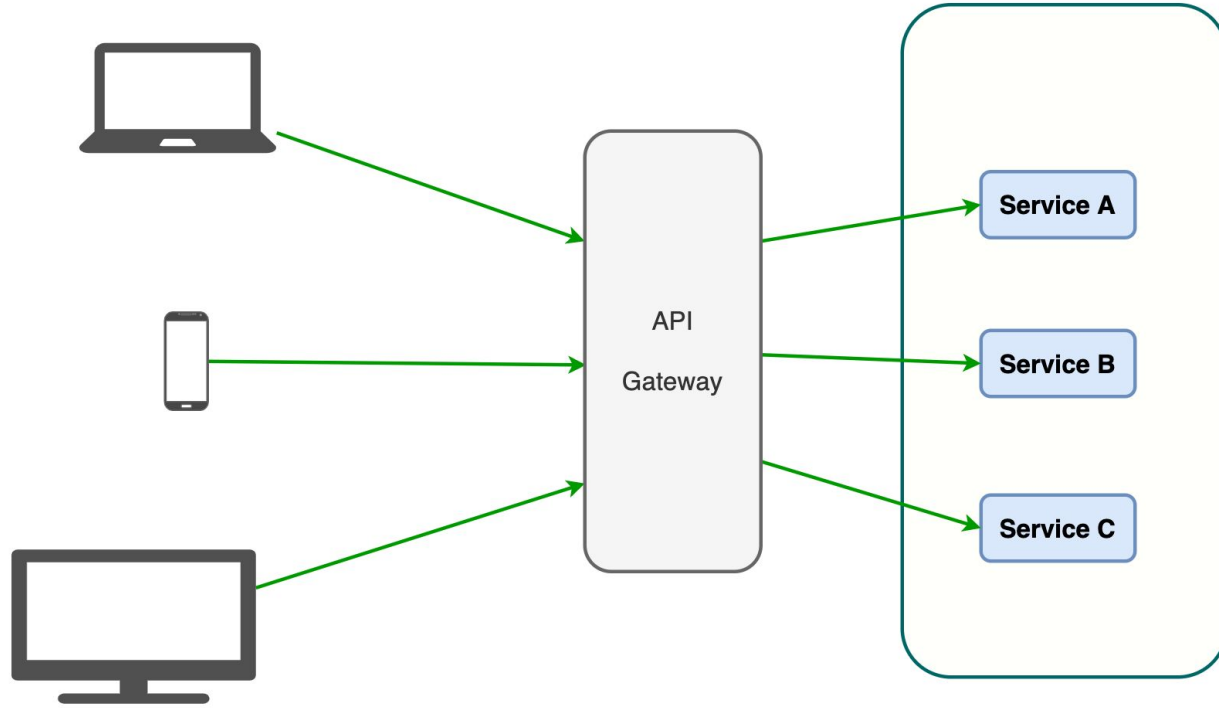


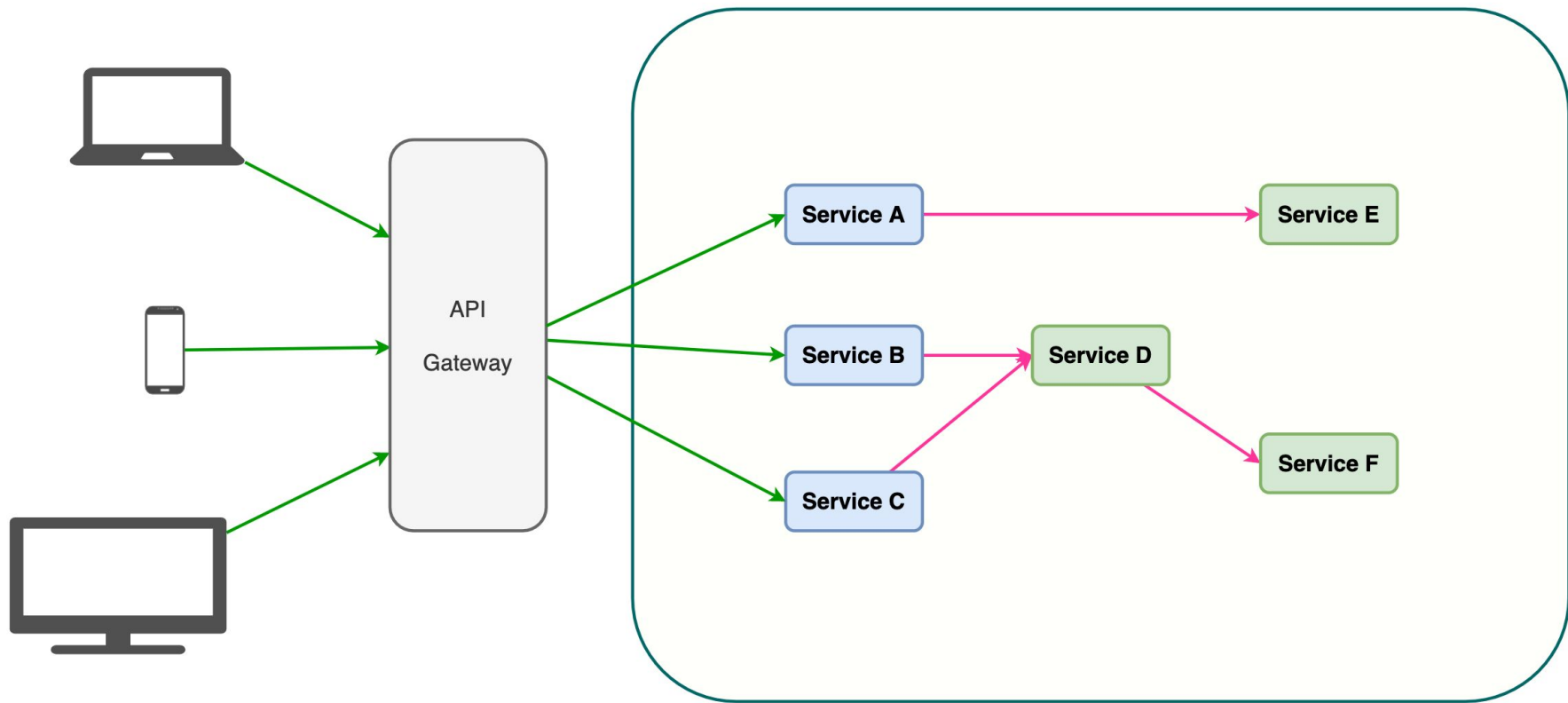


# What is a Service Mesh?







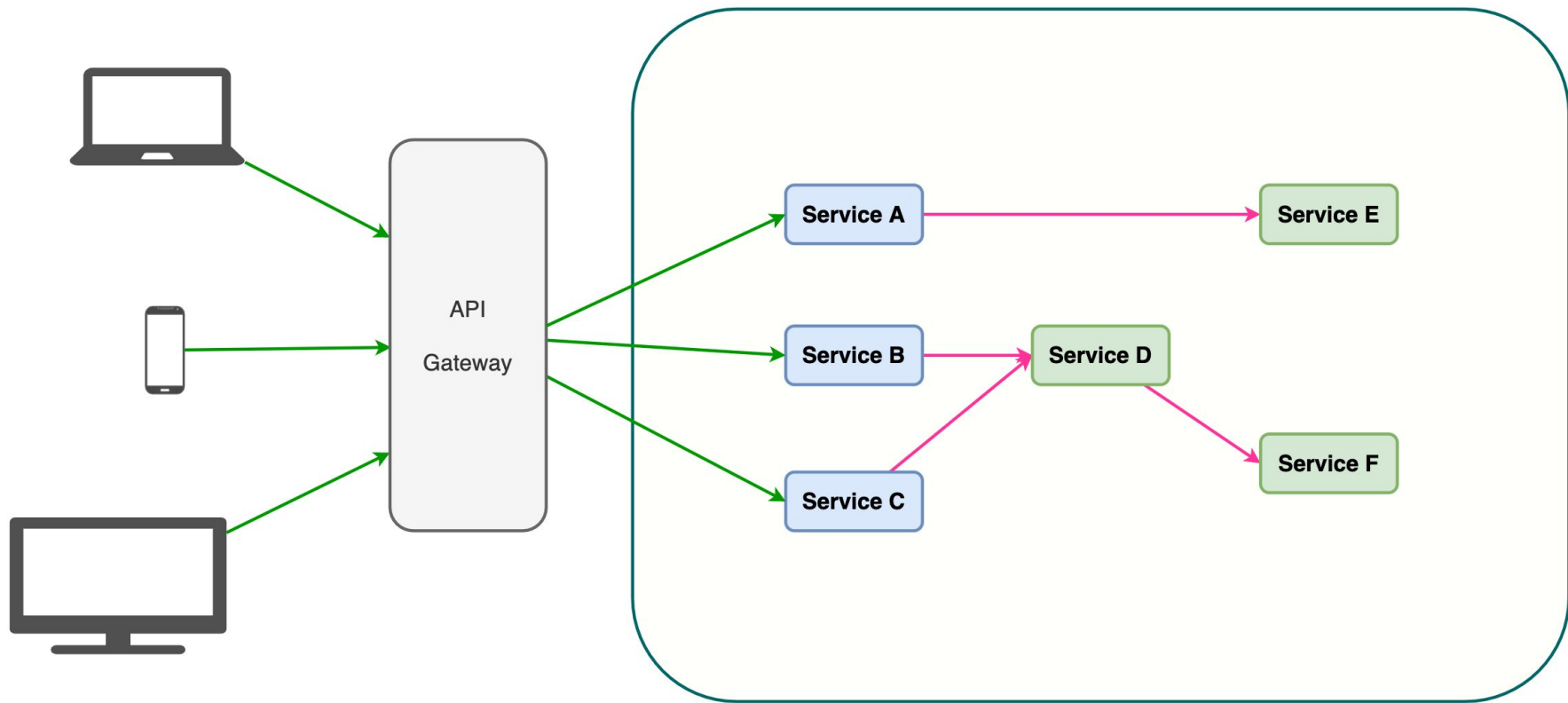


# Common Features

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- Load Balancing
- Request Routing
- Service Discovery
- JWT Authentication
- Traffic Splitting
- Canary Deployment
- Traffic Mirroring
- Rate Limiting
- TLS Termination
- Logging, Monitoring, Tracing

**API Gateway + Service Mesh together!**

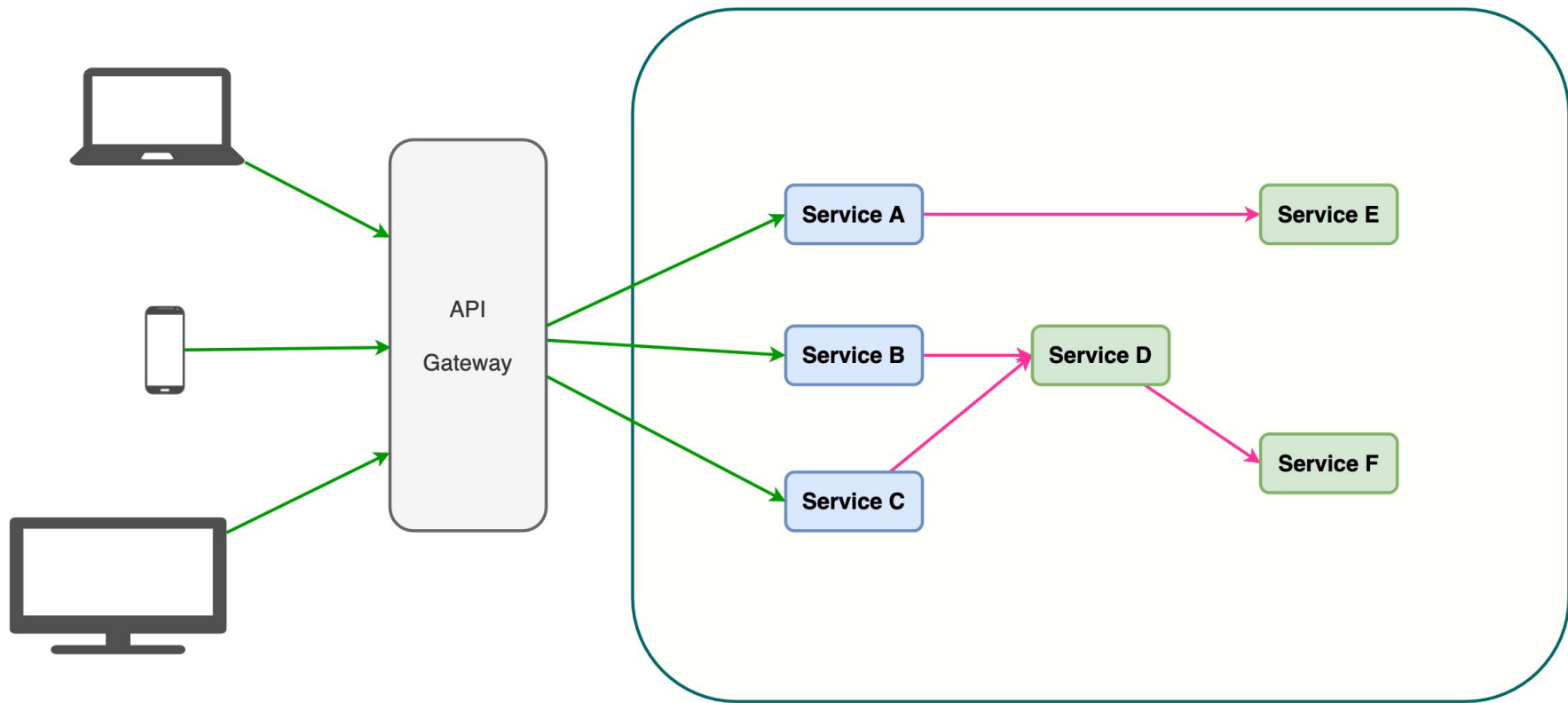


# Limitations of This Approach

- Maintaining Two Tools
- Maintaining Two Expert Pools

# Istio as the API Gateway

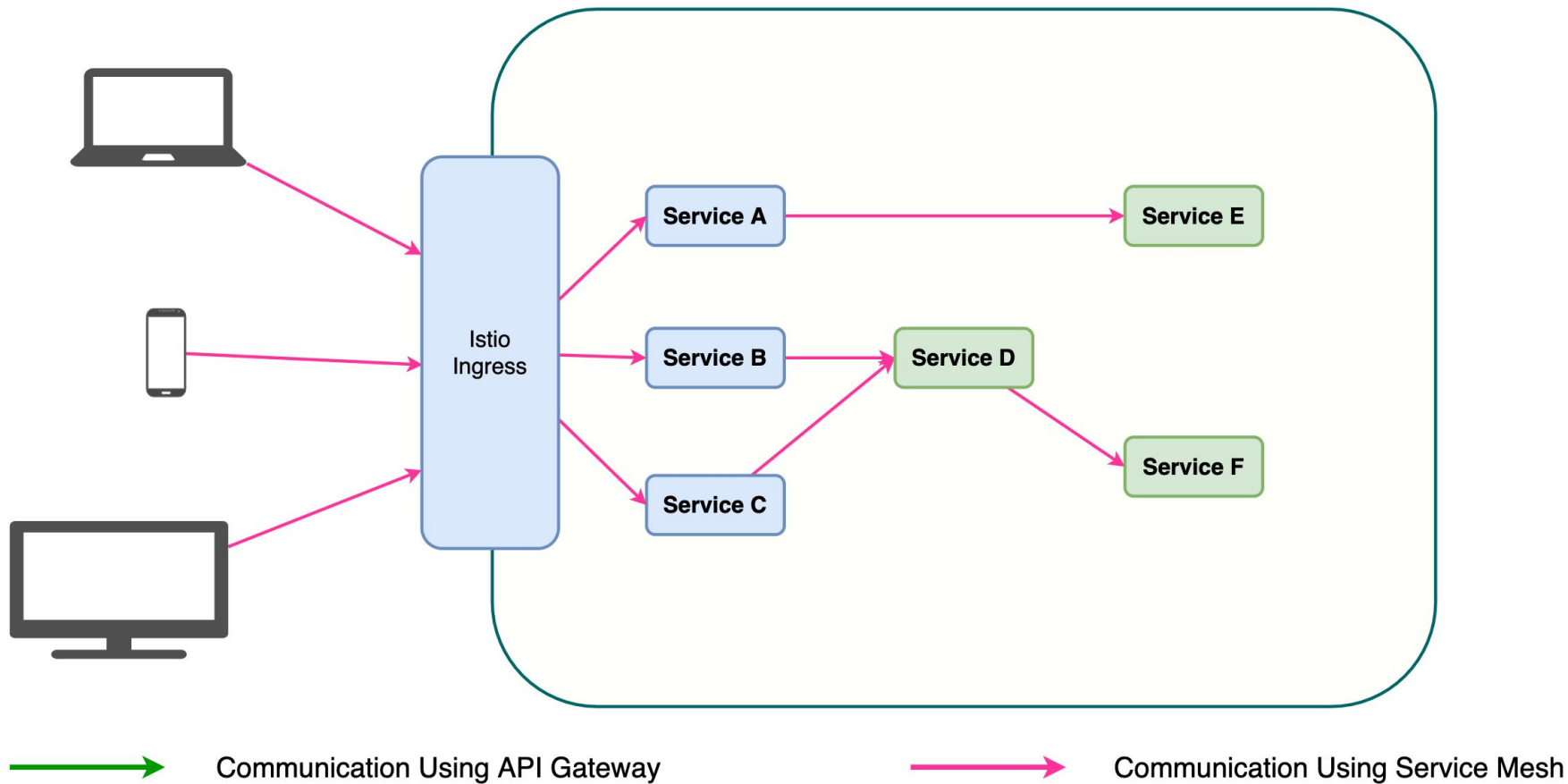


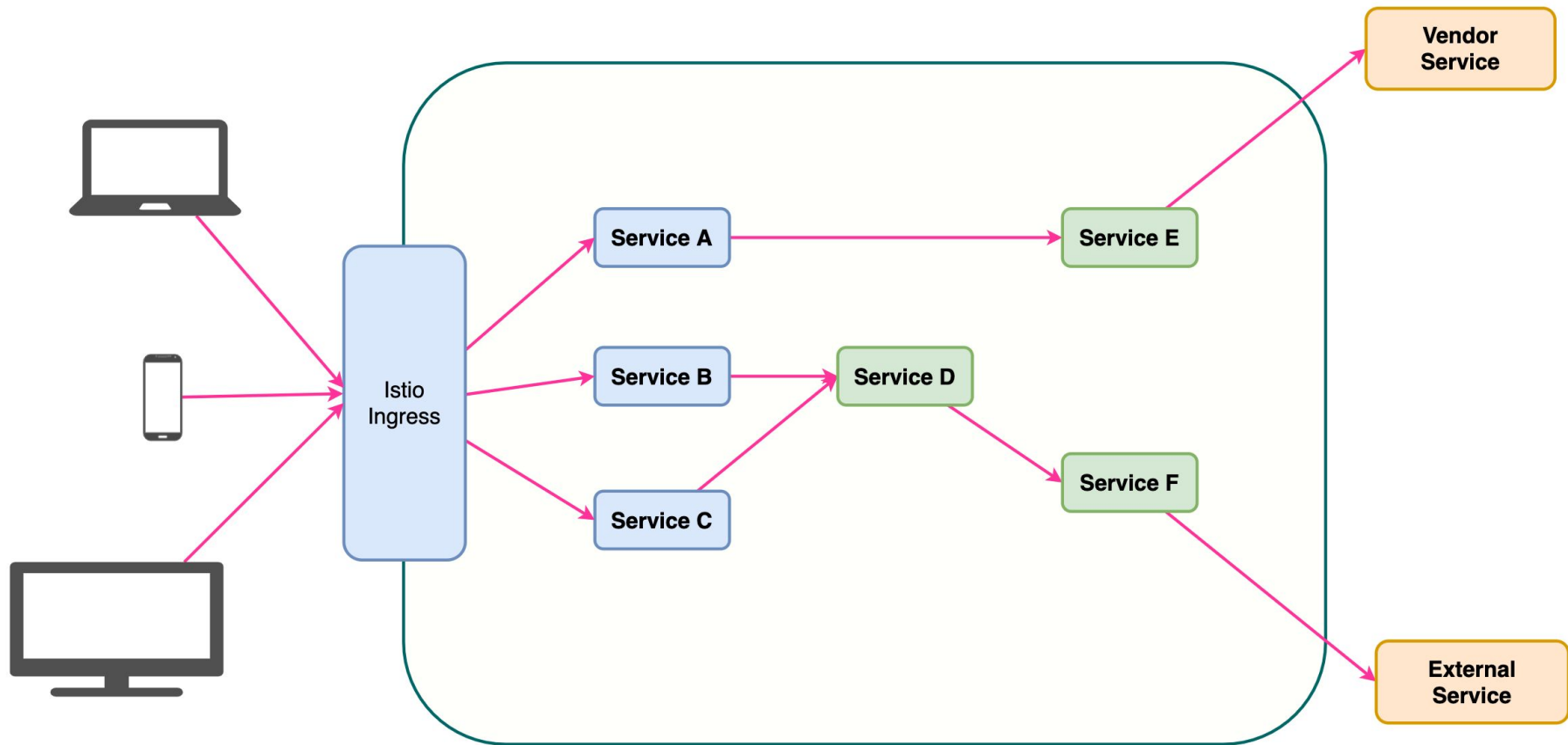


Communication Using API Gateway

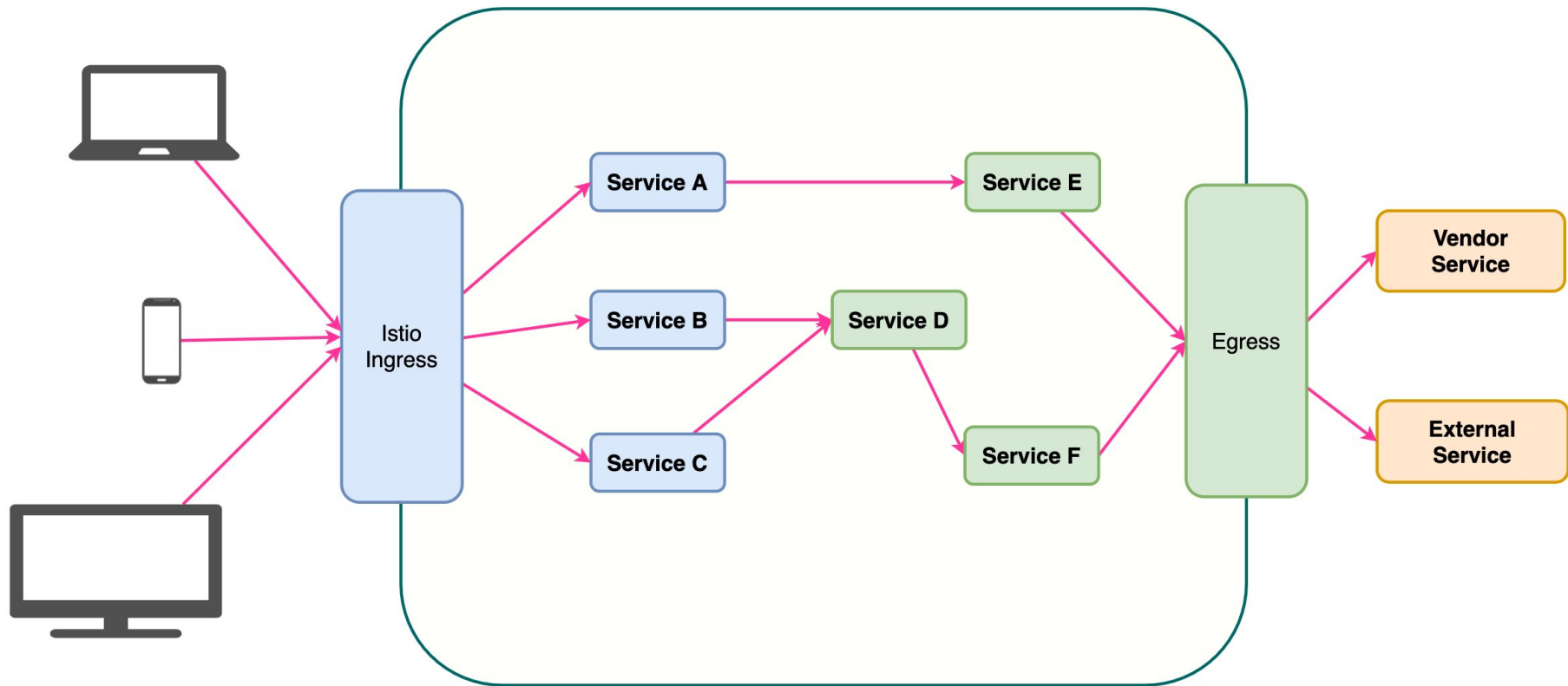


Communication Using Service Mesh





Communication Using Service Mesh



Communication Using Service Mesh

# Advantages

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- Same abstractions for all your traffic control needs
  - Ingress
  - Egress
  - Inter Service Communication
- Build expertise in one discipline
- Decentralized maintenance
- Rich Network functionalities across the ecosystem
- Kubernetes Native
- Large and active community

# Challenges

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- Doing Service Mesh is complicated
- Writing EnvoyFilters is hard!
- Debugging EnvoyFilters is even harder!!



**Where It Isn't a Good Fit?**

# Where It Isn't a Good Fit?

- Non Kubernetes Ecosystem
- You don't want Sidecar Proxies
- Project is too small
- Need best tool for both domains

**Thanks...**