

## University of Strathclyde, Cisco

And the Cisco Cloud Services Stack

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#### How We Got Here ....



The Place of Useful Learning

Beyond the City











CULTURE, MEDIA AND SPORT

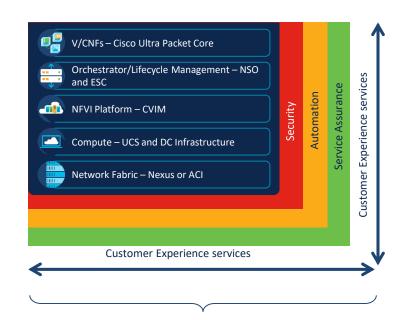




### Cisco Cloud Services Stack for Mobility ("BlueStack")

Complete & Open, Horizontal & Vertical Stack for 4G, 5G NSA & 5G SA

- Pre-validated Virtualised Packet Core in a Box –
  4G & 5G available today
- "Productized" version of Cisco Ultra Packet Core as deployed in the World's biggest mobile network – T-Mobile USA
- CUPS − local and remote − 2 x 40 Gb/s+ per server
- Rich range of features for 2G 5G radio support incl IoT
- Collaboration into 2022 with Cisco 5G Converged Core



System-level functional and performance validation testing in Cisco® CX Labs

### Technology Overview – CUPS Benefits

Remote CUPS – Enabling Multi-Gigabit Cost Effective Scaling -Remote Use Cases e.g. 4G / 5G throughput per Scaling UP independent 5G RuralFirst Subscriber of CP **Autonomous Tractor** Centralized control Independent Backhaul optimization Enables Low latency use plane to consolidate upgradability of CP and by using remote CUPs cases **UP** operations Enabler for per use case Fault Isolation, UP Resilience and High Availability (VoLTE, IoT etc)

### Why Remote CUPS?

Allows deployment of user planes closer to the user

- Improved user experience
- Helps with applications that need low latency
- Online gaming
- Video on demand

Backhaul cost reduction

•Local breakout to local ISP or OTT server saves transport costs

Helps in implementing building enterprise use case

- On-prem deployment of user planes
- Reduces latency to access enterprise applications

MEC Use cases

- Allows implementing use cases for IOT like; connected cars
- Improves the quality of experience for AR/VR applications

Improved operational efficiency

- Fewer central sites to host CPs; can connect to multiple sites hosting UPs
- Saves CAPEX and OPEX with reduced hardware costs
- Remote sites in low cost locations help reduce electricity and cooling costs

The distributed architecture is applicable across 4G, 5G NSA and 5G SA.

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