

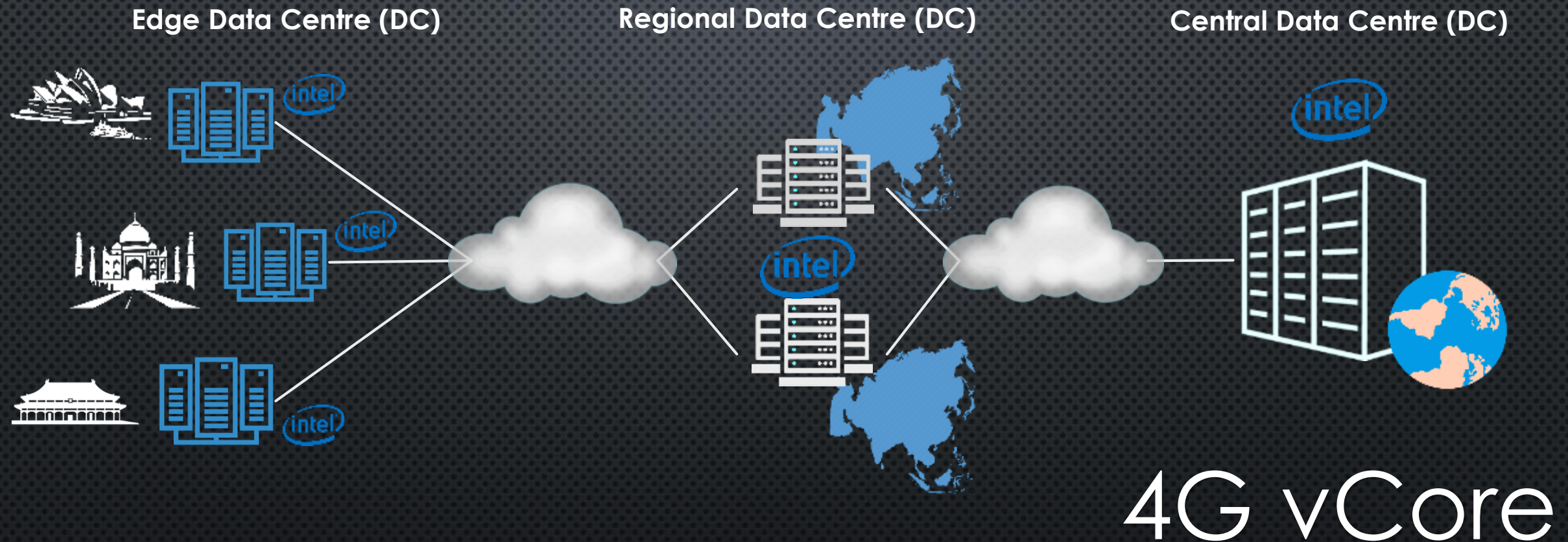


# Virtual EPC/MEC on NGCO





# DEPLOY AND EVOLVE TO 5G WITH NGCO ARCHITECTURE



ASTRI virtual MEC enables time critical data offloads for MEC applications <sup>2</sup>

# DEPLOY AND EVOLVE TO 5G WITH NGCO ARCHITECTURE



4G vCore → **Pre-5G Core** → **5G Core**  
C/U plane separation      Service Based Architecture (SBA)



Edge Data Centre



Regional Data Centre



Central Data Centre

Virtual Mobile Edge Computing

vEPC

- vEPC
- Roaming Gateway

S/P-GW User Plane

S/P-GW Control Plane

MME

- Roaming Gateway
- Data Storage/Training

UPFE  
5G User Plane Function (Edge)

UPFR  
5G User Plane Function (Regional)

SMF  
5G Session Management Function

AMF  
5G Access and Mobility Function

Roaming Gateway

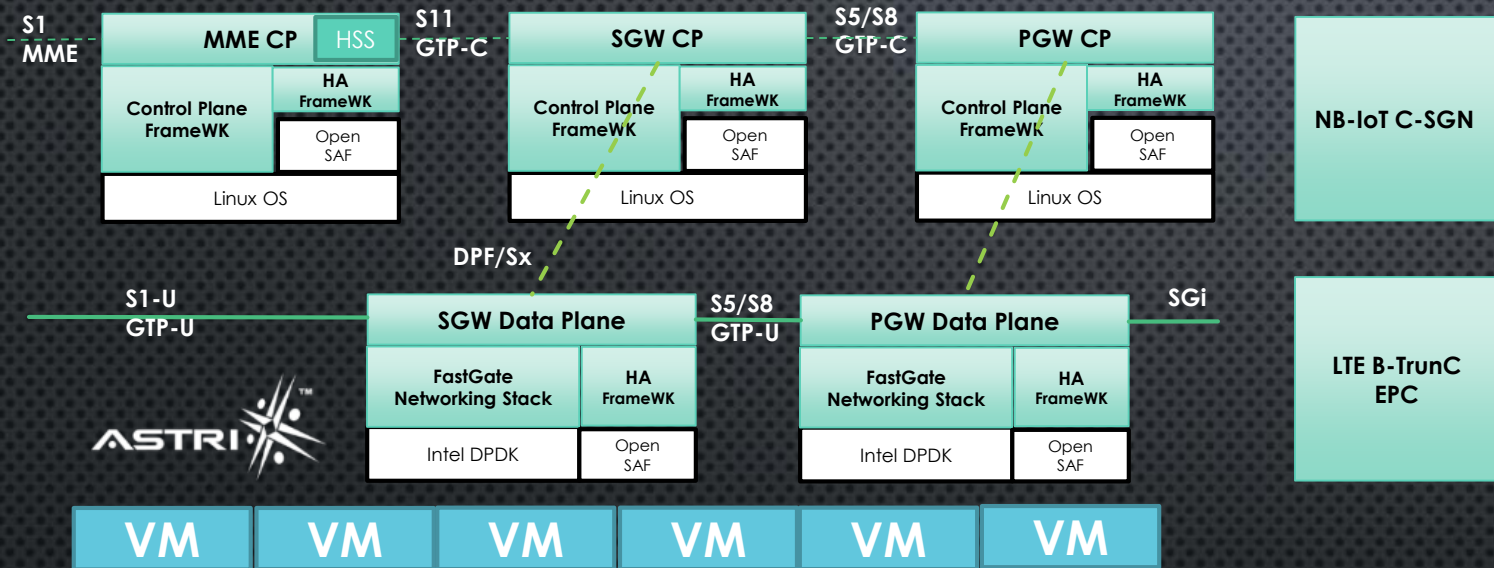
Data Storage/training



# ASTRI VIRTUAL EPC



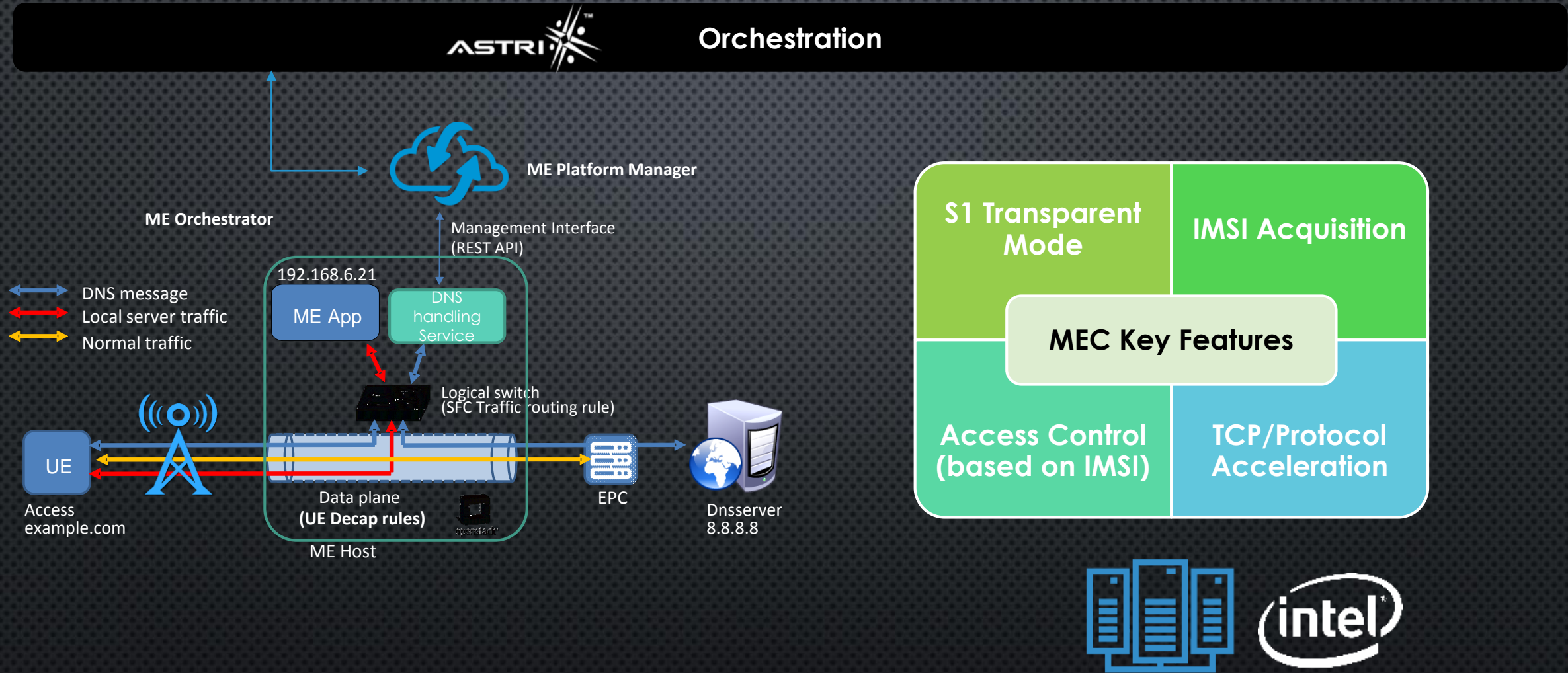
Orchestration



Virtual EPC

- **End-to-end:** End-to-end deployments, ideal for private network deployments
- **Virtualization:** Support virtualized or non-virtualized on general purpose x86 platform
- **Evolving to 5G:** support R13&R14 and ready to R15
- **Orchestration:** end-to-end NFV orchestration for virtual network functions (VNF)

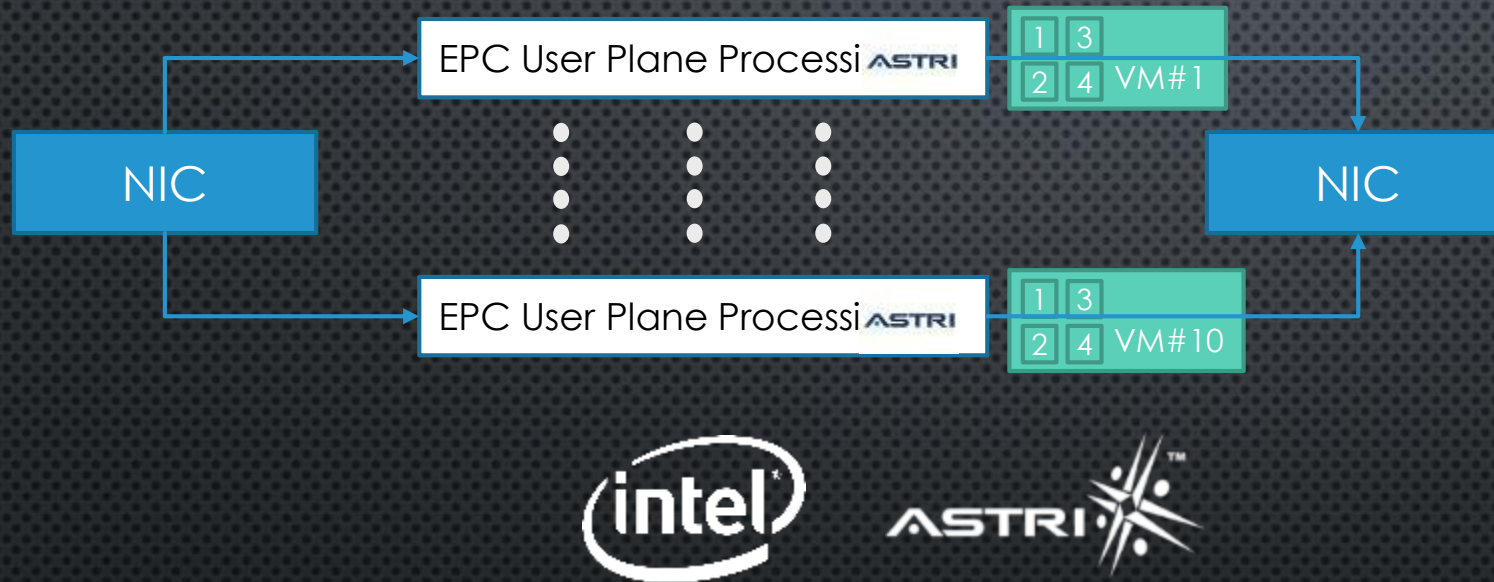
# ASTRI VIRTUAL MEC



ASTRI MEC provides additional key features besides network offloading



# VIRTUAL EPC – DELIVERS 200GBPS THROUGHPUT



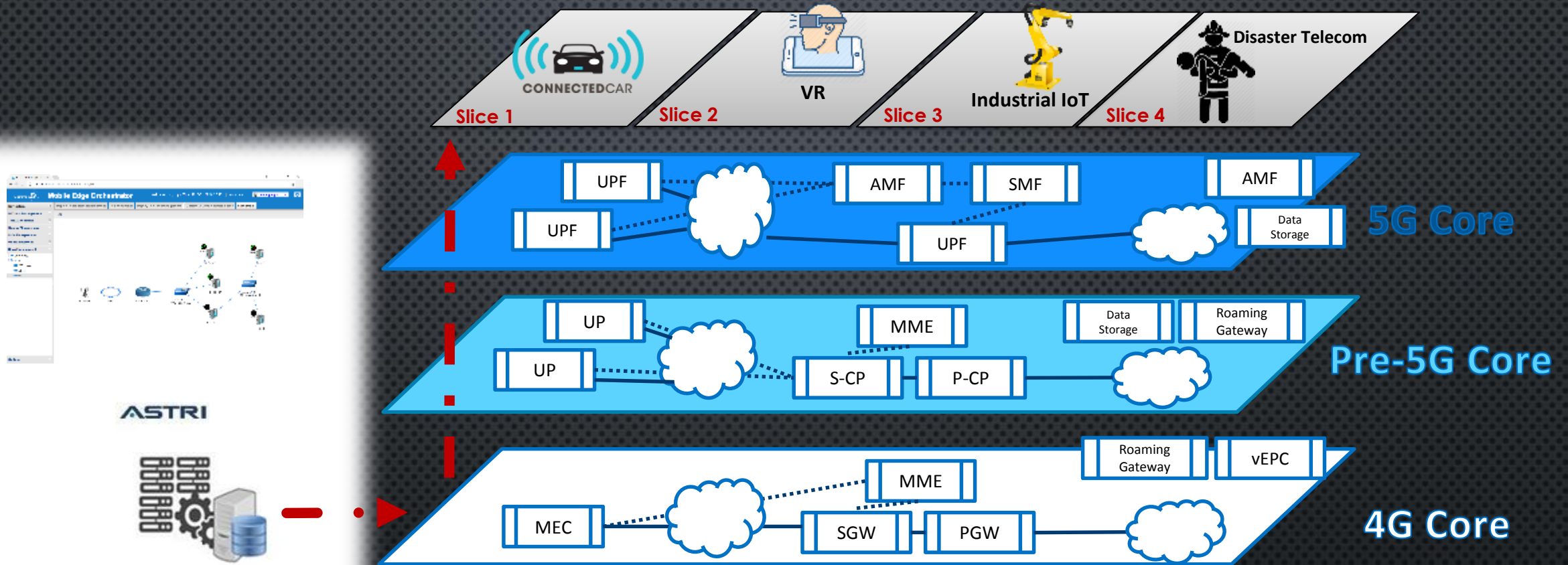
	Profile #1 5:5 profile
	<p>The diagram shows the EPC User Plane architecture with a 5:5 profile. It includes a central block labeled 'EPC User Plane' with 'S1-U' and 'S-GW' components. Arrows indicate data flow with 18.4 MPPS input/output and 36.9 MPPS throughput.</p>
Measured Throughput	200 Gbps
Measured Packet Rate	36.9 MPPS
Avg. UP core CPU util	65 %
Average one-way traffic latency	70-80 usecs

ASTRI: High Performance virtual EPC User Plane Processing stack

Intel: Intel Scalable Processor Platform + NIC: load distribution to VMs with linear scale up

**Intel and ASTRI delivers 200Gbps 4G/5G user plane throughput, while providing headroom for applications!**

# FLEXIBLE ORCHESTRATION IN NGCO



## ASTRI FastCloud Orchestrator

facilitates wireless network functions deployment and manages complex applications deployment in NGCO!



# ENABLING C-V2X NETWORKING SYSTEM IN NGCO

