

# Self-Driving Networks

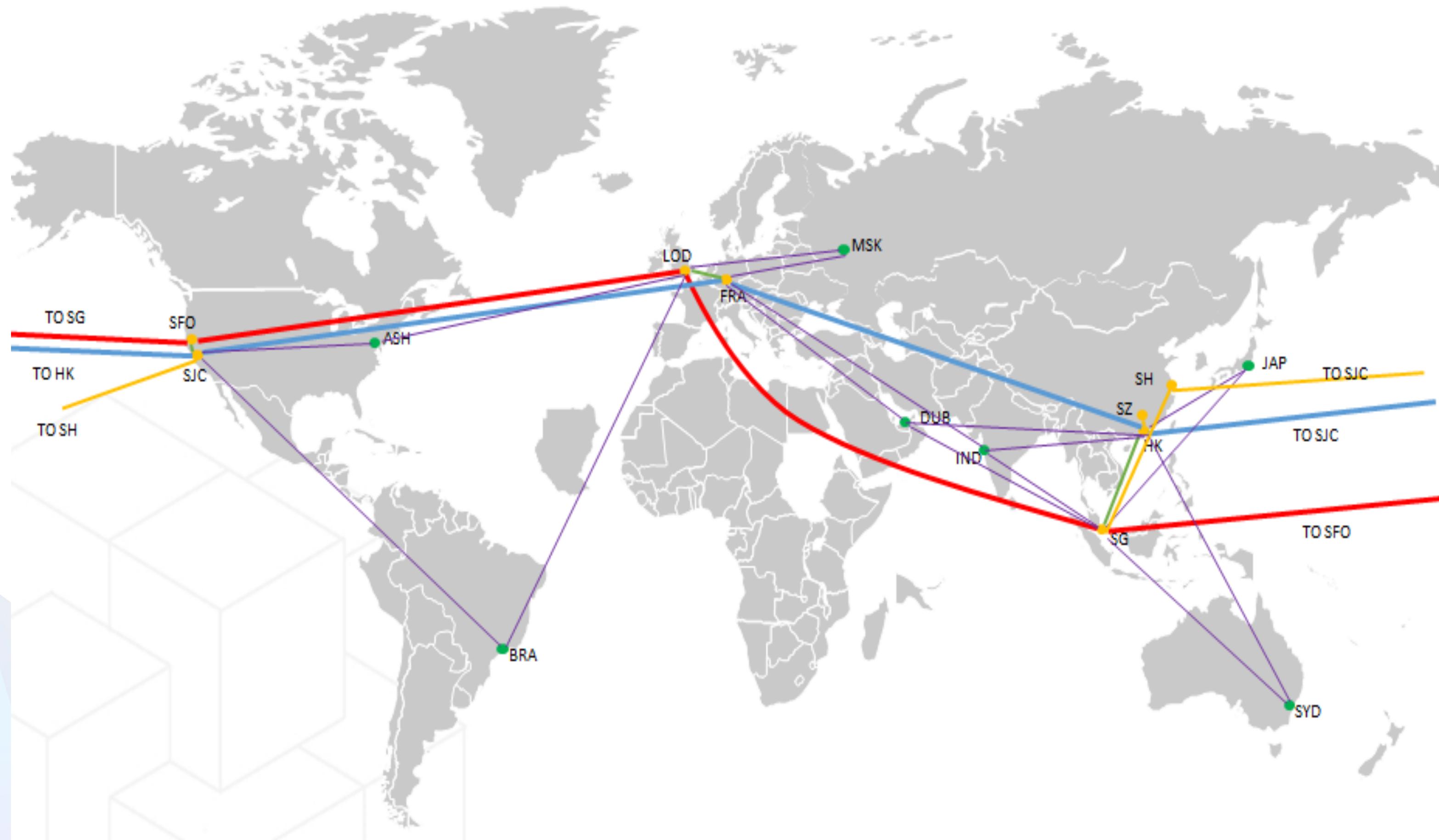
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Alibaba Group

# Alibaba serves users around the globe



# Network availability is vital to Alibaba's business

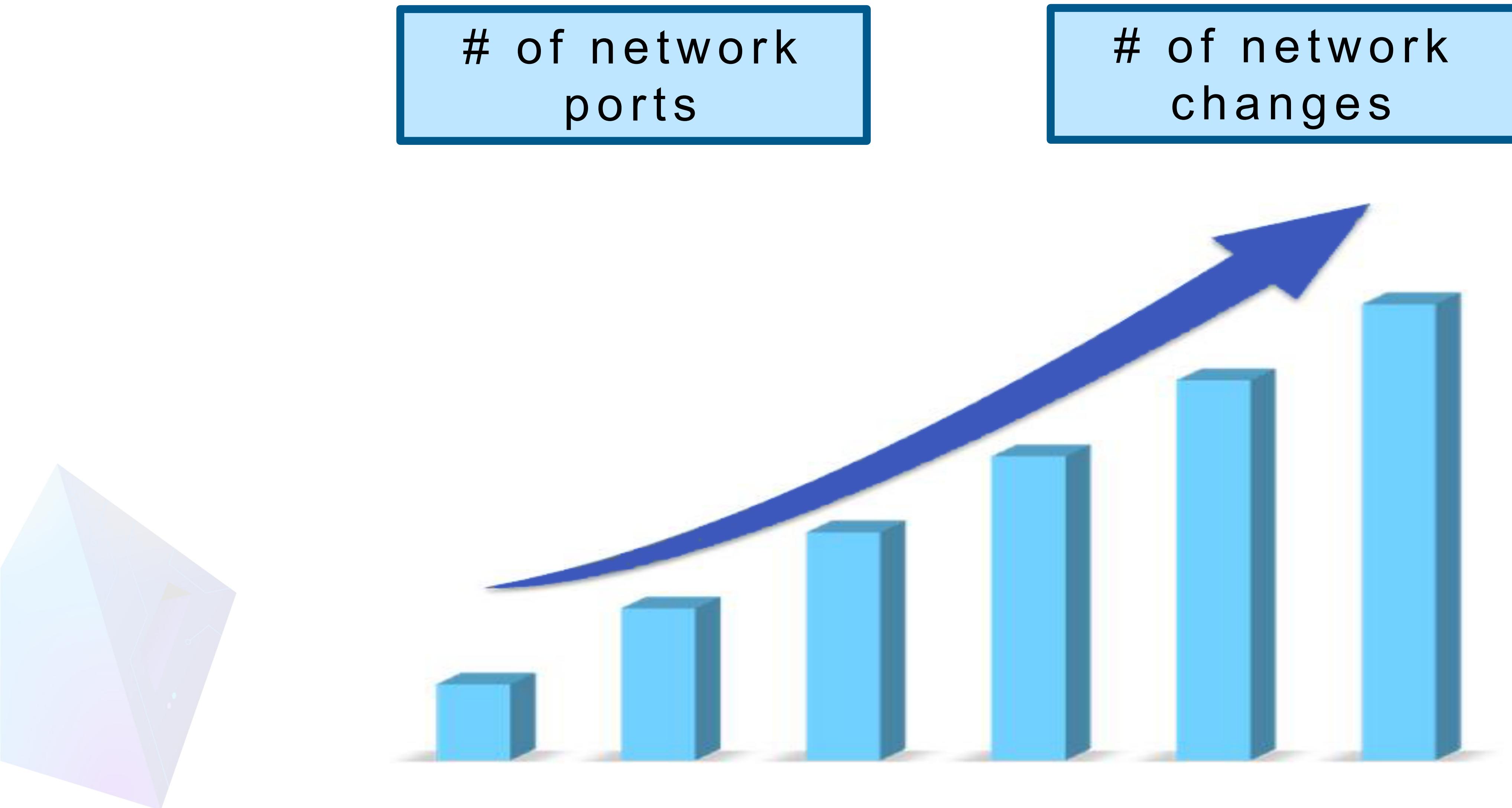


Global network presence

High bandwidth low latency

Network's “ripple effect”

# Challenge 1: Rapid growth in network scale



# Challenge 2: Risks in legacy/new network architecture



MAN

SRTE

RDMA

Switch stacks

QoS

IPv6

Telemetry

Backbone network restructuring

White-box switch/router



# Our solution: Self-driving networks



# Conventional vs. self-driving networks

Manually defined rules

Learning

Rule-based machine learning

Reactive actions

Prediction

Proactive planning

Human decision-making

Decision-making

Rule or optimization-based decision-making

Manual  
data  
analysis

Sensing

Rule-based data  
aggregation and  
analysis

Manual  
execution

Automation

Automatic  
execution based on  
predefined logic

# Self-driving networks dramatically improve availability



Number of incidents and recovery time over the last few years

