REQUIREMENTS ENGINEERING IN TELECOM NETWORK

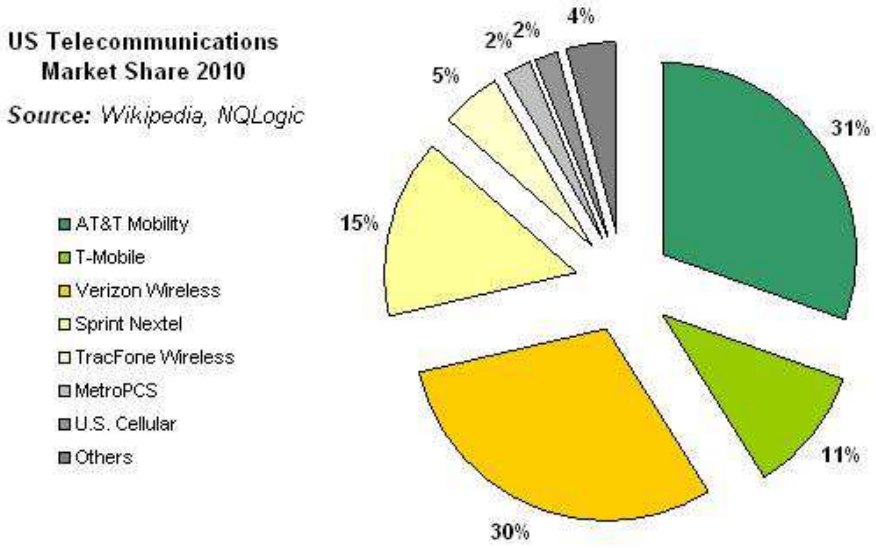
STUDY CASE: GATEWAY EXPANSION

INTRODUCTION

TELECOM NETWORK & CALL FLOW

TELECOM NETWORK CHARACTERISTICS

- Mass Market
- 5 Nines Availability: 9.9999%
- Mission Critical (emergency call, etc)
- Strictly Gov Regulated
  - Heavy fines if service interrupted



- All work in production Telecom Network done in night time to minimize impact

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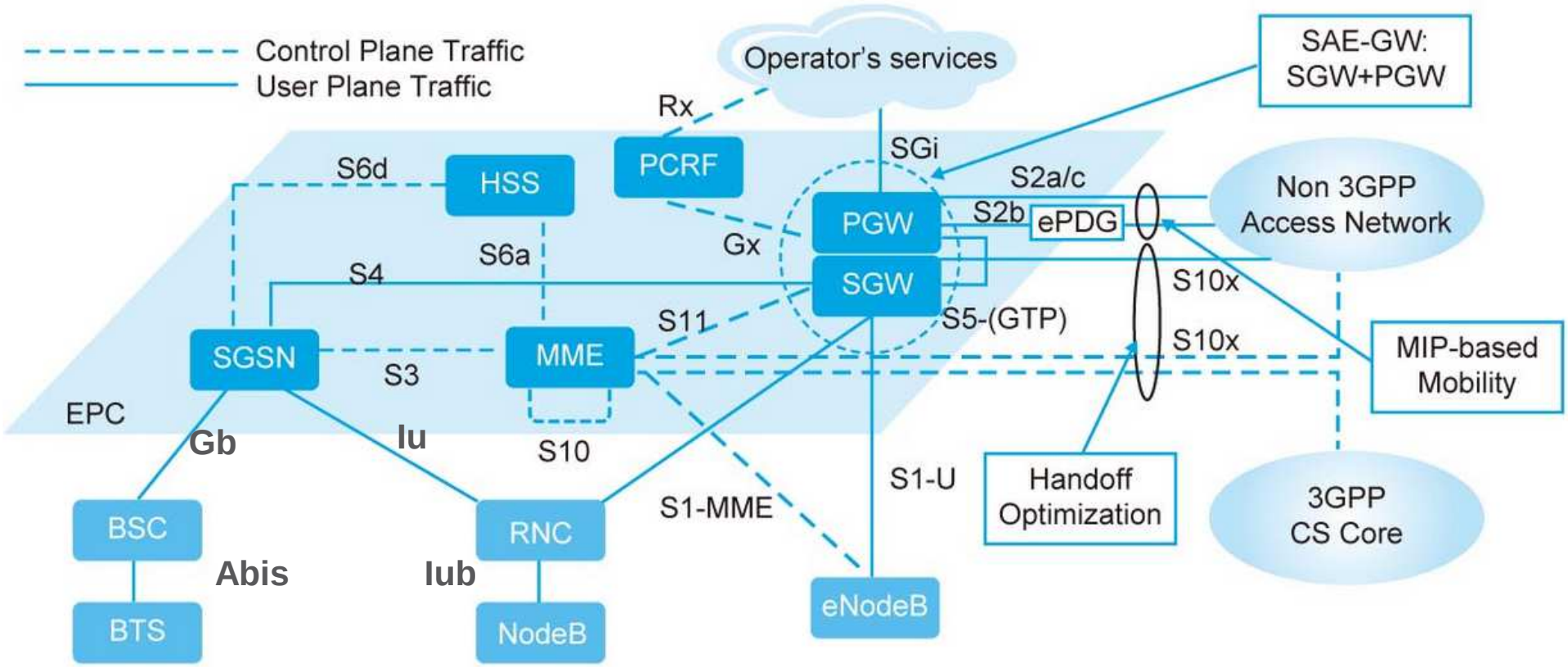
PACKET NETWORK ARCHITECTURE



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CASE STUDY

PROJECT SCOPE

- Requirements: Expansion of Gateway Capacity
- Requirements: Additional Node
- Requirements: Integrate with Existing Network
- Validation: Testing Existing Features and Functionality
- Validation: Testing Redundancy

- Red Rectangle in below picture depicts the Gateway within scope of the project

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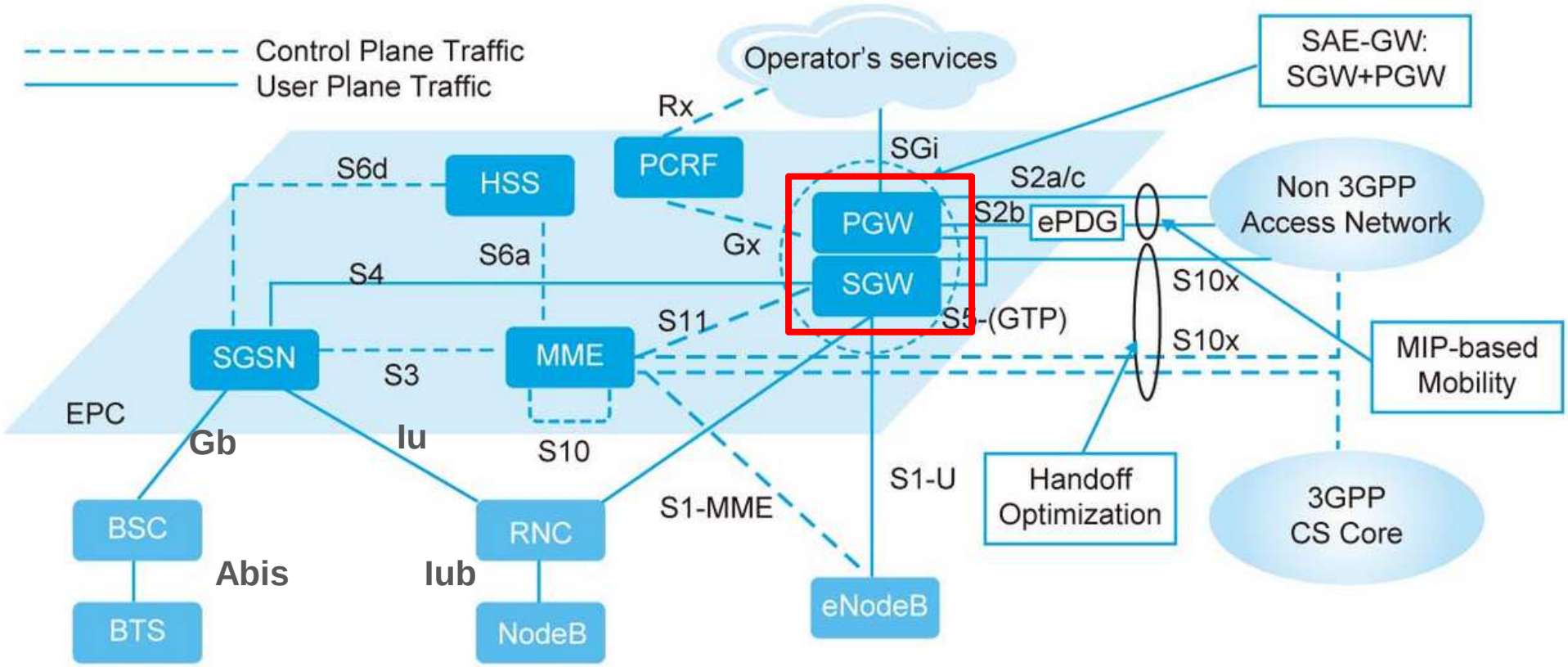
PACKET NETWORK ARCHITECTURE



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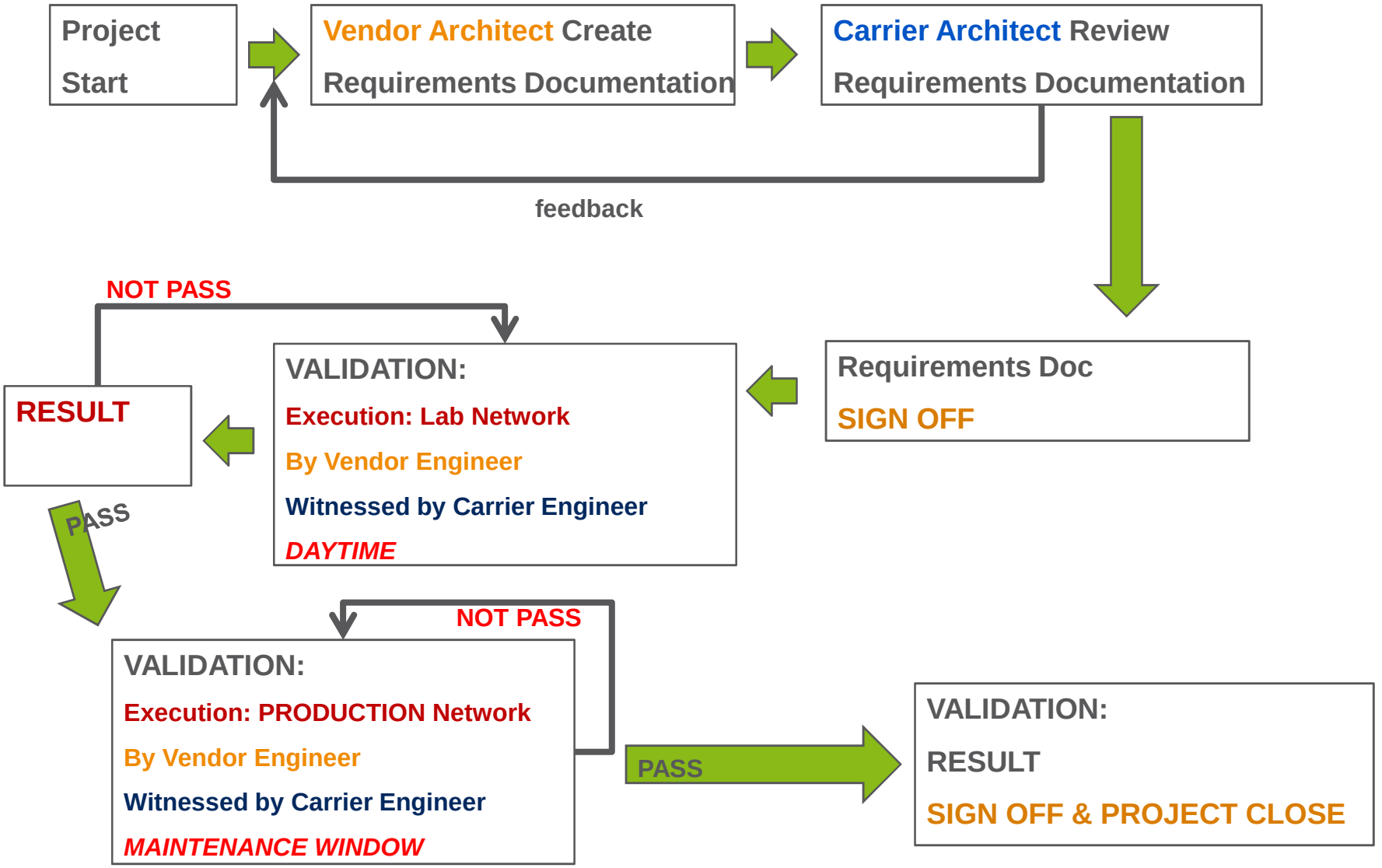
REQUIREMENTS AND VALIDATION WORK FLOW

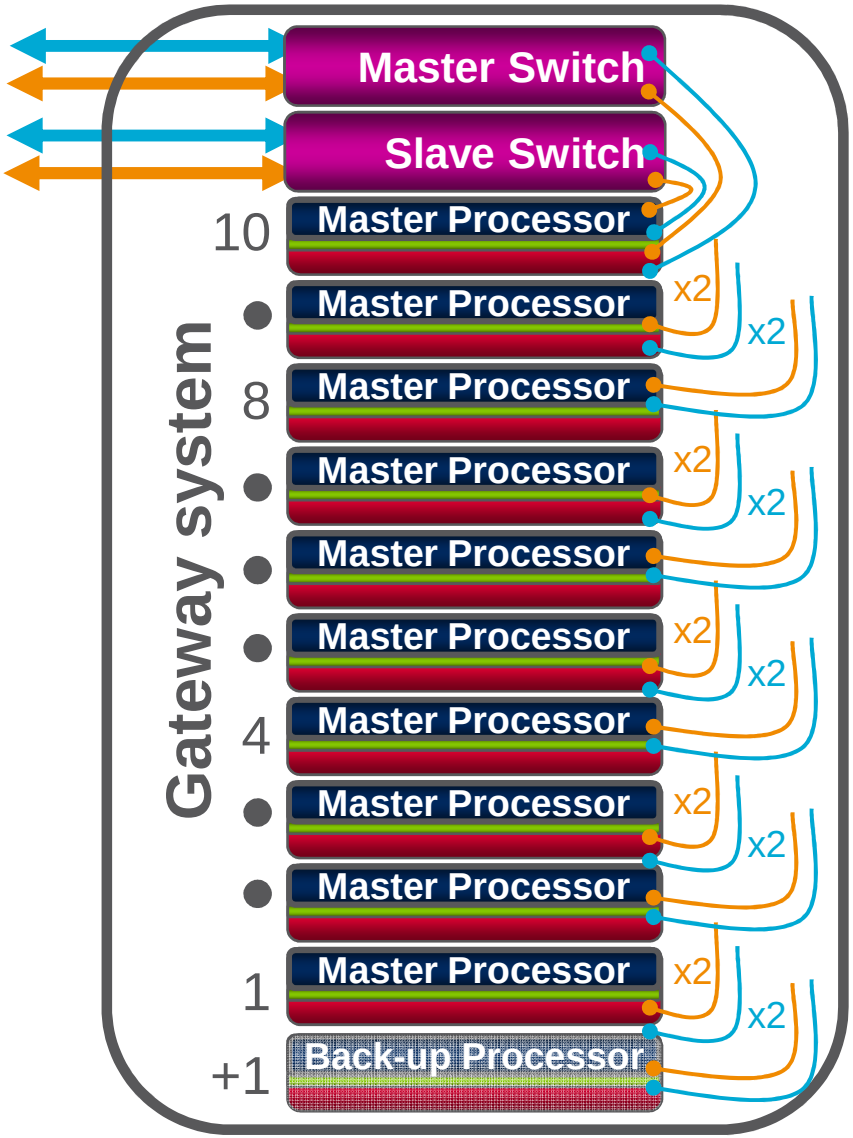
REQUIREMENTS AND VALIDATION WORKFLOW



GATEWAY DESIGN BASED ON REQUIREMENTS

GATEWAY N+1 SYSTEM PRINCIPLES

- A **Gateway system** is made up of:
  - **N+1 Processors**
    - Up to N **Master** (active) Processors processing traffic flows
    - One **Back-up** Processor in hot stand-by to take over in case any of the master Processors fail
  - **2 system Switches** working in master slave mode
  - **Redundant connections** from all Processors to both switches in the data and OaM planes
  - **Functions of the active backup processor:**
    - Process traffic in case of Processor failure.
    - Session repository.



VALIDATION SCNENARIOS:
NEXT PRESENTATION