SDN towards the digital society
IEEE VTC 2015-Spring
Panel on "Software Defined 5G Networks and Services"

Jean-Sébastien Bedo, Orange Labs Research
Orange Expert “Networks of the Future”
Member of 5G Infrastructure Association Board
2 key transformations for carriers « powered » by SDN

➔ **Automate more network operations and focus on customer experience**
  - Provide 100% online and real time customer experience even for complex services such as international Virtual Private Networks
  - Ensure cost efficient operations of specific network technology domains

➔ **Create an open digital ecosystem around 5G infrastructures**
  - Deliver innovative services quickly, easily and securely to reach the innovation pace of Over The Tops with the reliability of telco services
  - Develop partnerships and B2B2X business models especially with vertical sectors
  - Leverage on APIs at different architecture levels to ensure an End-to-End Service Level Agreement Management

5G PPP related drivers and requirements

- 1/5X in network management OPEX
- 1/1000X in service deployment time
- 99.999% reliability
Two Key Concepts for 5G Architecture

- Global Operating System
- Next Generation Point of Presence
Global Operating System

An Operating System to Control and Manage Resources (Network + Cloud + Device) for Programming and Automation
Next Generation Point of Presence

Multi-Access Gateway ➔ Network applications framework

Home Network ➔ Virtualization ➔ Optical node concentration ➔ OLT ➔ DSLAM ➔ BBU hostelling ➔ Base station

Distribution of most popular contents, CDN, infrastructure cloud

Content ➔ S/P-GW ➔ S-GW, P-GW ➔ MME ➔ Content

3GPP ➔ WiFi ➔ Network cooperation ➔ System Module ➔ Spectrum Allocation

Orange Labs Research
Thanks