

# AI-Driven Network Deployment

MWC26



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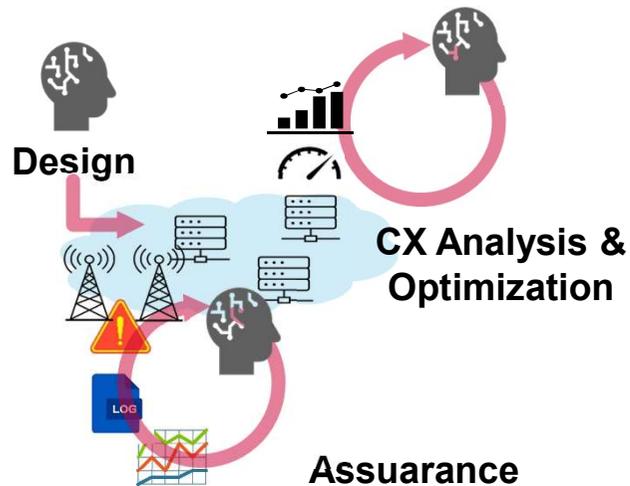
04 **Benefits**

# 01 Introduction

# DOCOMO's AI-Centric Network Initiatives

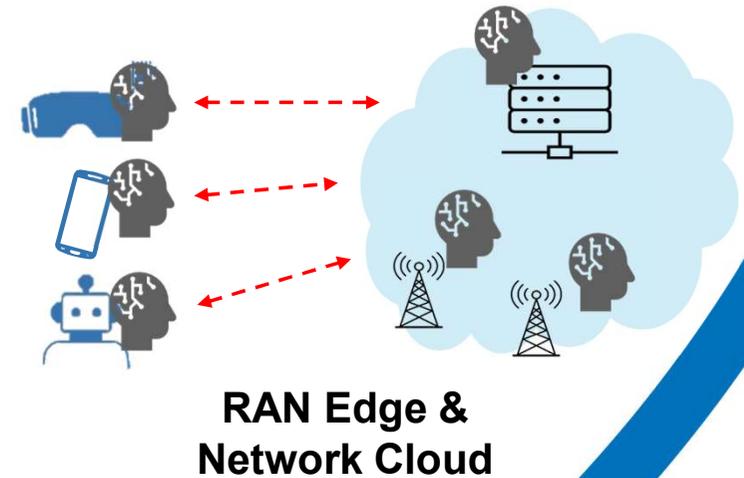
## AI for Network

- Autonomous Networks
  - AI-driven network deployment
  - Agentic AI service assurance
  - CX-based network optimization
- Toward 6G: AI/ML and Digital Twins at Scale



## Network for AI

- In-Network Computing
- New AI services on mobile (e.g. robots, smart glasses)
- Handling increased AI traffic



# DOCOMO's AI-Centric Network Initiatives

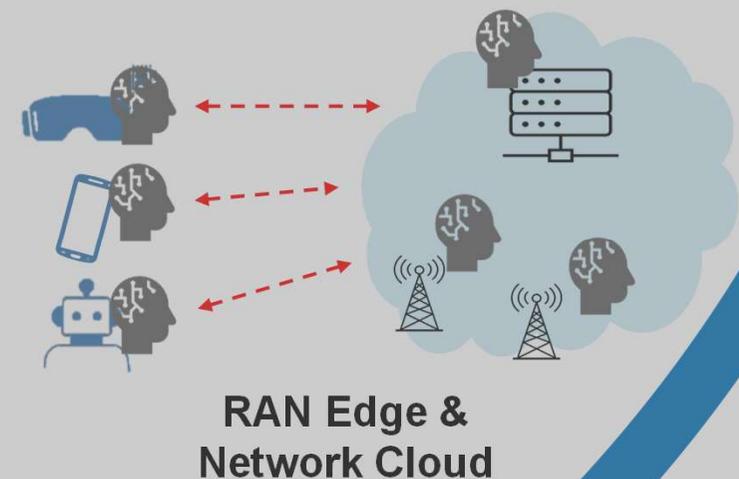
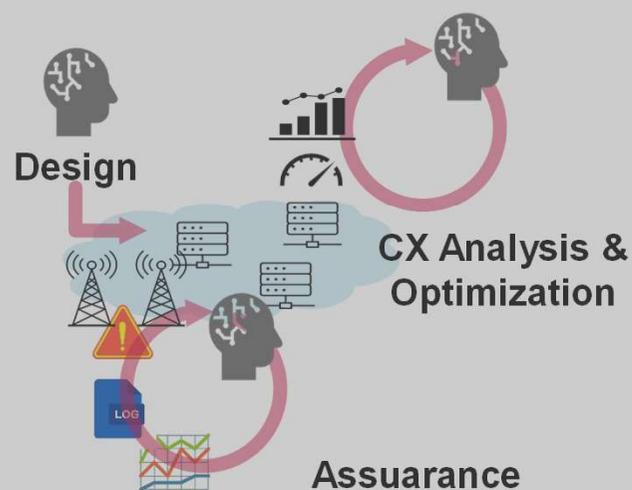
## AI for Network

- Autonomous Networks
- **AI-driven network deployment**
- Agentic AI service assurance
- CX-based network optimization
- Toward 6G: AI/ML and Digital Twins at Scale

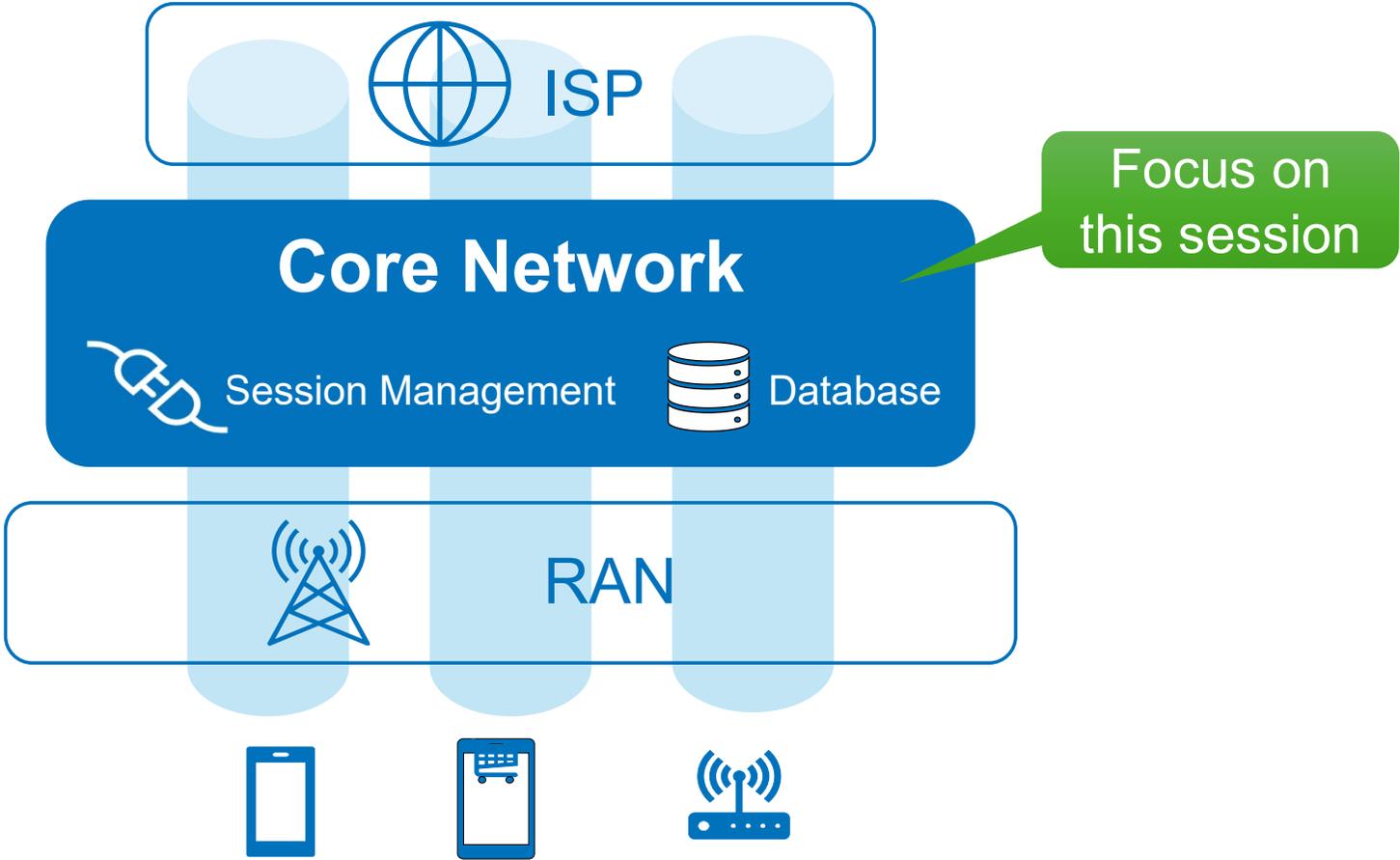
Focus on this session

## Network for AI

- In-Network Computing
- New AI services on mobile (e.g. robots, smart glasses)
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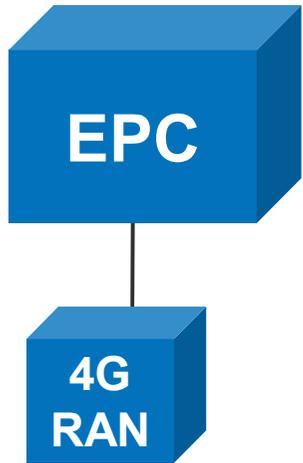
# Core Network



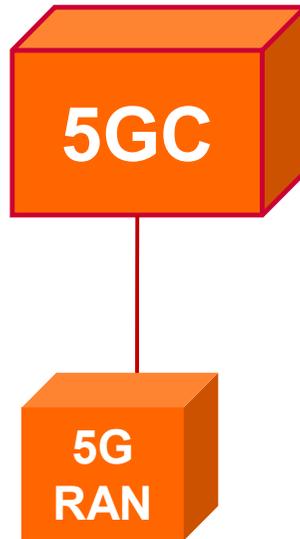
# From 5G to 6G

Focus on this session

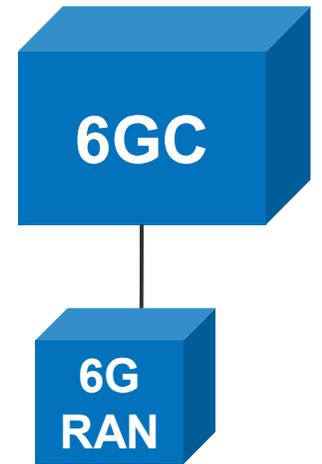
### 4G Core Network



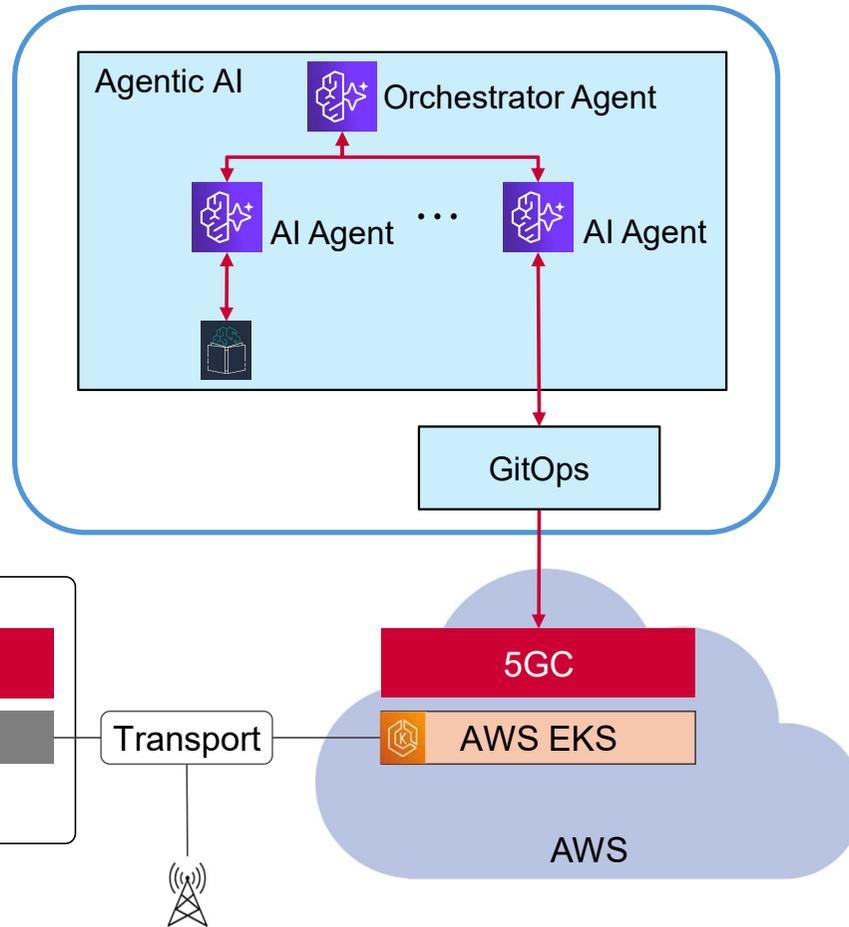
### 5G Core Network (5GC)



### 6G Core Network



# AI-Driven 5G Core Network Deployment



- Launched commercial 5GC on AWS
- Designed by **Agentic AI**
- Deployed with **GitOps**

# 02 Issues

# Issues in 5G Core Network Deployment

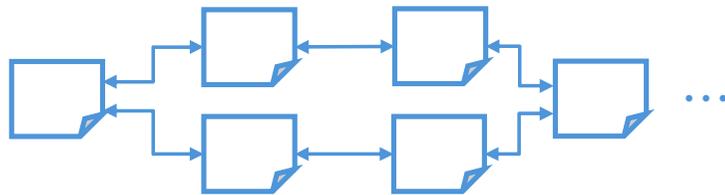
## Multiple Environments & Many Instances



## Intensive Documentation Analysis



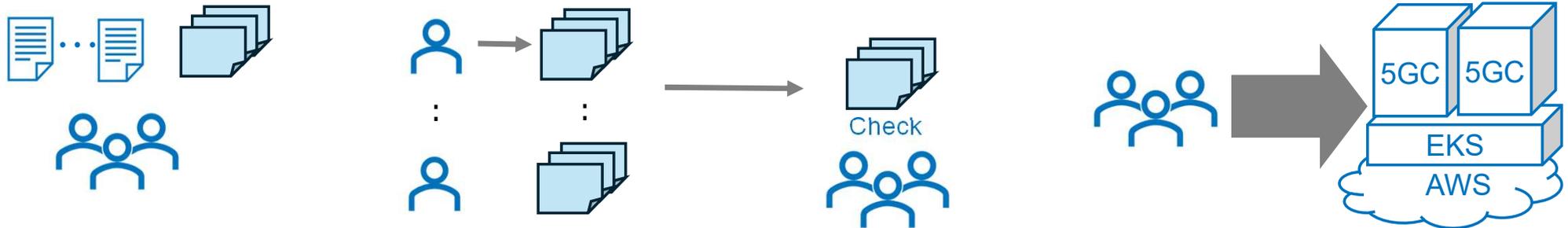
## Complex Parameter Dependencies



## Long Lead Time Due to Manual Deployment

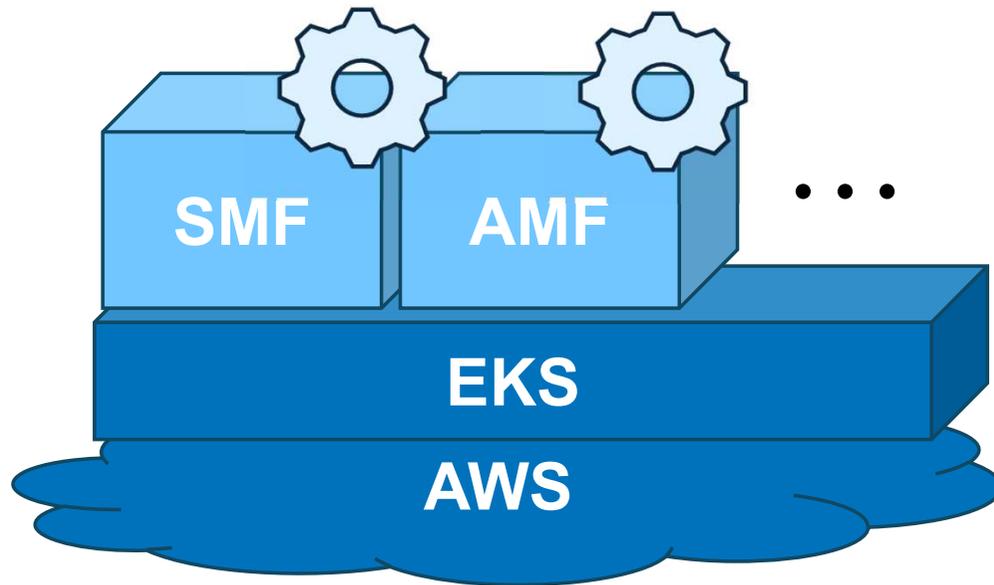


# 5G Core Network Manual Deployment Workflow



# 03 Solutions

# 3-Layer Design Approach

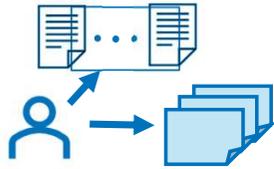


- 3) Application Configuration Design  
(App config design)
- 2) Application Design  
(App design)
- 1) Infrastructure Design  
(Infra design)

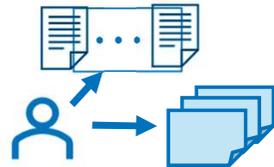
# Agentic AI for 3-Layer Design

## ✓ Manual Design

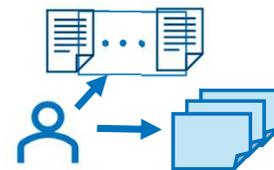
1) Infra design



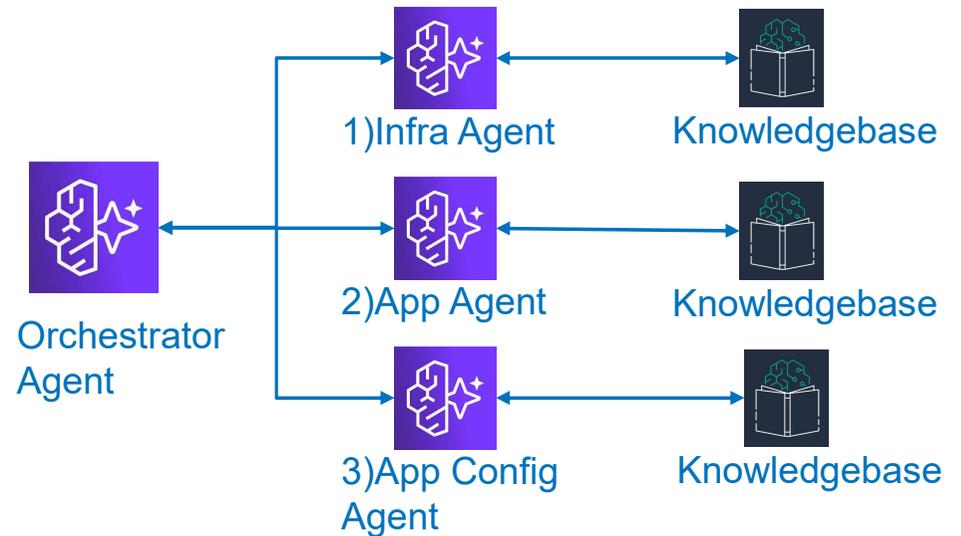
2) App design



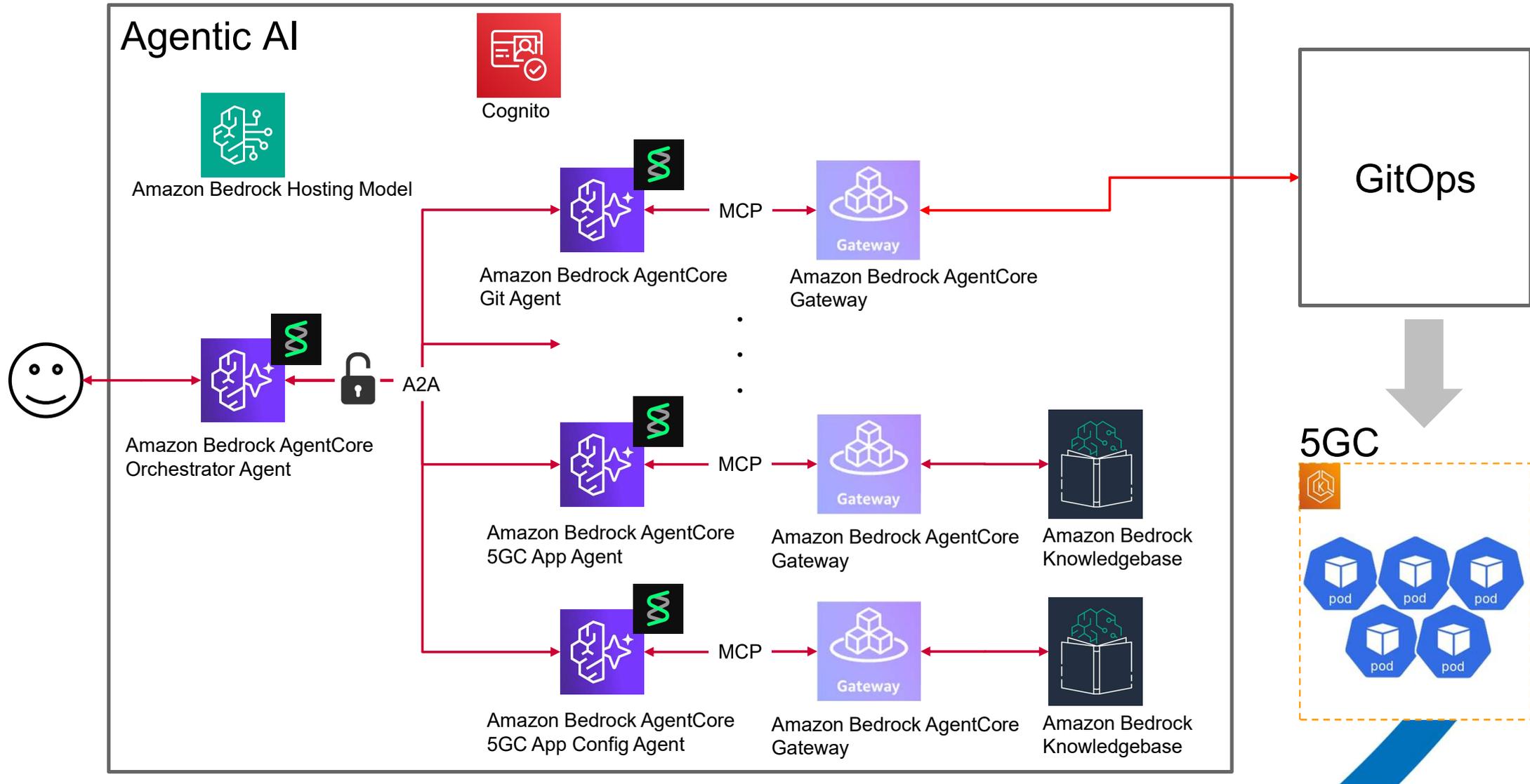
3) App Config design



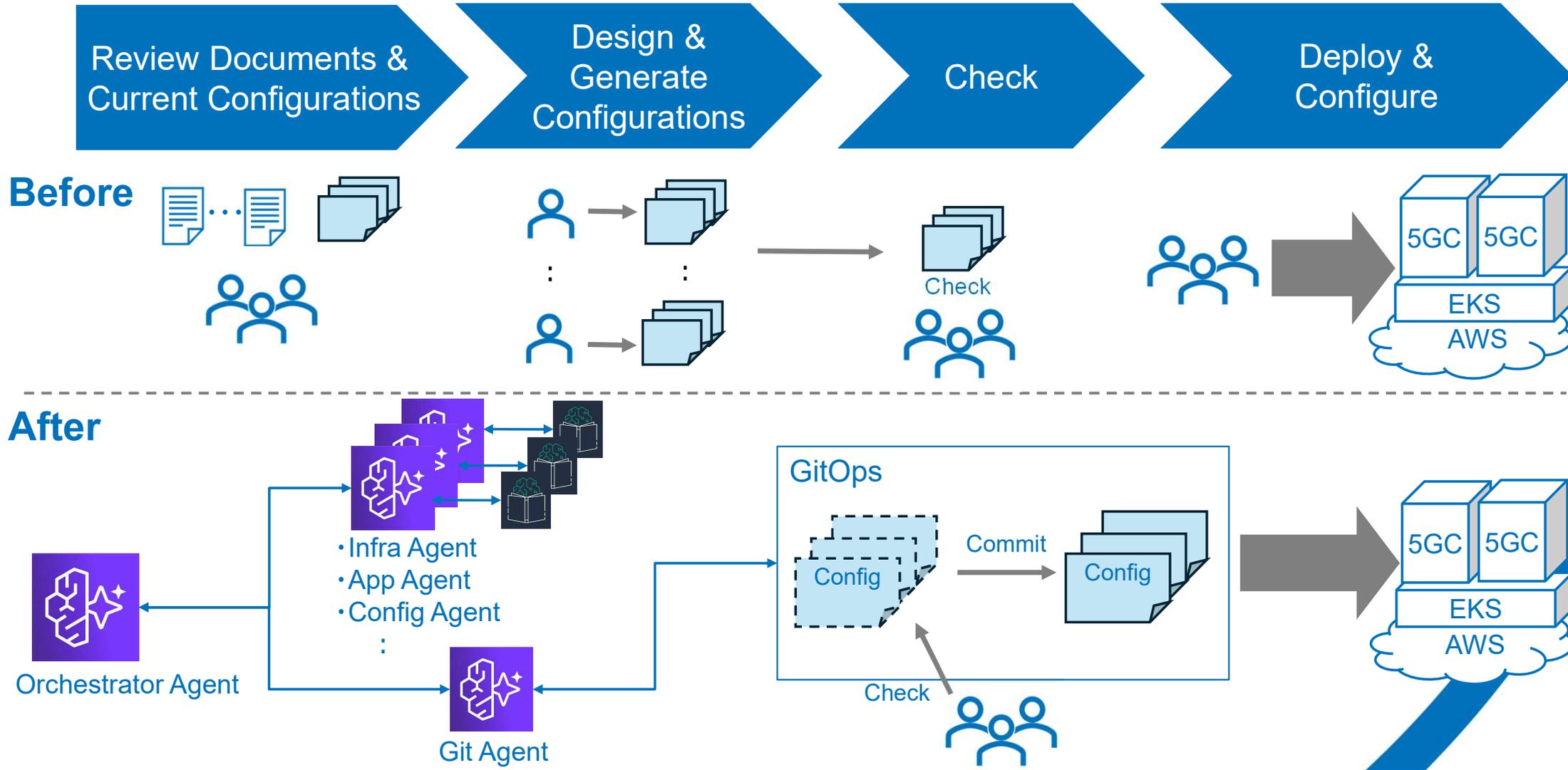
## ✓ AI Agent-Driven Design



# Architecture of Agentic AI and GitOps



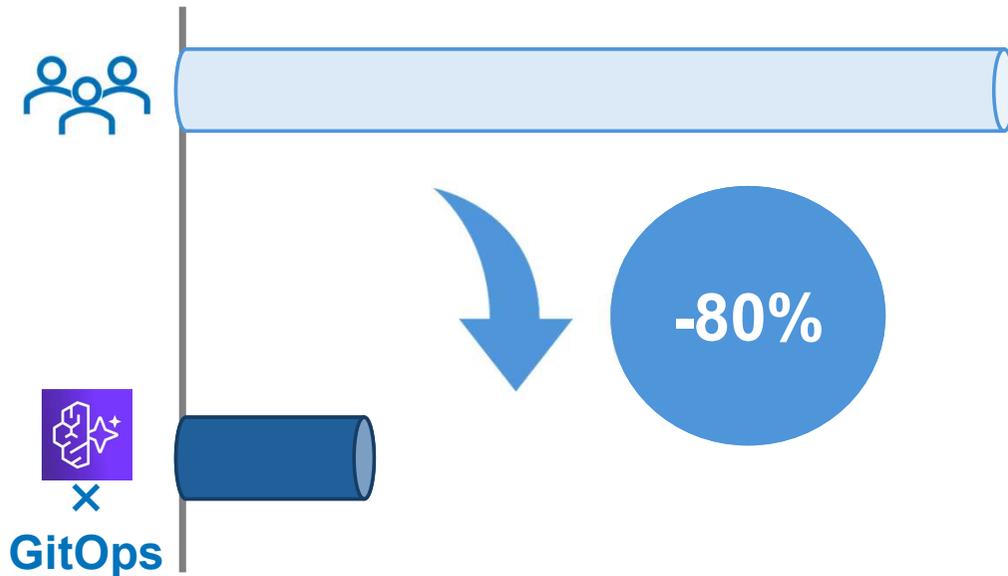
# Deployment Workflow: Before and After



# 04 Benefits

# Benefits of AI-Driven 5G Core Network Deployment

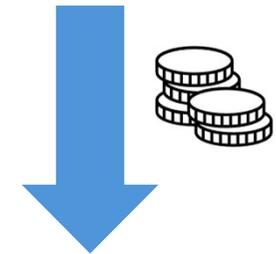
## Accelerated Design-to-Deployment Cycles with Reduced Lead Time



## Lower Cost & Effort

- Deployment Cost
- Training Cost
- Manual Effort

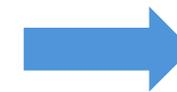
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## Improved Quality



Manual Errors



Automated Quality

