JStorm Based Network Analytics Platform

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Overview of Alibaba Cloud



18 Regions 150+ Products 1 Million+ Customers



Comprehensive Networking Product Family

12 products for 5 scenarios



Self-Defined Cloud Networking Environment

VPC



Internet Access

SLB NAT Gateway EIP



Saving BGP Cost

Shared Flow Package Shared Bandwidth Package



Building Hybrid Cloud

Express Connect
Cloud Hosting
VPN Gateway
Smart Access Gateway

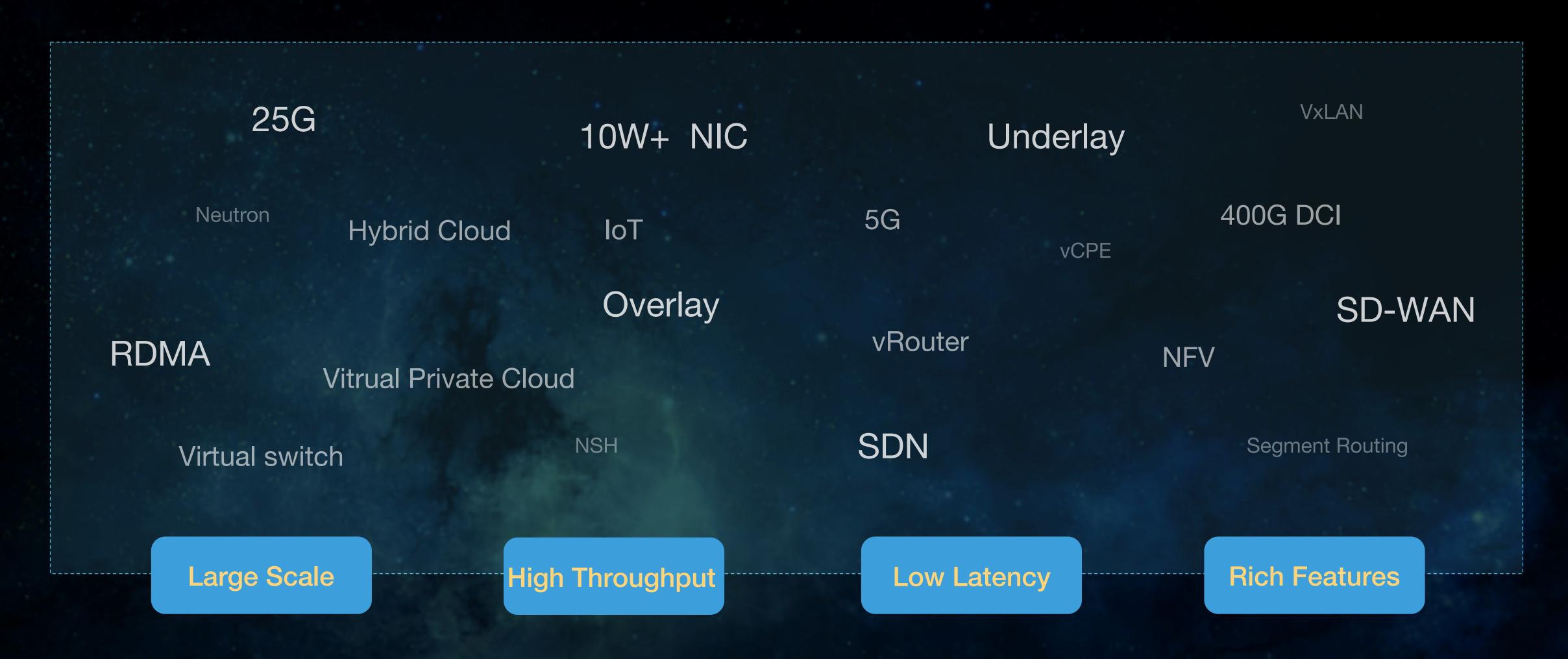
Global Connection

Cloud Enterprise Network
Global Acceleration

From Data Center to Global Connection, for every enterprise networking scenarios



Networking is getting complicated





Challenges from Growing Scale

Tenants

Servers

VMs

1,000,000,000

1,000,000,000

10,000,000,000

Random Failures

Daily Maintenance

Multi-Dimension Profiling



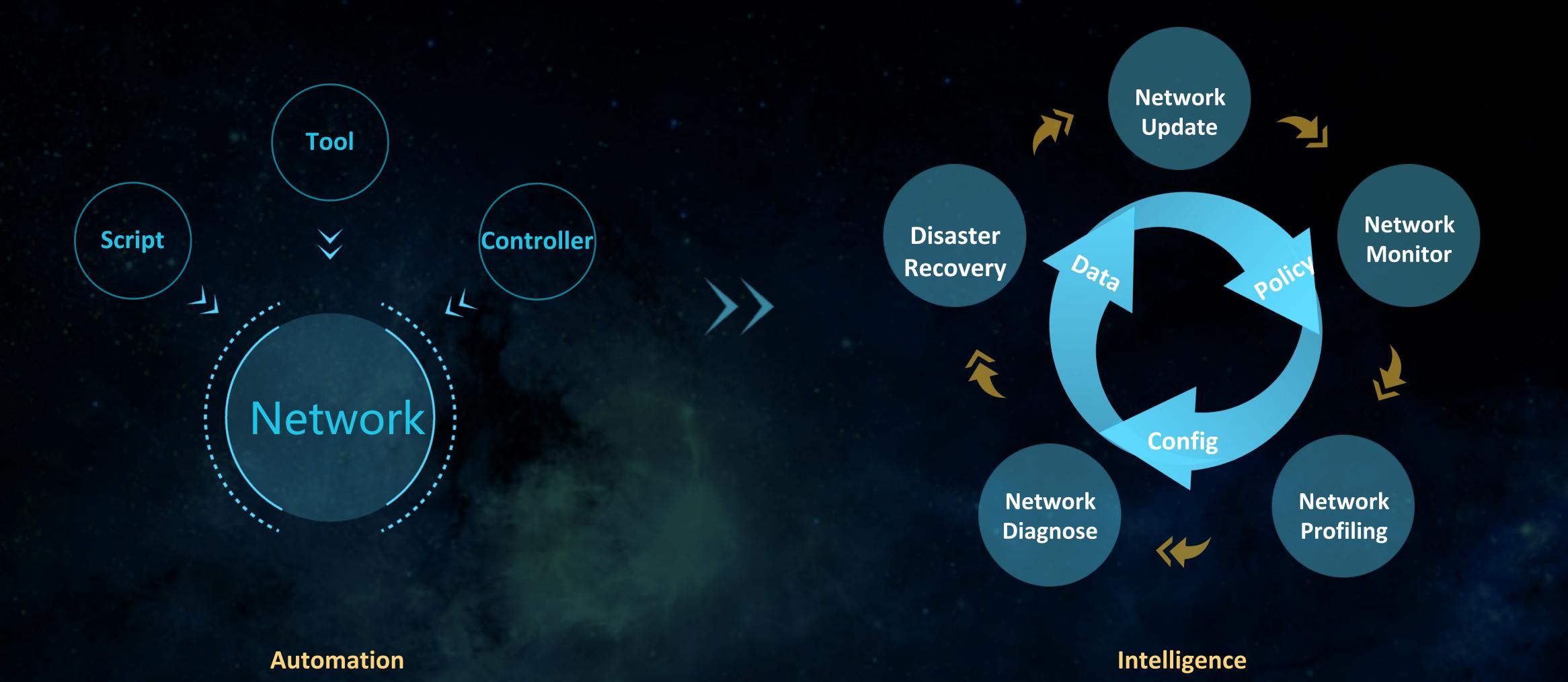
What we want to achieve

Network as a Service



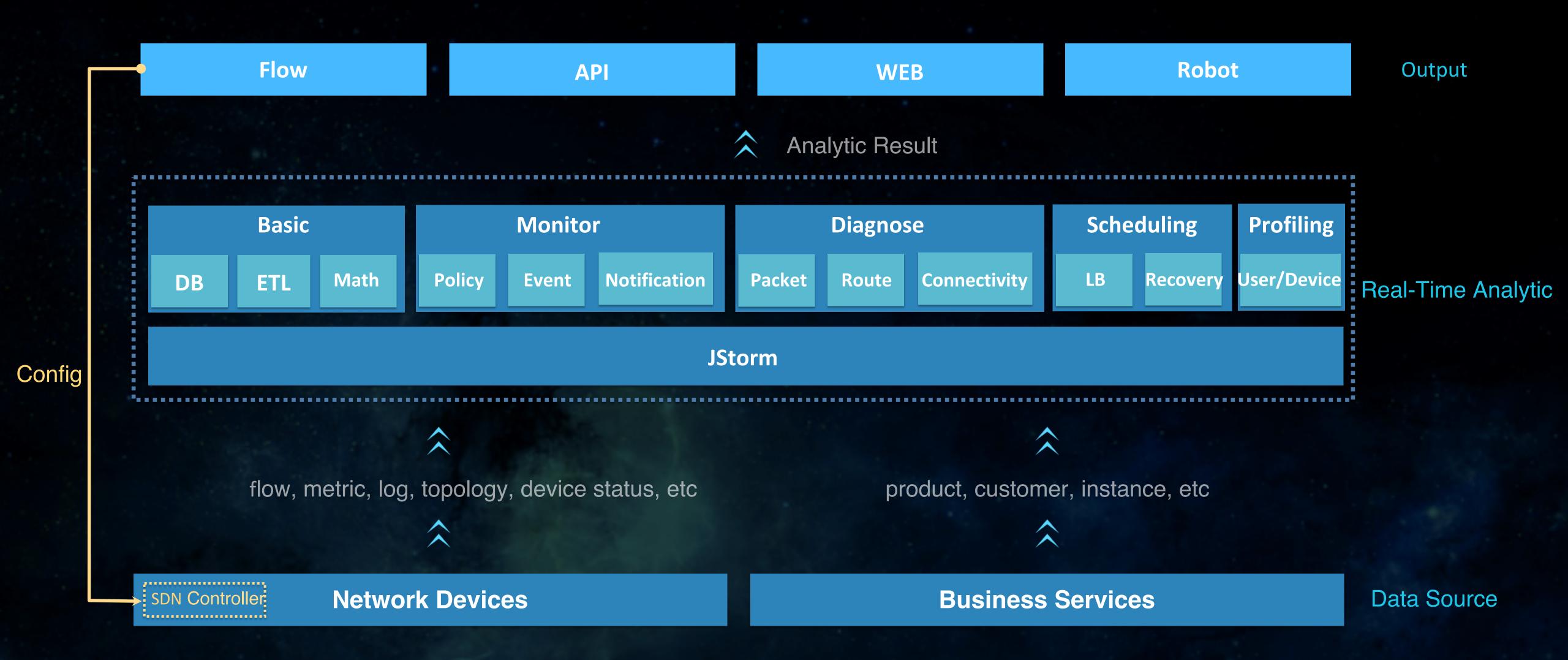


Automation to Intelligence





QiTian - JStorm Based Network Analytic Platform





QiTian - Data Sources & Types

QiTian

SDN Controller

operation log, topology
Streaming Log, DB, message

customer, product,
instance, income/cost

Streaming Log, DB

Log Streaming

DB Streaming

message Streaming

operation, infrastructure
Streaming Log

access, ddos, waf
Streaming Log

Operation Services

Security

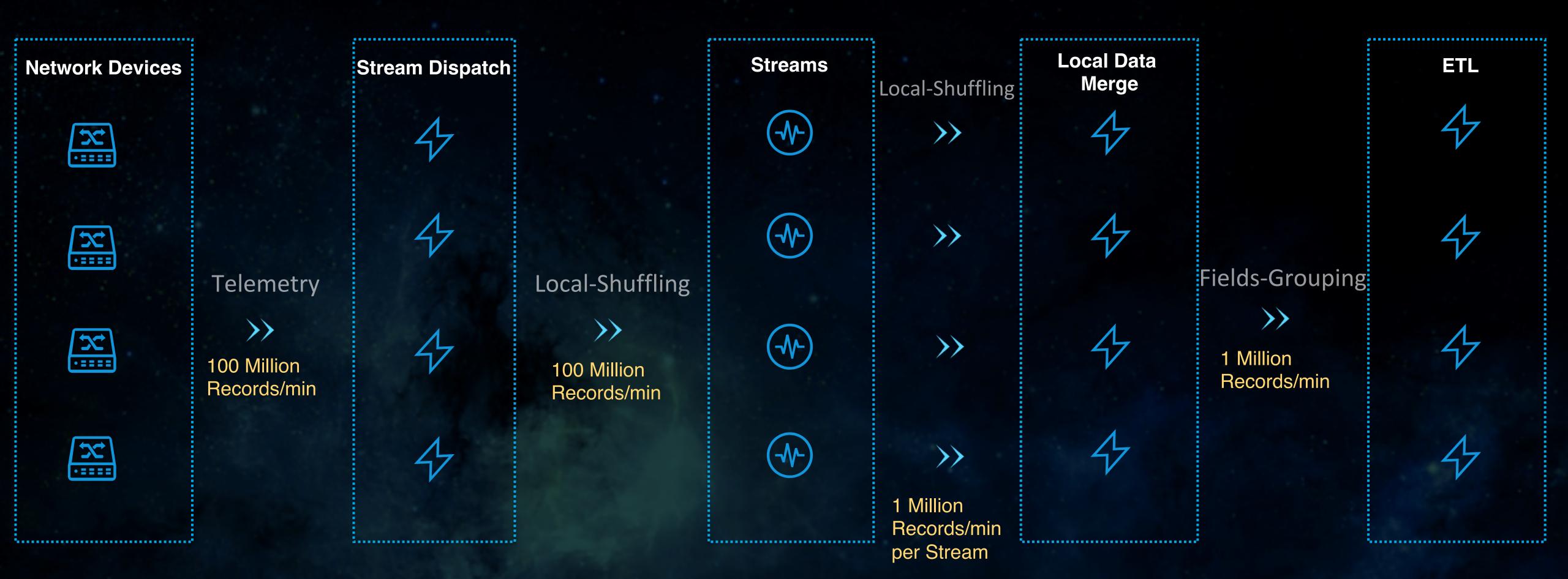
flow, metric, device status, access log, etc Streaming Log







QiTian - High Performance Network Analytics





QiTian - High Performance Network Analytics

Metrics

TPS

Data

500+ Metrics

2,000,000 Tuples/Sec

100T/Day



QiTian - Real-Time Network Monitor

Network Devices









Basic Steam Processing



4

Raw Data

flow, metric,

log

Rich Meta

Data

>>

user, instance,

cluster

4

4

Policy Steam Processing

4

metric vibration

4

predicted interval

4

event statistics

Event Merge Steam Processing



4

Network

Event

issue, failure

Merged

Network

Event

>>

4

4

Event Notification Steam Processing



mail



sms



app msg



QiTian - Real-Time Network Monitor

metric vibration

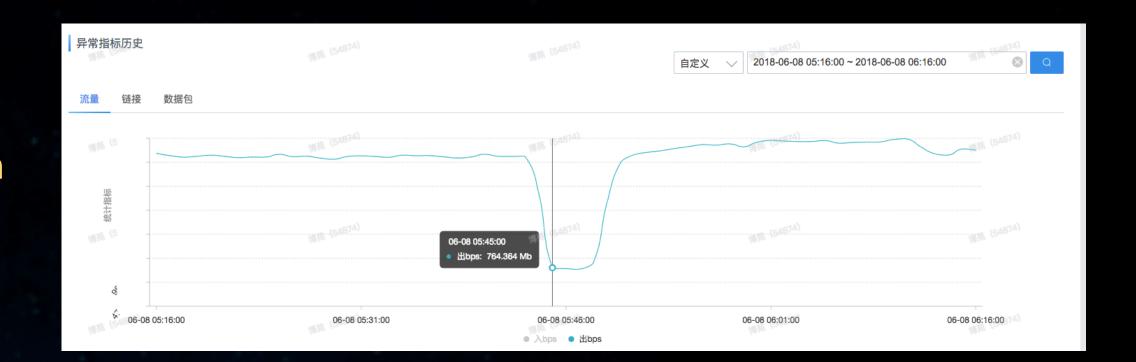
Major Network Issue Detection

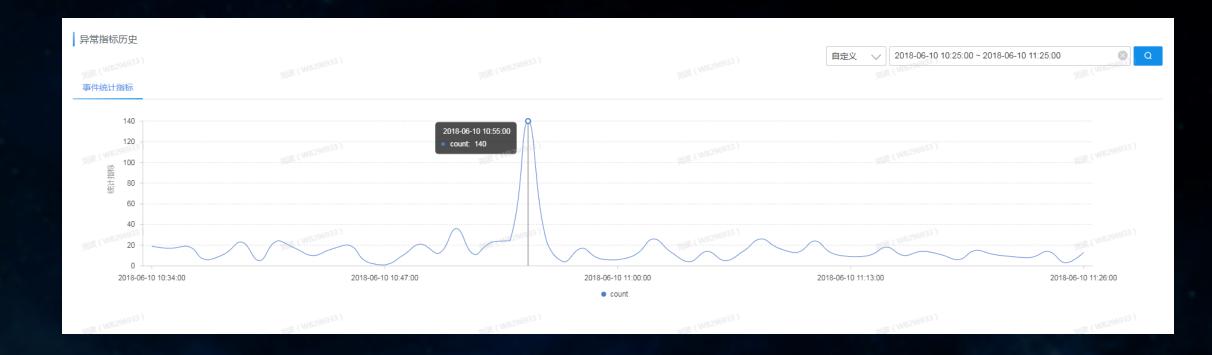
90%

abnormal

event statistics

predicted interval



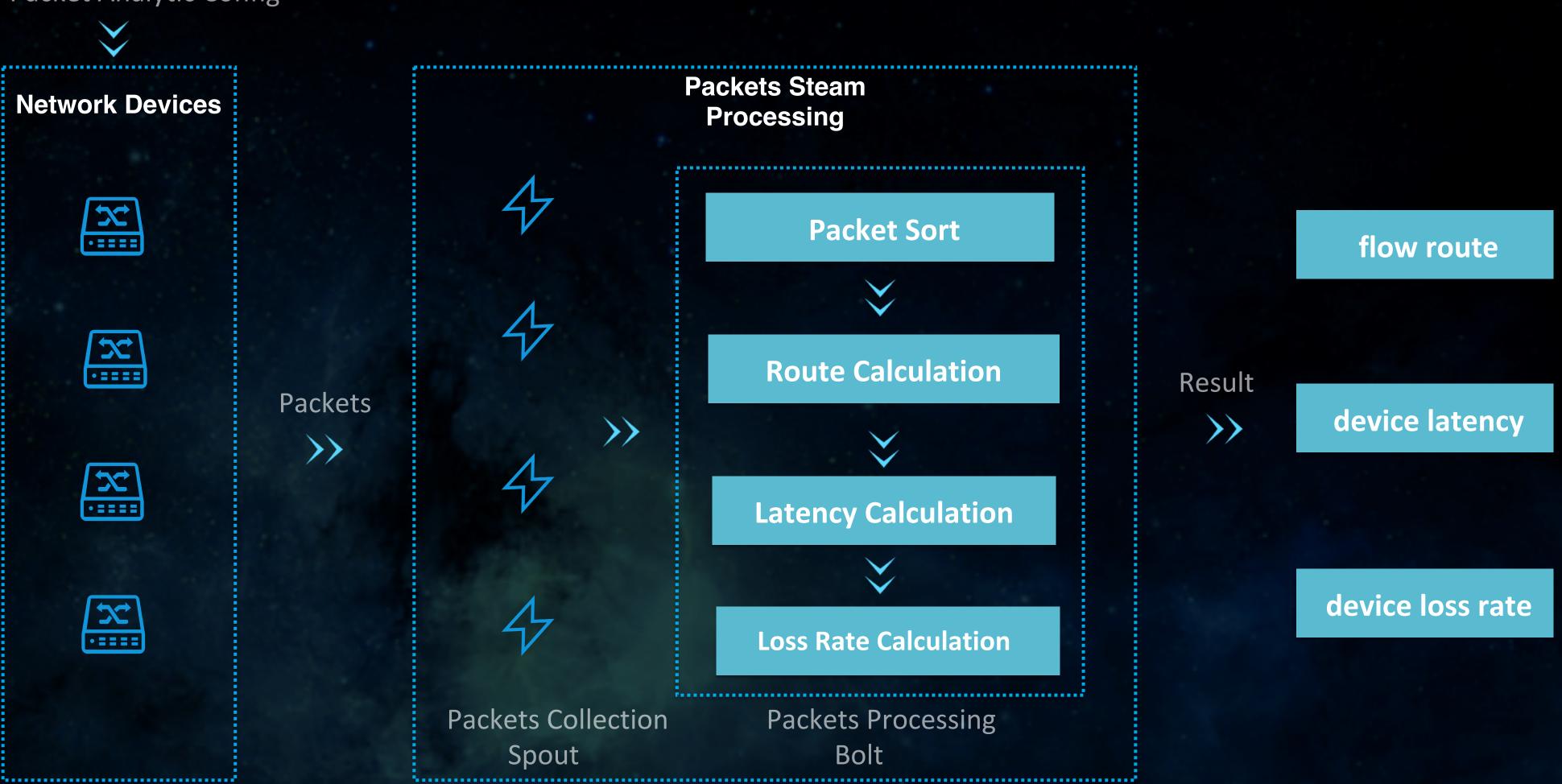






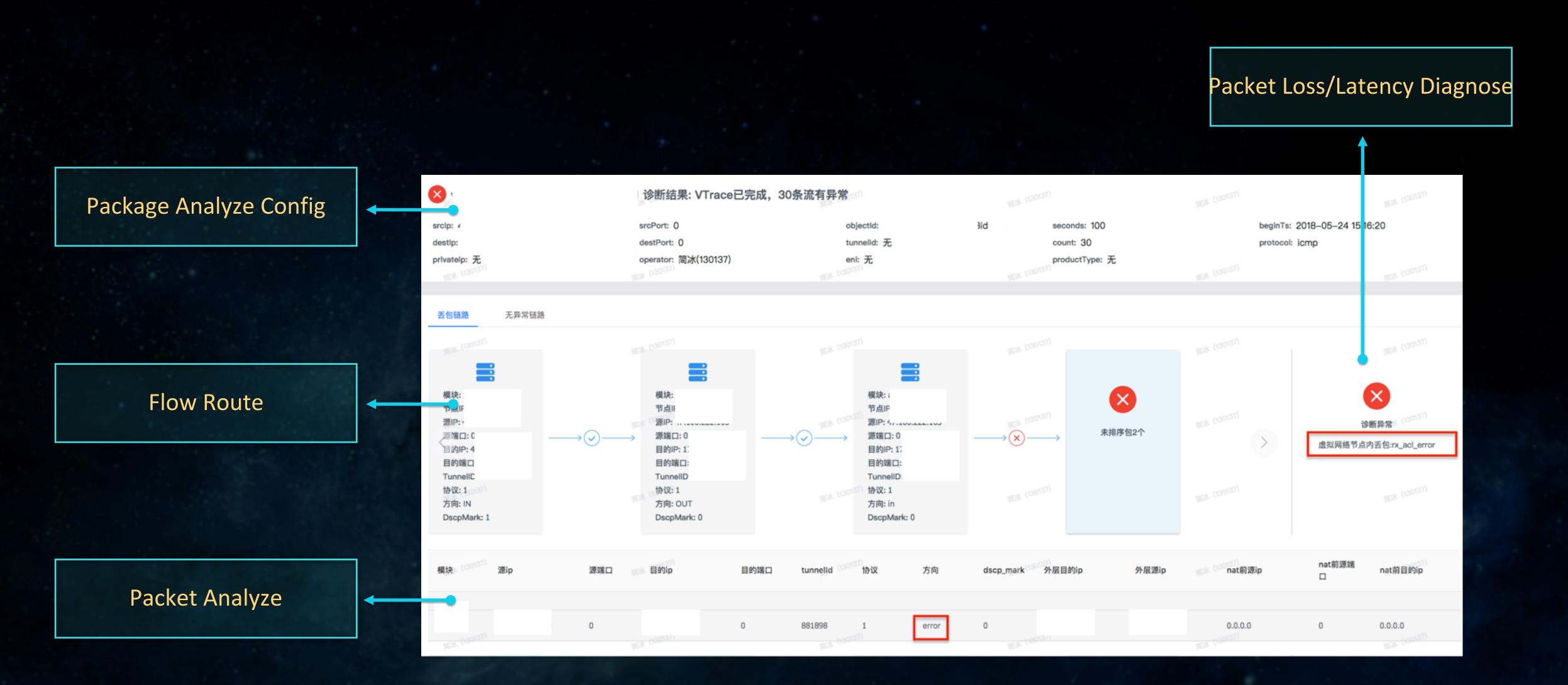
QiTian - Streaming Based Network Diagnose

Packet Analytic Config



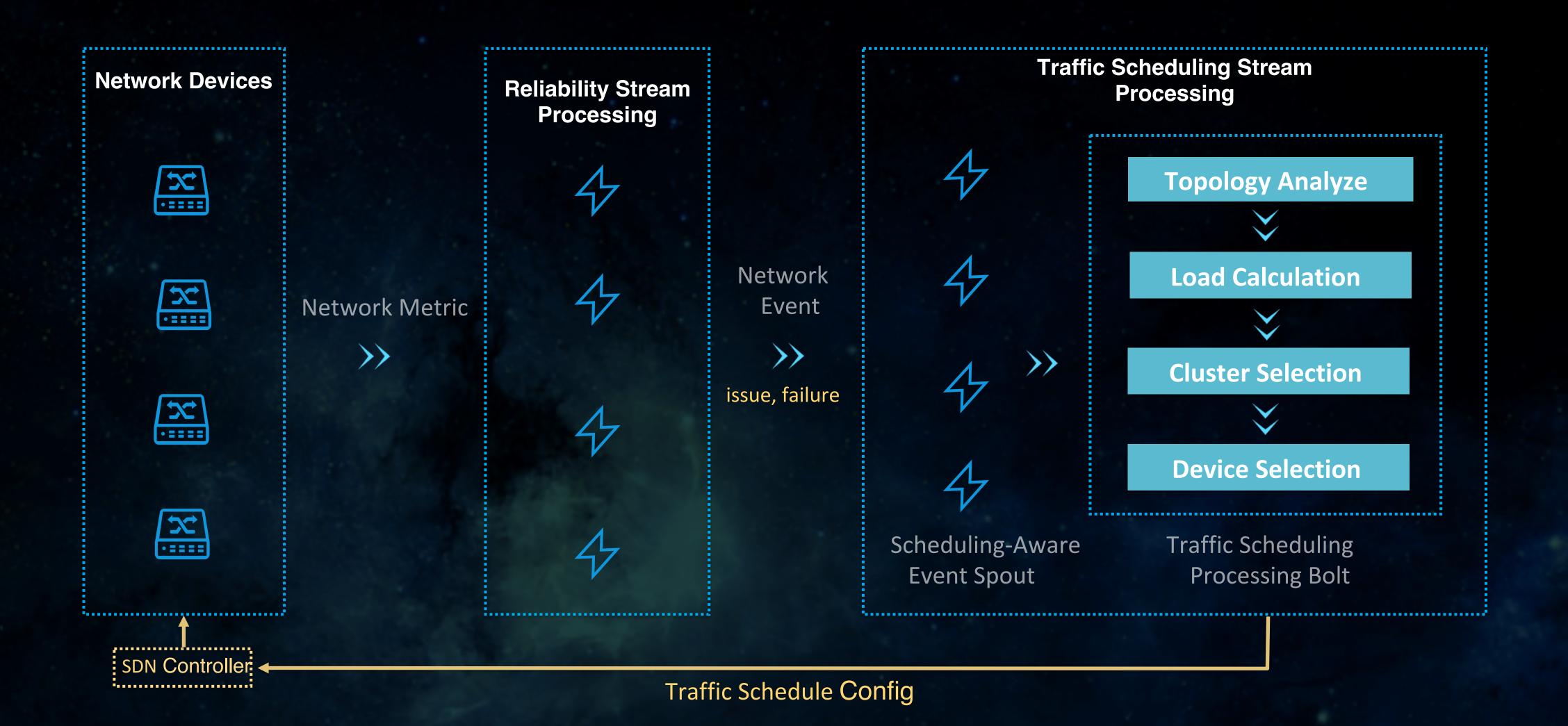


QiTian - Streaming Based Network Diagnose



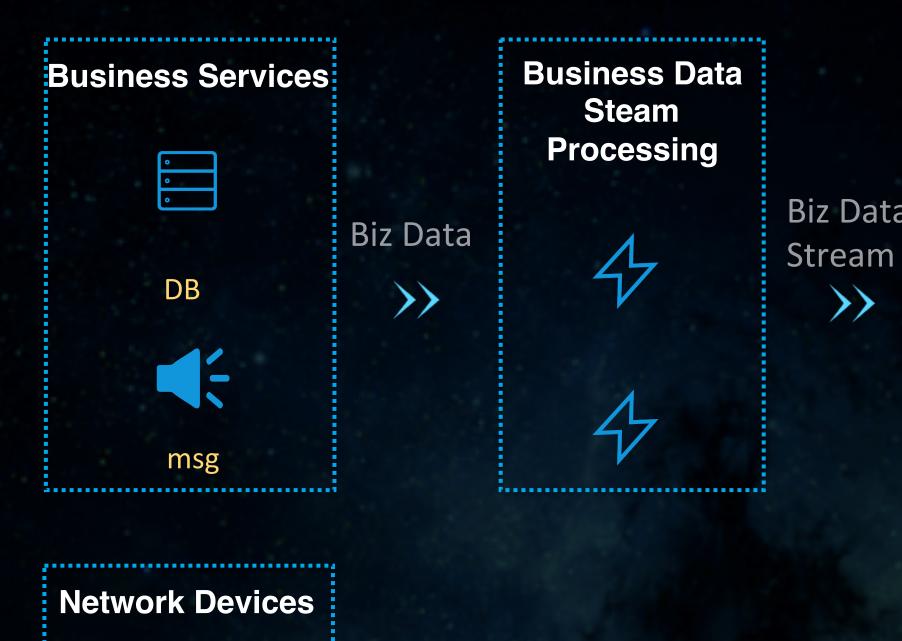


QiTian - Intelligent Network Traffic Scheduling

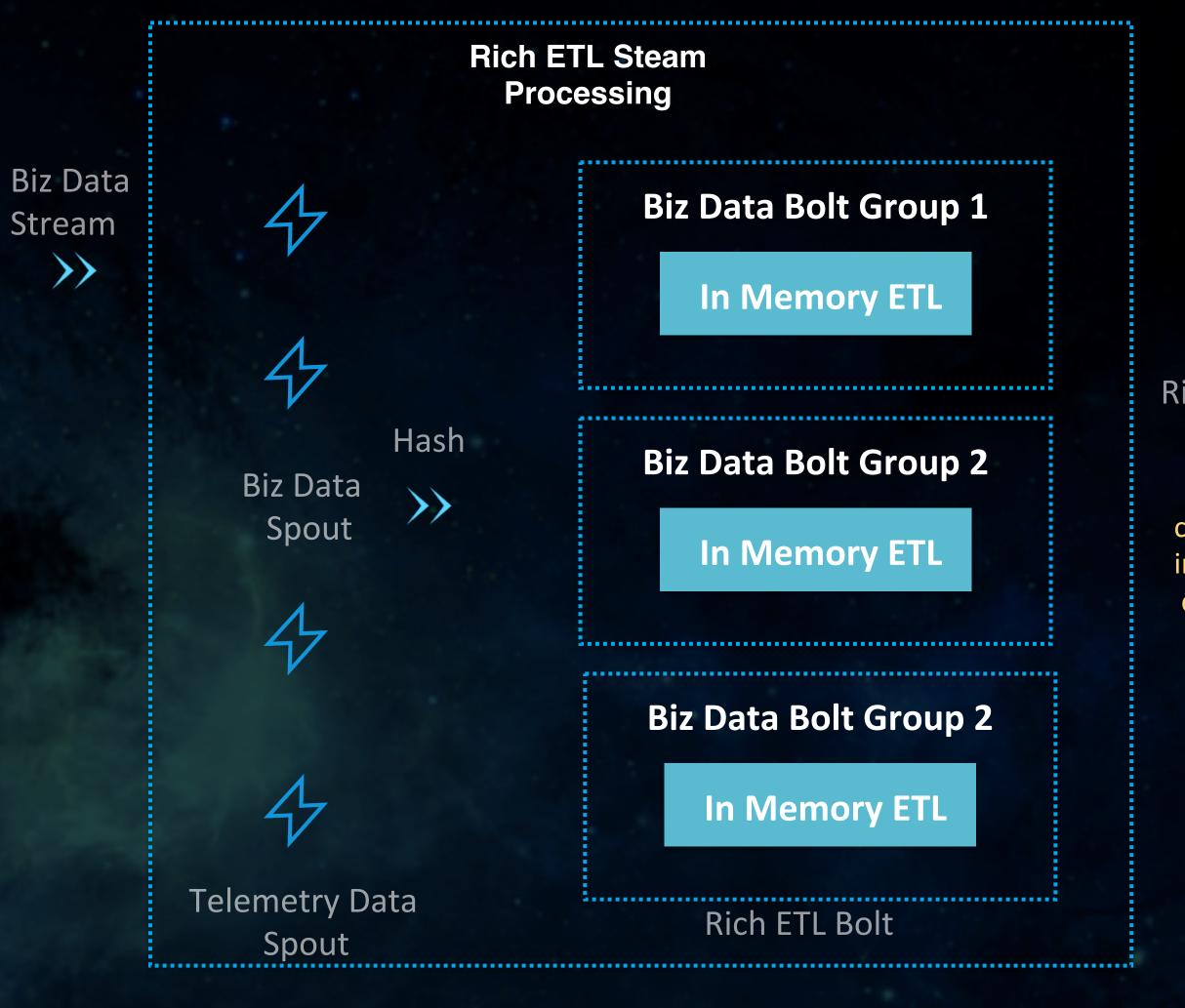


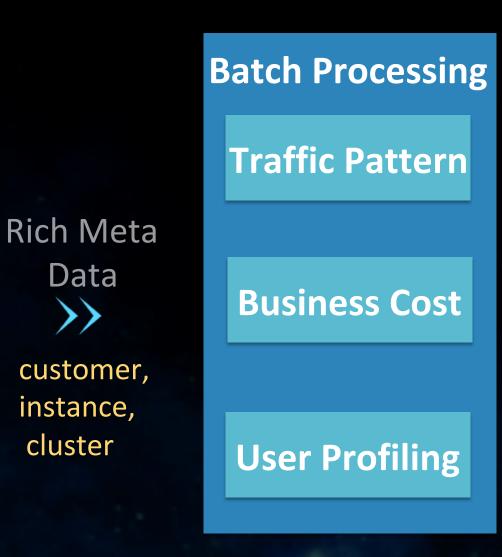


QiTian - Multi-Dimension Network Profiling



Telemetry







QiTian - Multi-Dimension Network Profiling





Income Analyze by Industries

Customer Resource Layout





What's Next

Deployment

real-time network deployment policy

Elastic

real-time network expansion policy

Monitor

new detection policy based on machinelearning integrated



Thanks