



Unified Traffic Routing



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Agenda

- 1 Overview: introduction & architecture
- 2 UI & Middle tier: user input capture & rule generation
- 3 ATS backend: UTR rule & consumption



Overview & Motivation

- Large operational effort
 - Tedious process of rule creation and deployment
 - Rely on external system for advanced routing
- Difficult to develop and maintain
 - Convoluted Rules with 7 customized remap plugins
- Fragile process
 - Lack of validation and error checking.
 - Risky and error-prone

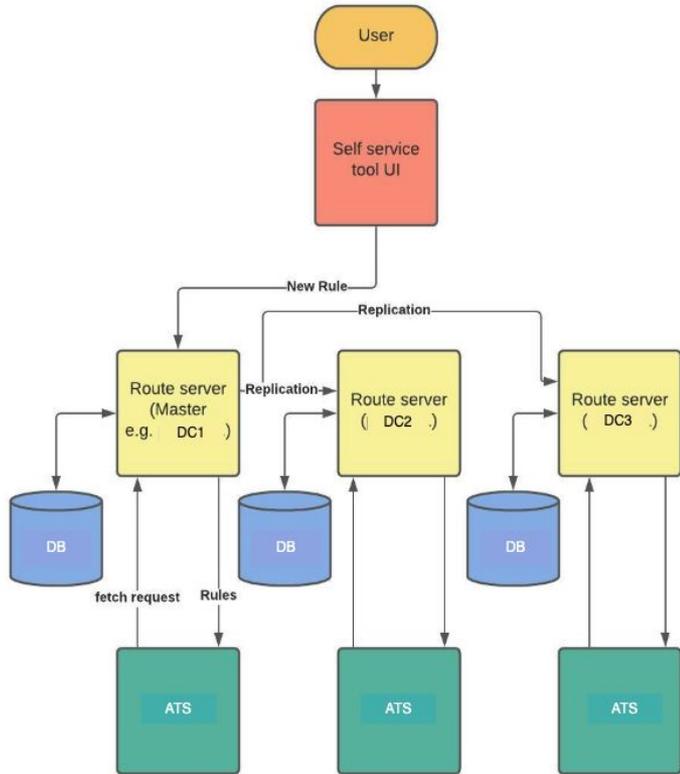


Overview: Solution

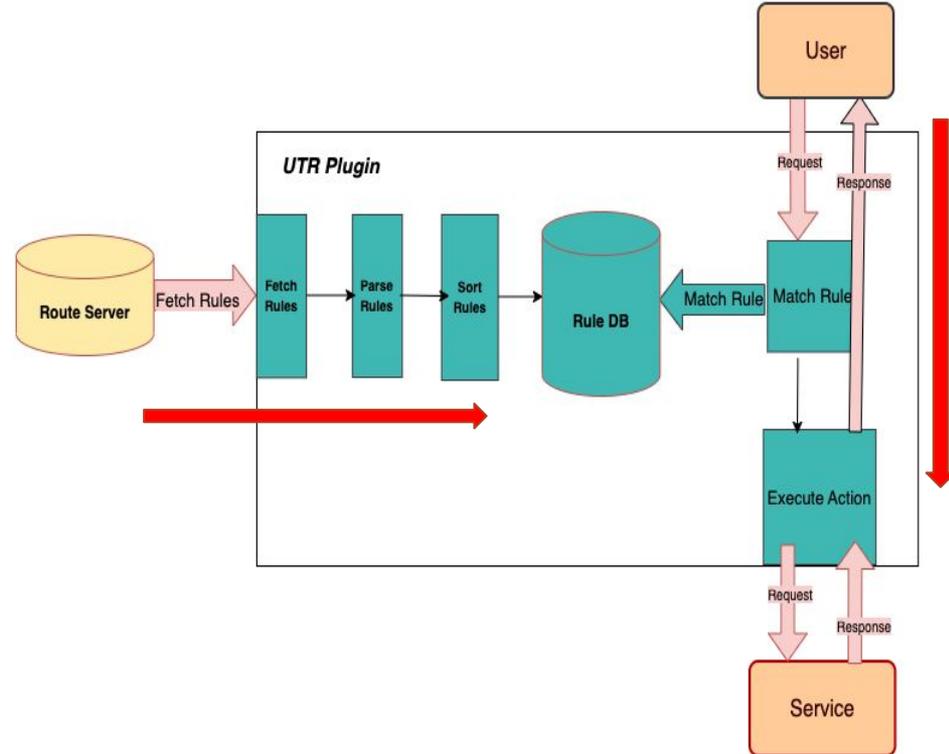
- Integrated workflow
- Intuitive & expressive routing rule
- The control plane with validation

Overview: Design and Architecture

Control Plane



Data Plane



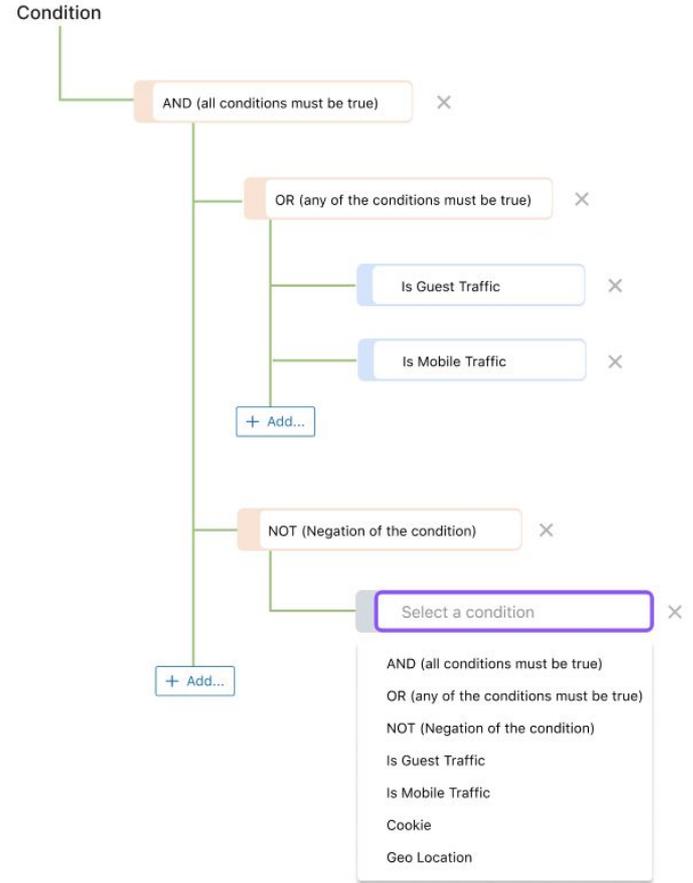


Overview: Incremental implementation

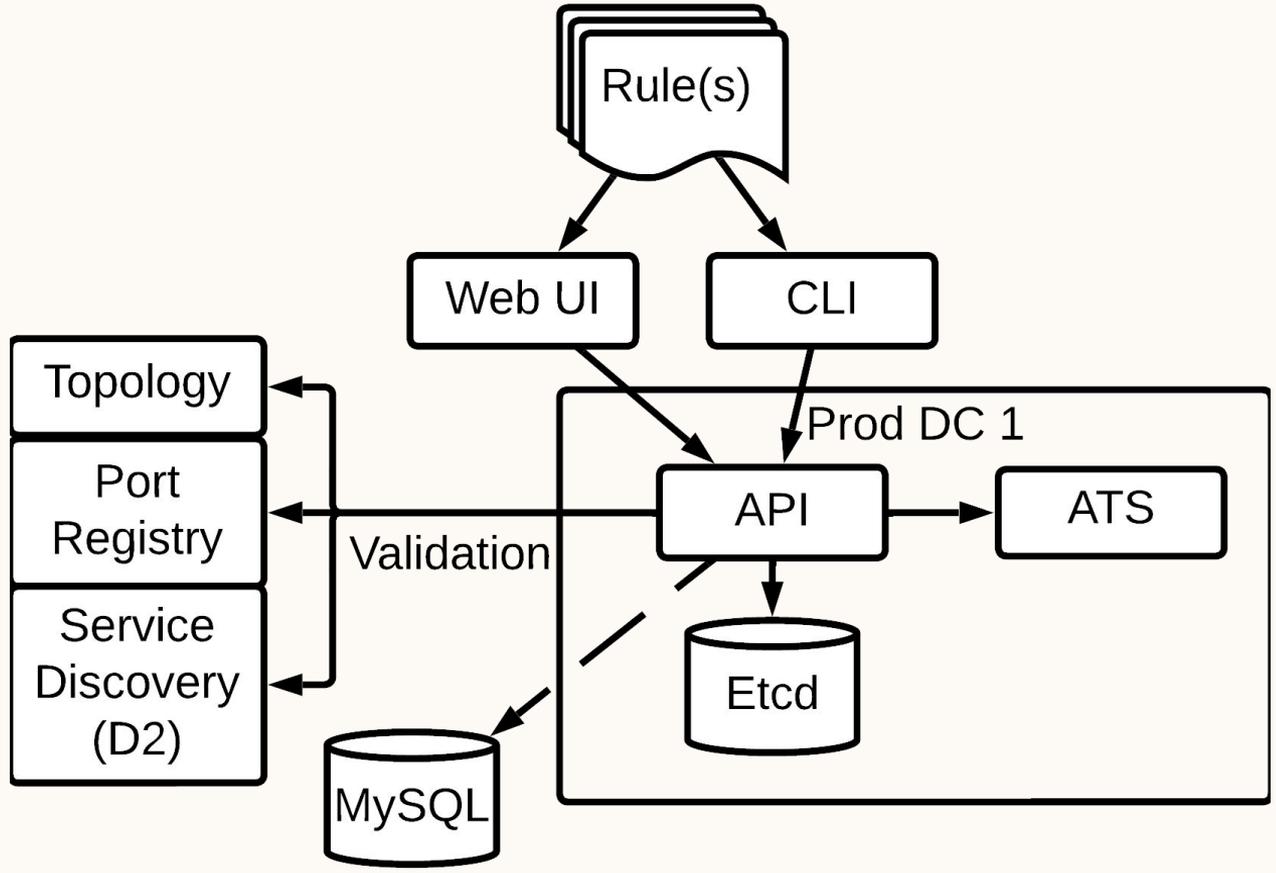
- Phase 1: Incremental feature support
 - UTR plugin with expressive rule
 - Migrate incrementally
 - Add validations
 - UI to capture user requirement
- Phase 2: performance & optimization
 - Remove remap.config constraint
 - Look up order and routing optimizations
- Phase 3: Self service
 - Authorization and authentication
 - User ondemand deployment and auto rollback

Web UI

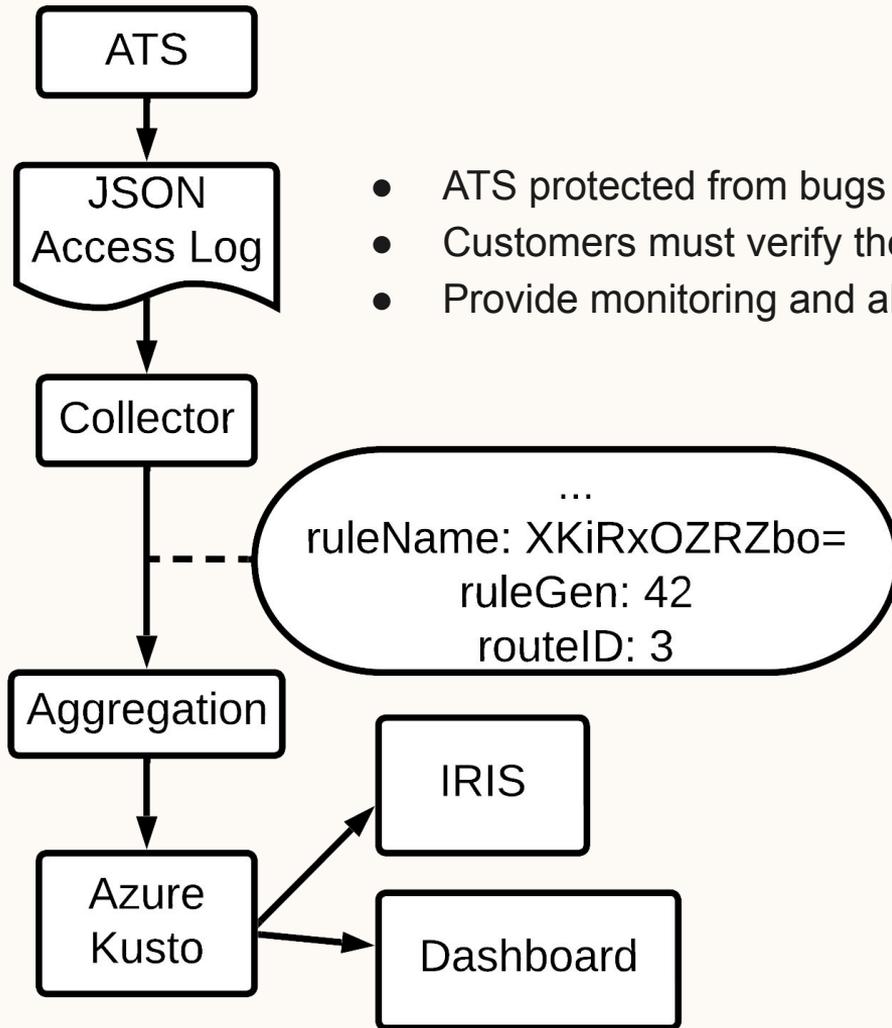
- Self service
- Create/search/update routings
- Under development



Middle Tier

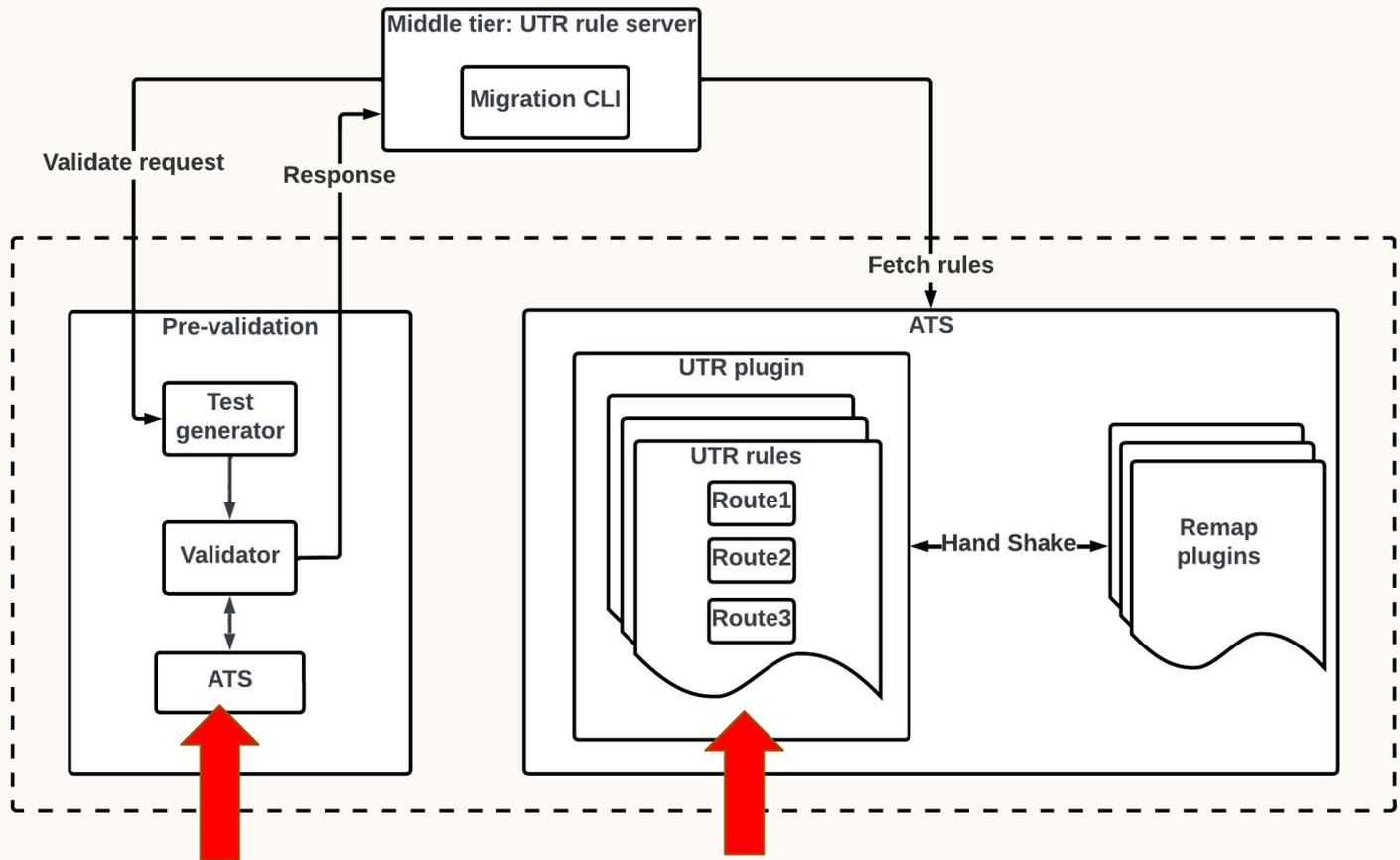


Monitoring

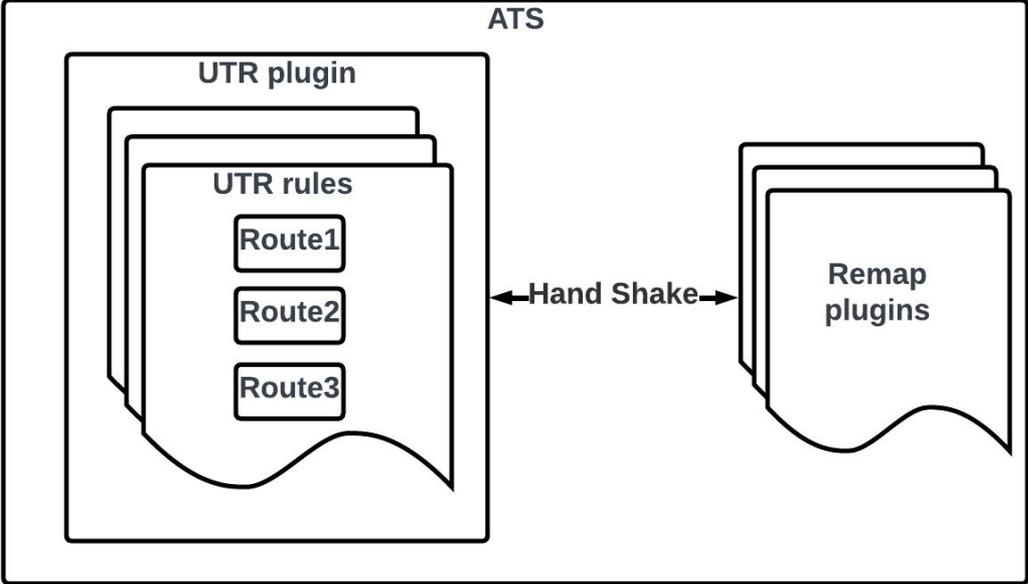


- ATS protected from bugs by gradual rule rollout
- Customers must verify their rule is healthy
- Provide monitoring and alerting tools

Backend



Backend: UTR plugin



- Explicit & intuitive
- Plug & play(building lego!)
- Simple syntax
 - operators
 - filters
 - actions



Backend :UTR rule



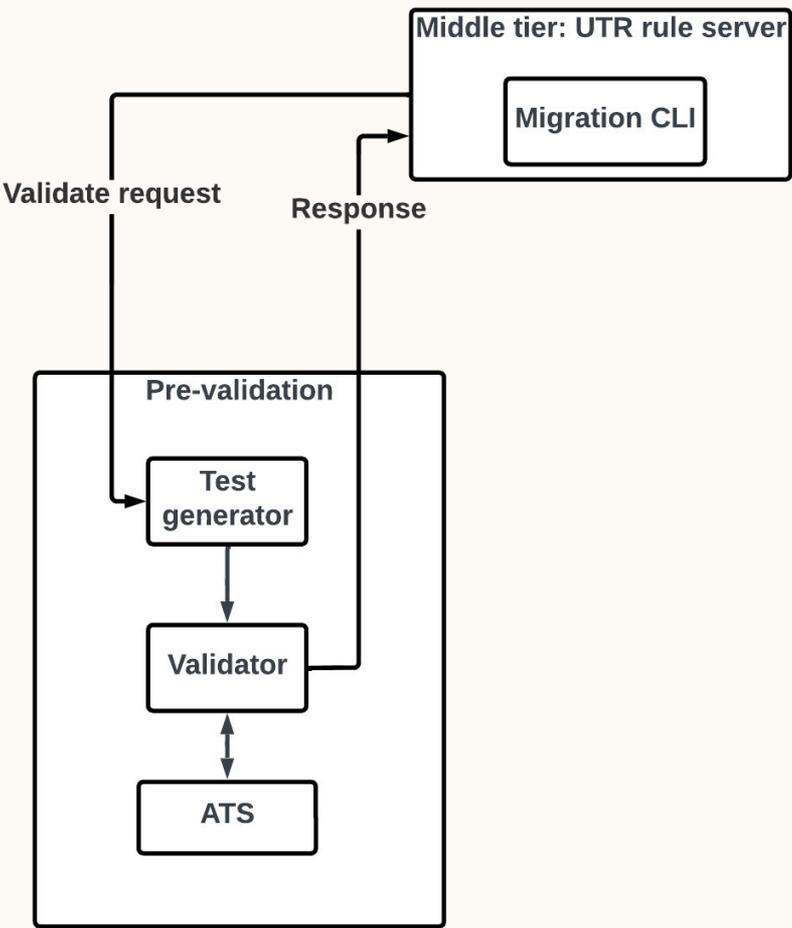
```
UTR rule

"ROUTES": [
  {
    "CONDITIONS": [
      "AND", ← Operator
      ["F_IS_MOBILE"], ← Filter
      ["NOT", ["F_IS_GUEST"]]
    ],
    "ACTIONS": [
      ["SET_URL", "https://www.example.com:123/path"] ← Action
    ]
  }
]
```



Backend: Validation

- Integrated with CI/CD
- Generates tests
- Validates tests





Summary

- High fidelity user intent capture
- Flexible, intuitive & explicit rules
- Robust routing
 - no external dependencies
 - Rule validation

Questions?