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MONOLITHS TO MICROSERVICES: APP TRANSFORMATION

Hands-on Technical Workshop

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API-LED MODERNIZATION

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WHY APIs

More than a technology, it's a way of doing business

- Your product is your business, both internal and external
- Entrepreneurial approach to solving problems and leveraging opportunities
- Customer service driven behaviors
- Support overarching organizational strategies with data-driven decisions

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THERE IS NO “OFF” BUTTON FOR LEGACY APPLICATIONS

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> “When designing a new application you should design it in such a way as to make it easier for it to be strangled in the future. Let's face it, all we are doing is writing tomorrow's legacy software today. By making it easy to be strangled in the future, you are enabling the graceful fading away of today's work.”
>
> - Martin Fowler

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APPLICATION MODERNIZATION

Adopting legacy applications to deliver value for modern business needs

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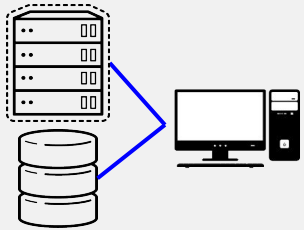
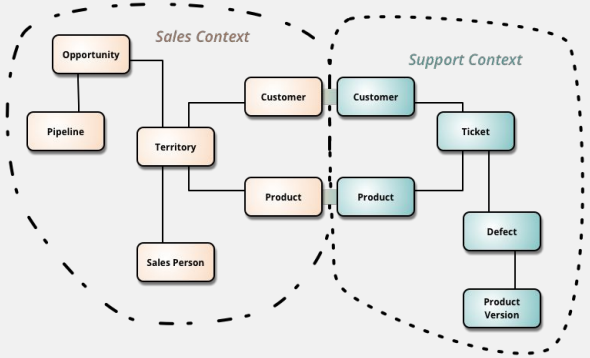
MODERN SOFTWARE ENGINEERING

Methodical Approach to Evolve Systems

MAINFRAME



MONOLITH



BOUNDED CONTEXTS

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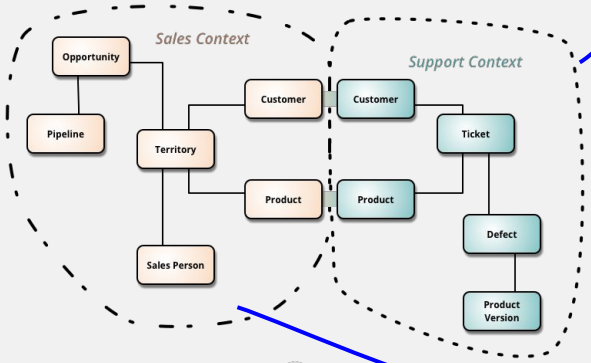
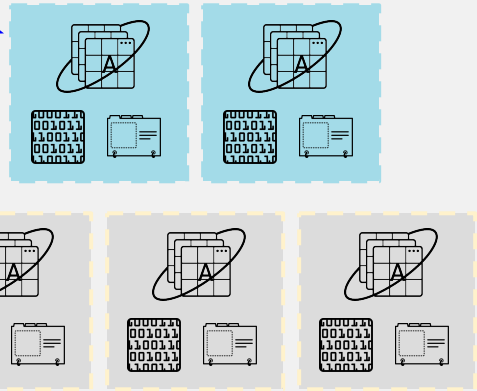
MODERN SOFTWARE ENGINEERING

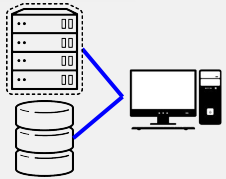
BOUNDED CONTEXTS





MICROSERVICES & APIs

MAINFRAME



MONOLITH

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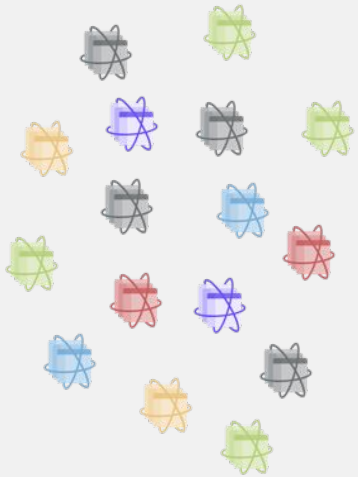
PURPOSE-BUILT TOOLS

Eliminate guesswork for predictable results

ANALYZE



RATIONALIZE & CATALOG

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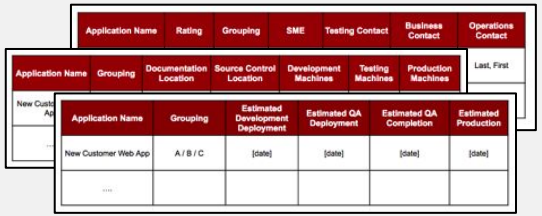
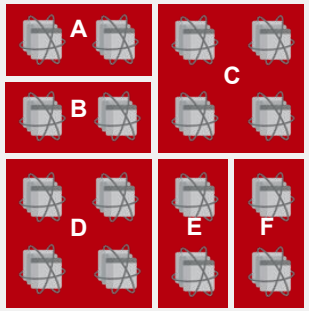
APPLICATION
MIGRATION TOOLKIT



PLAN



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API - LED MODERNIZATION IN PRACTICE:

CONNECT AND EXTEND

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AKA:

STRANGLING THE MONOLITH

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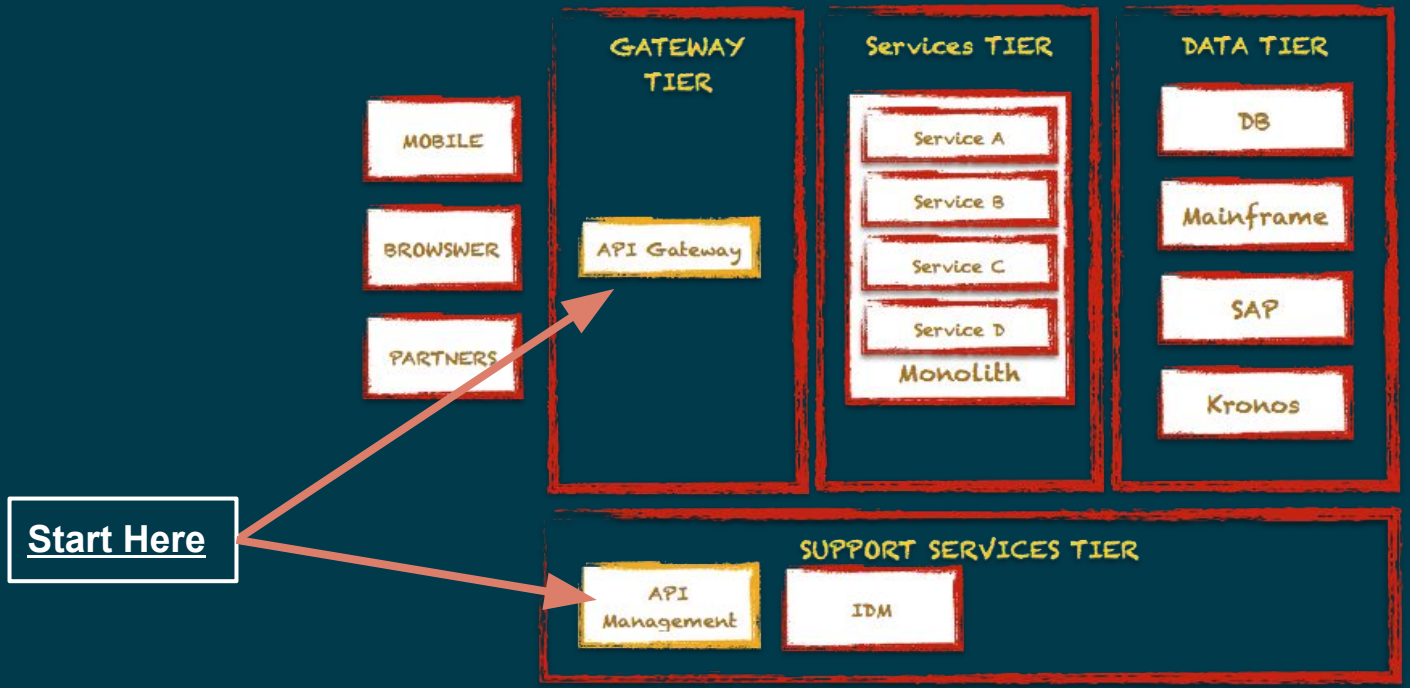
PHASE 1: STRANGLING THE MONOLITH

API First



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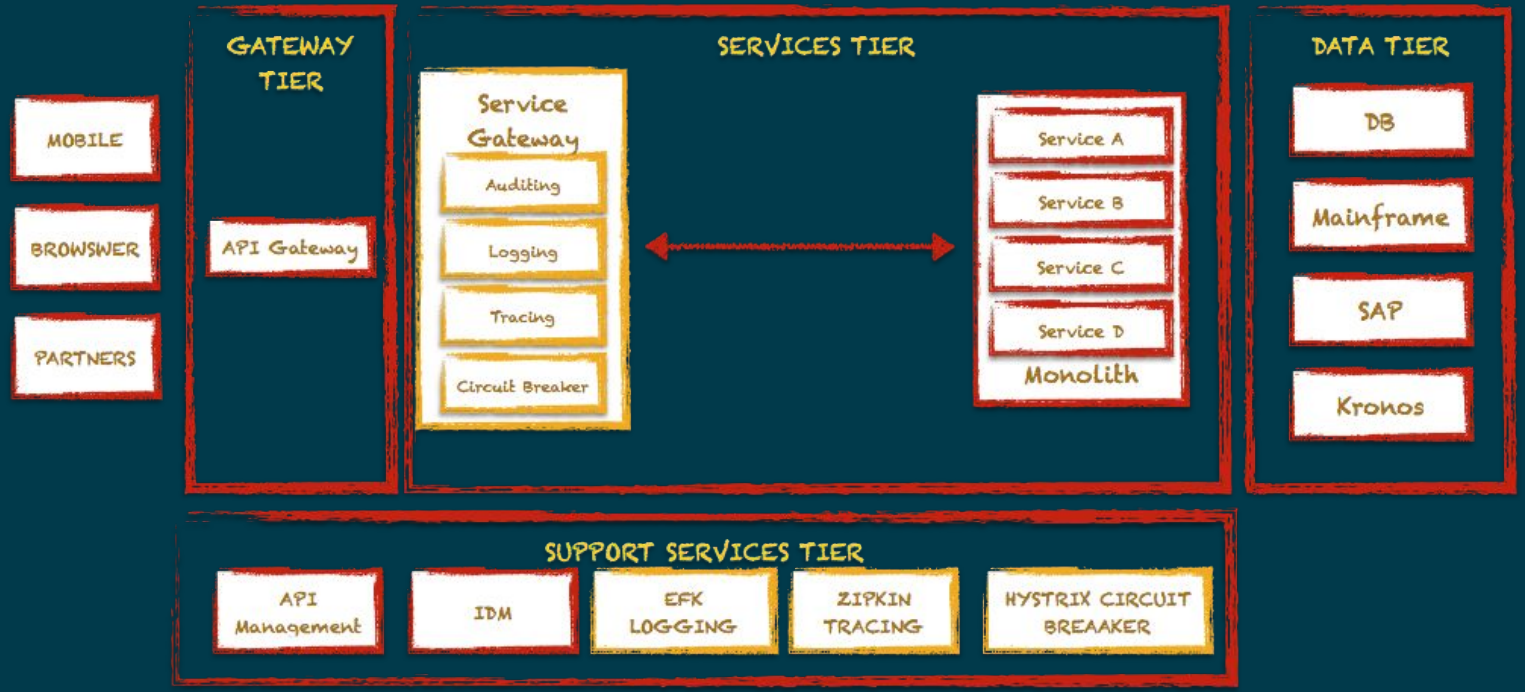
PHASE 2: STRANGLING THE MONOLITH

Connect and extend with a Services Gateway



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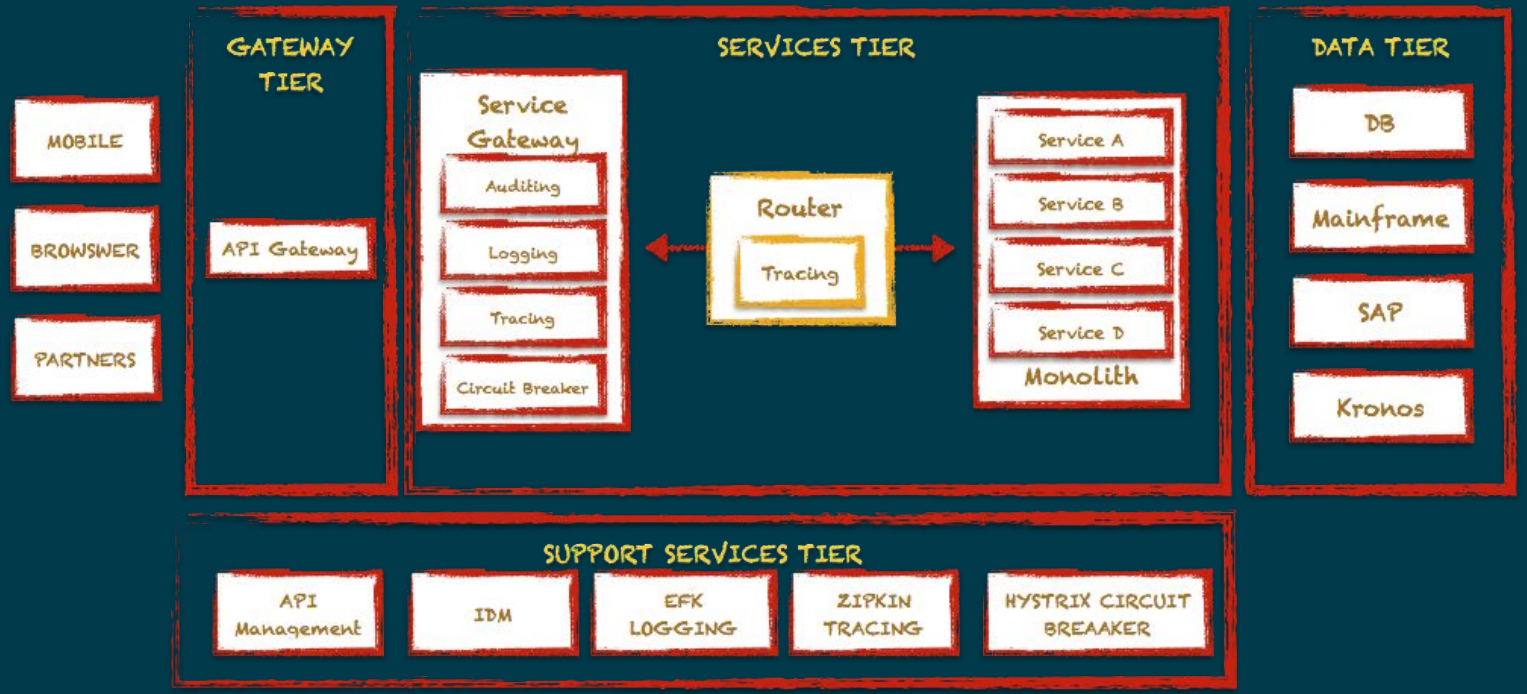
PHASE 2: STRANGLING THE MONOLITH

Create a path for new services



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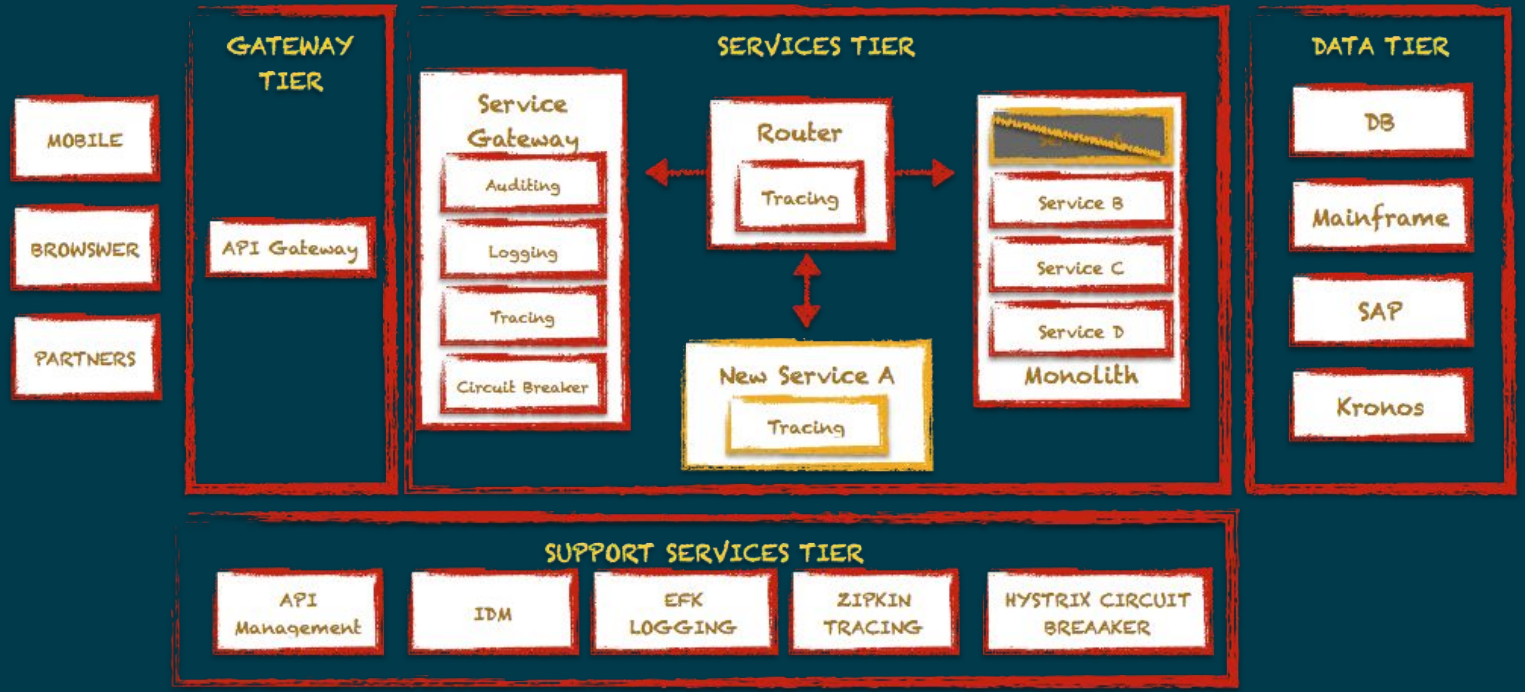
PHASE 2: STRANGLING THE MONOLITH

Out with the old, in with the new



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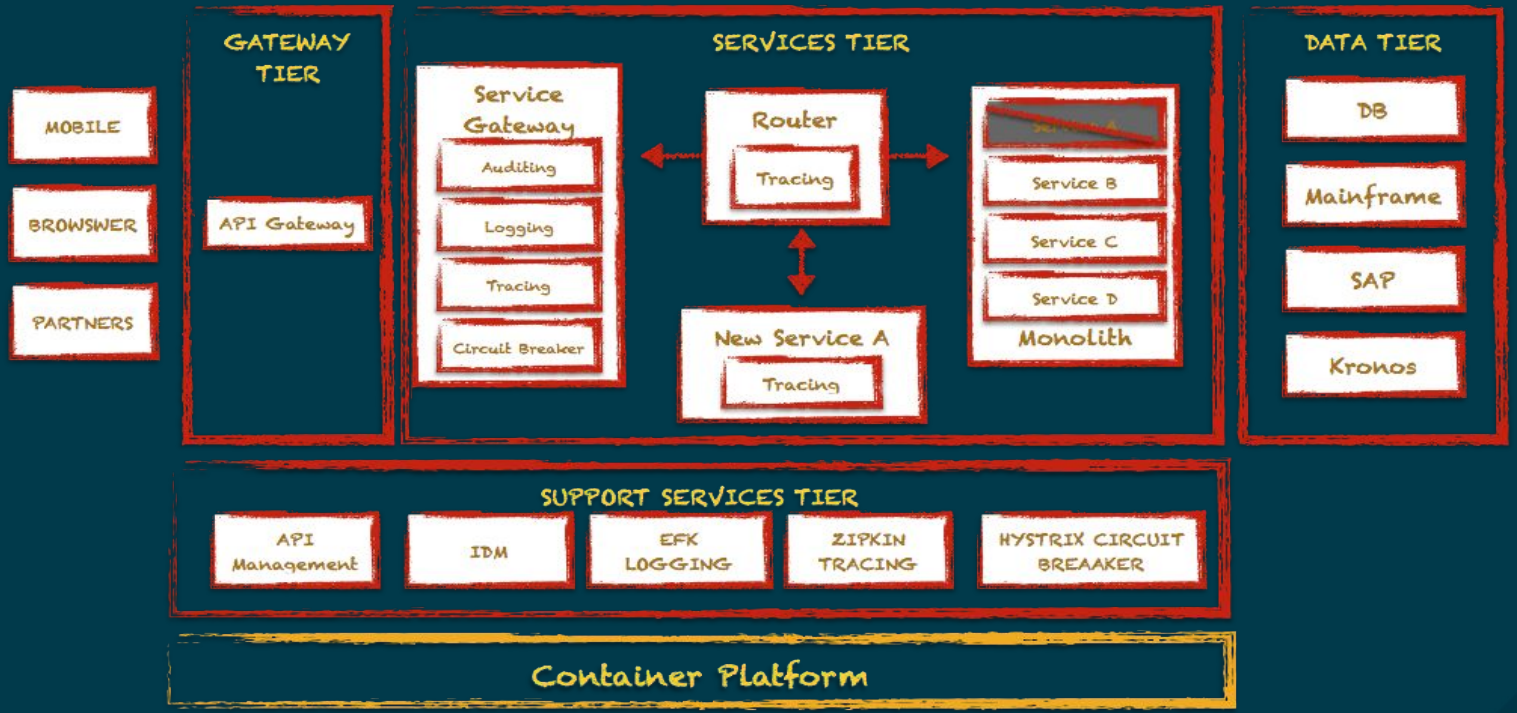
PHASE 3: STRANGLING THE MONOLITH

Containerization



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DRILL DOWN

PHASE 1: STRANGLING THE MONOLITH

EXPOSING APIs

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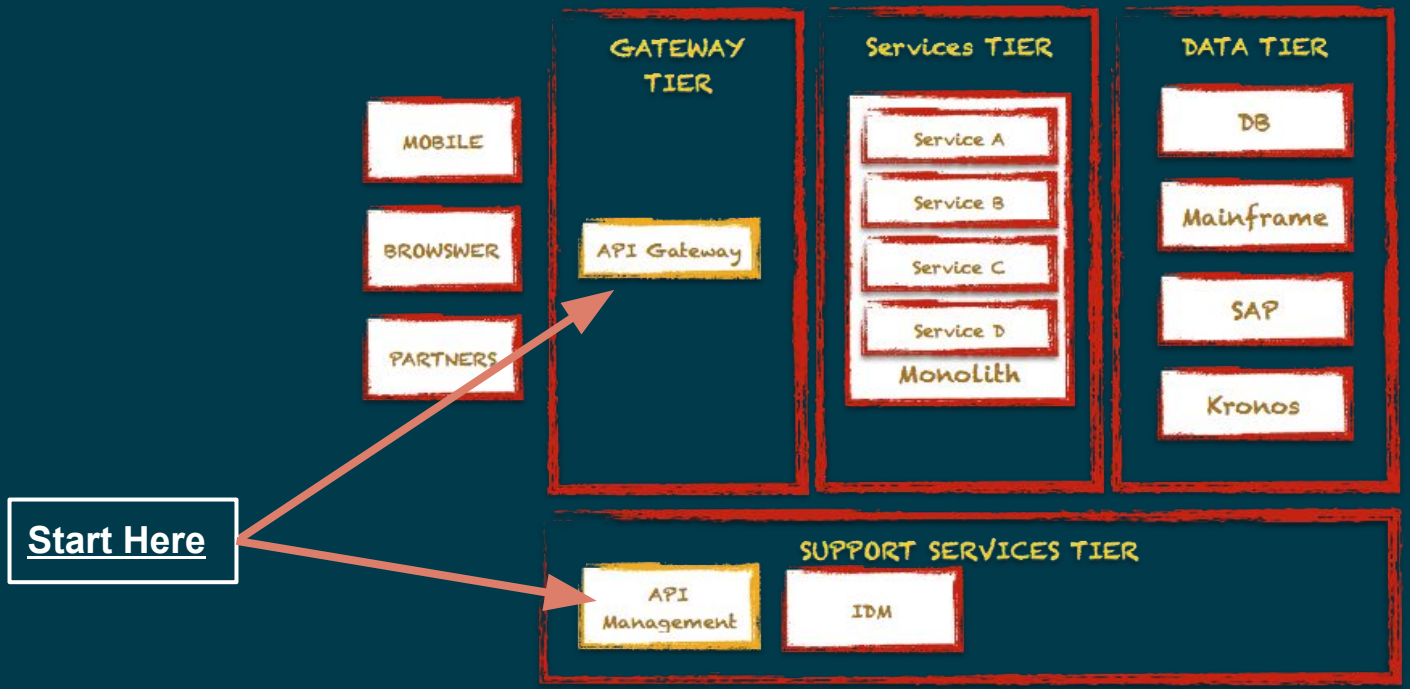
PHASE 1: STRANGLING THE MONOLITH

Expose APIs



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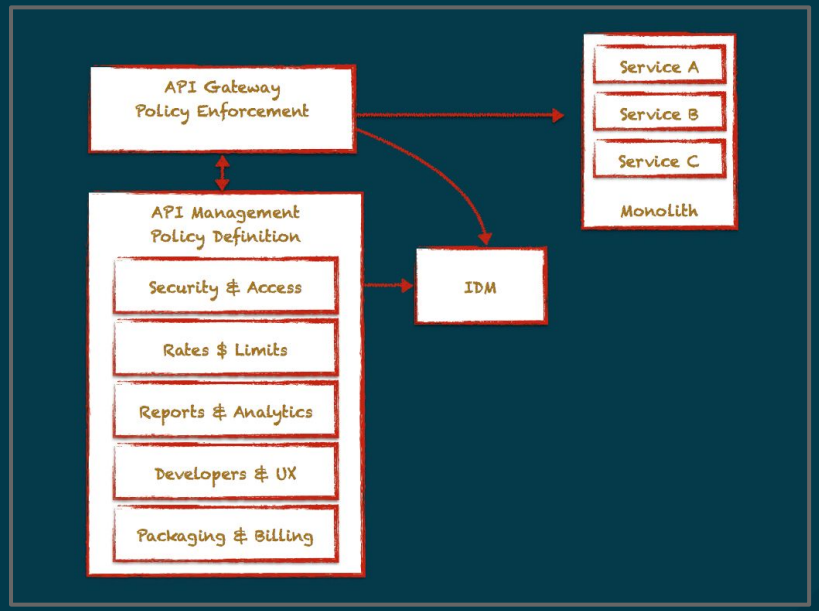
WHY API MANAGEMENT?

API Management is where we start growing and learning

5 Components to API Management

- Security & Access Control
- API Contracts, Throttling & Rate Limits
- Reports & Analytics
- Developer & Partner UX
- Packaging, Billing & Payments



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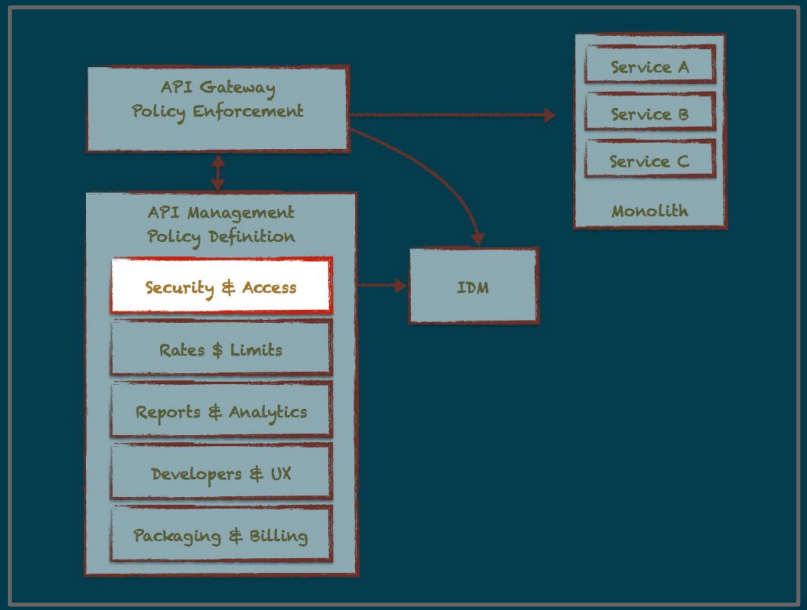
WHY API MANAGEMENT

API Security & Access Control

- Authenticate traffic
- Restrict by policy
- Drop unwelcome calls
- Protect backend services
- Generate overage alerts
- Impose rate limits



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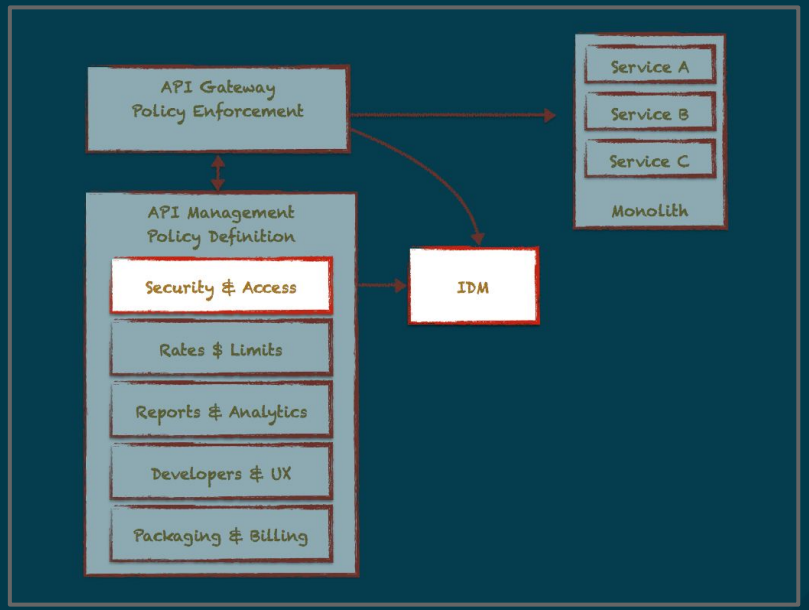
WHY API MANAGEMENT

API Security & Access Control

- Multiple authentication mechanisms
  - API Key
  - APP ID / API Key
  - OAuth 2.0



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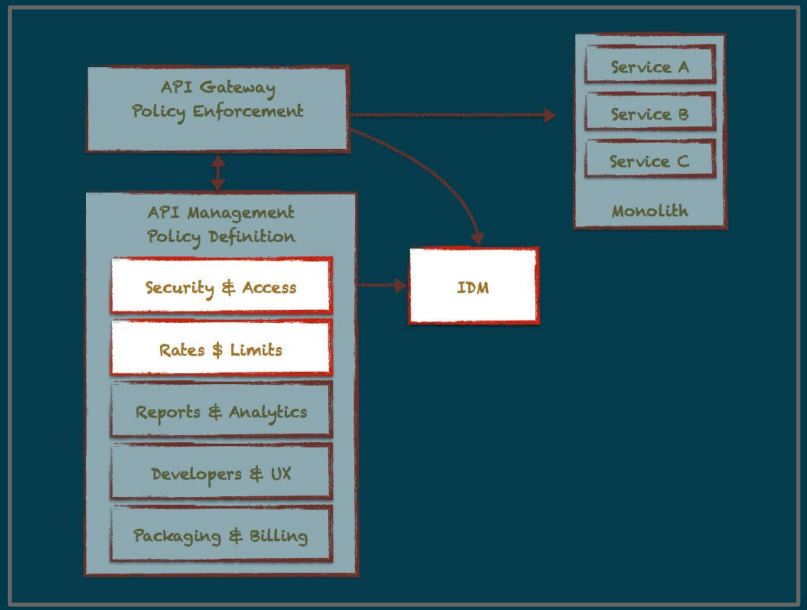
WHY API MANAGEMENT

API Contracts, Throttling & Rate Limits

- Allow/restrict access to your API endpoints along with rate limits
- Rate-limit accounts
- User and endpoint level



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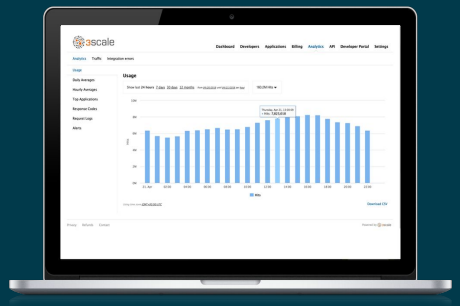
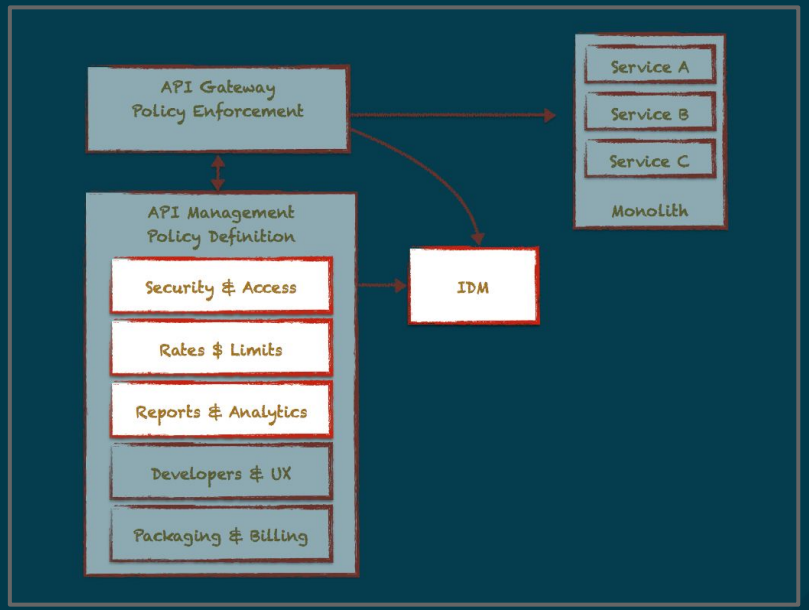
WHY API MANAGEMENT

Reports & Analytics

- Analytics providing intelligence about the performance, and traffic patterns
- Visibility who is doing what where
- Automatic based on behaviors





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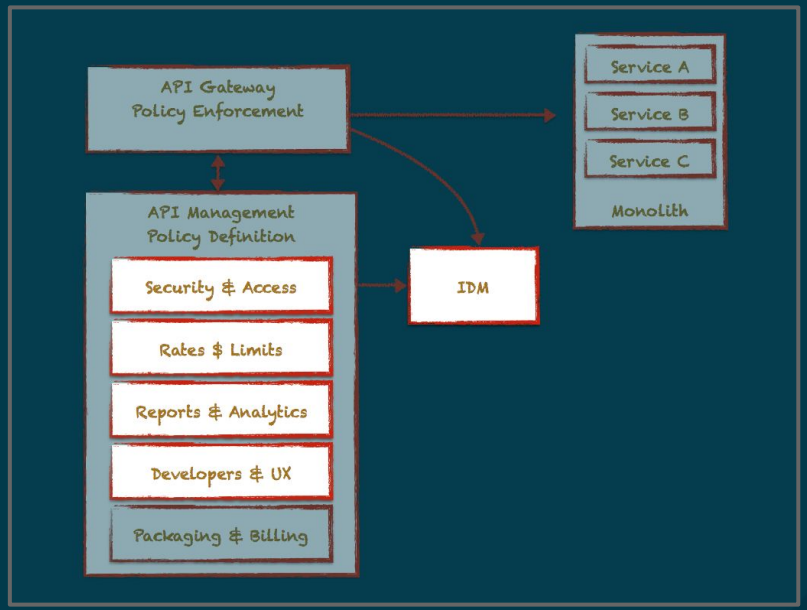
WHY API MANAGEMENT

DEVELOPER PORTAL & USER EXPERIENCE

- Your brand
- Your user experience
- Your user interface



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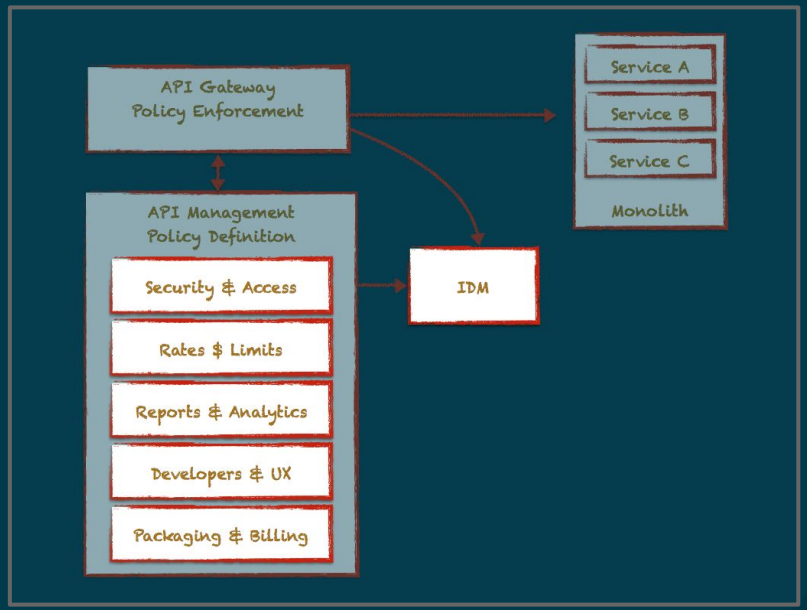
WHY API MANAGEMENT

Packaging, Billing & Payments

- Multiple pricing rules
  - One time payment
  - Fixed/Variable recurring fee
  - Cost per unit
  - Tiered pricing
- Billing cycles
- NO CC DATA STORED



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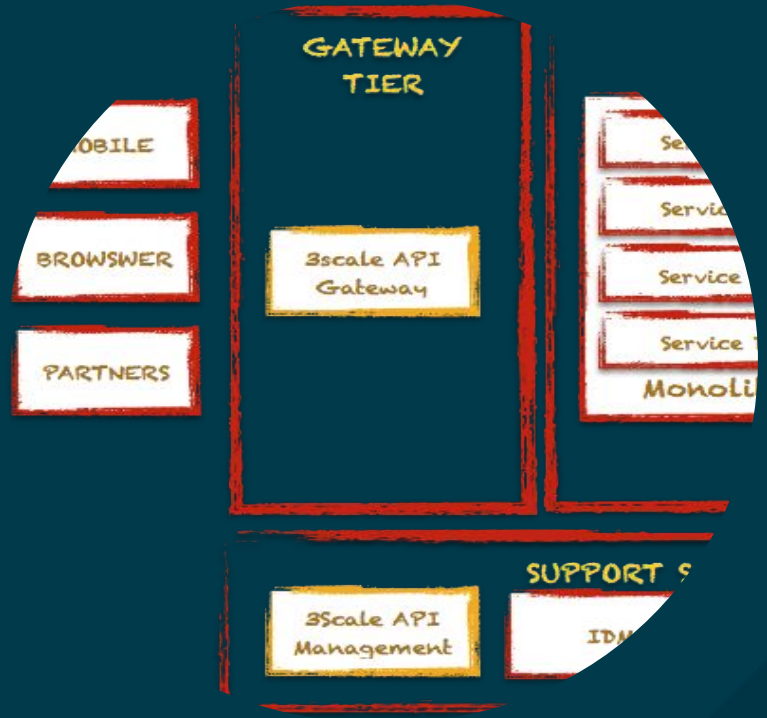
3SCALE API MANAGEMENT

Expose APIs Faster with 3scale

Keys Differentiators

- Hybrid Cloud Architecture
- Separation of Concerns
  - Slim DMZ deployments
  - NO DATA AT REST
- 1st class citizen in an automated DevOps tool chain



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