

5G ARCHITECTURE: EVOLUTION OR REVOLUTION?



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WHAT IS 5G?

- › WONDERFUL NEW TECH, THAT IS GOING TO
MANAGE ALL YOUR COMMUNICATION
NEEDS, BE SUPER FAST
- › ALSO, A COMPLETE REVOLUTION IN HOW
YOU COMMUNICATE



WHAT IS 5G?

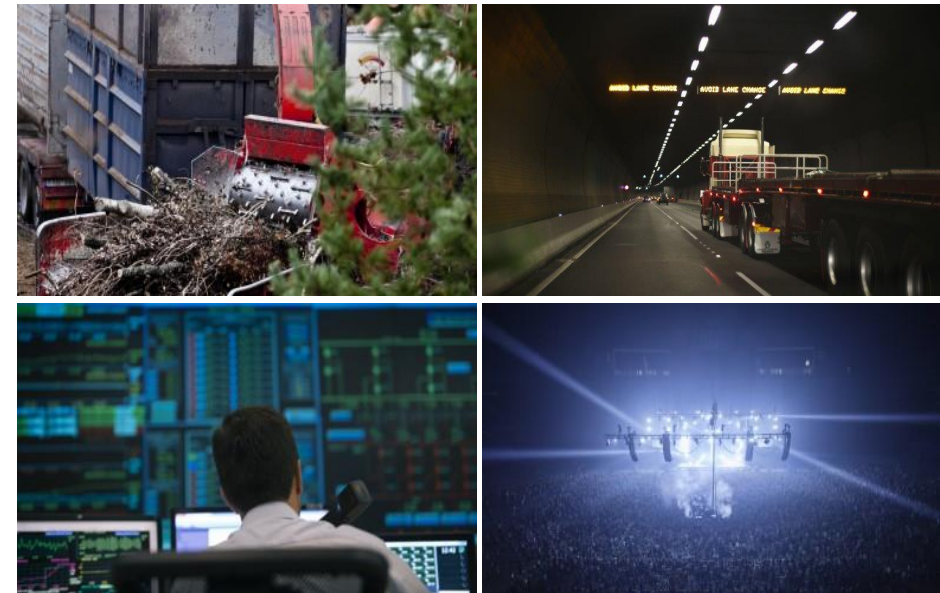
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- › ... OR IS IT?



SOME 5G REVOLUTIONS

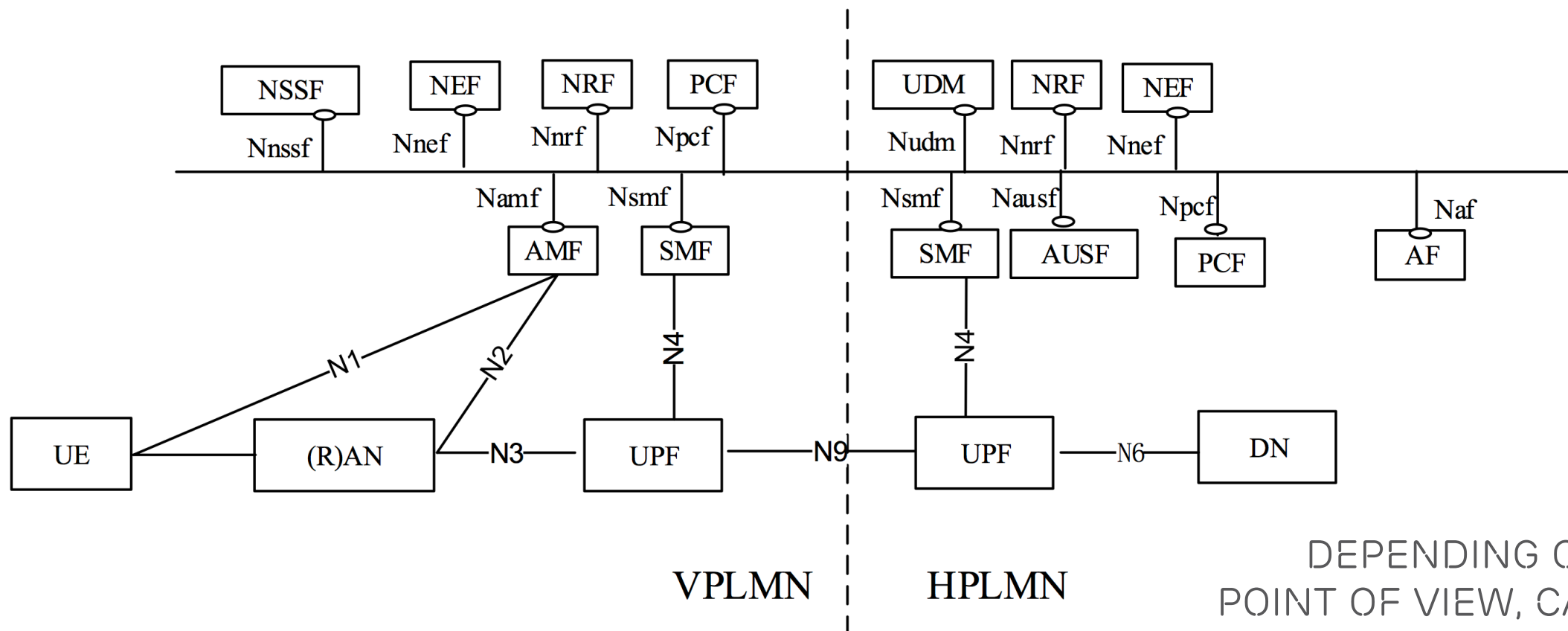


TRULY AMAZING
RADIO



USES CASES INTEGRATED
TO OTHER INDUSTRIES

WHAT ABOUT THE SYSTEM ARCHITECTURE & NETWORKING?



DEPENDING ON YOUR
POINT OF VIEW, CAN VIEW
THIS BETWEEN MODEST
ADJUSTMENT AND
REVOLUTION

WHY THIS MIGHT BE MERELY EVOLUTION



WHILE THERE ARE ARCHITECTURAL CHANGES...

- › LARGELY THE SAME ENTITIES REMAIN
- › MANY OF THE CHANGES AFFECT PROTOCOL DETAILS
- › MOST OF THE CARRIED TRAFFIC IS STILL TOWARDS INTERNET-BASED SERVICES





WHY THIS MIGHT BE MERE REVOLUTION

- › MOVING SYSTEMS TO CLOUD PLATFORMS
- › VIRTUALISING SERVICES AND FUNCTIONS, AND MAKING NETWORKS PROGRAMMABLE
- › BUILDING MANY THINGS ON OPEN SOURCE
- › INTRODUCING 5G AND CHANGING SYSTEM ARCHITECTURE
- › BUILDING MORE FUNCTIONS ON TOP OF THE WEB

BACK TO THE 5G ARCHITECTURE



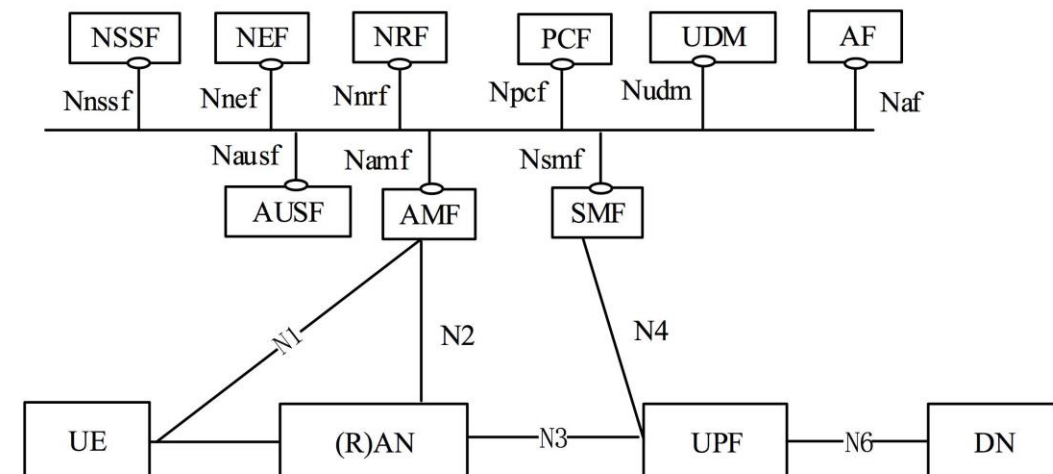
SOME OF THE CHANGES INCLUDE:

- › SERVICE-BASED ARCHITECTURE TO
PROVIDE A FLEXIBLE PLATFORM TO
BUILD THE CORE NETWORK ON
- › USE OF A GENERAL AUTHENTICATION
FRAMEWORK (EAP)
- › SLICING

SERVICE-BASED ARCHITECTURE (SBA)



- › WEB-BASED APIS REPLACE DIAMETER INTERFACES
 - › HTTP/2, JSON, REST, ...
- › MAINSTREAM IT
- › FLEXIBILITY, FASTER EVOLUTION, LESS SPECIALISED



OBSERVATIONS ON THE NEW SBA ARCHITECTURE



- › CLEARLY THE RIGHT DIRECTION
- › AMAZING THINGS CAN BE DONE EASILY, GIVEN ALL THE TOOLS
- › WE AS INDUSTRY HAVE A LOT TO LEARN
- › FURTHER EVOLUTION EXPECTED AS WE REALISE THE UNDERLYING CLOUD & VIRTUALIZATION CAPABILITIES
- › RUNNING CODE & NEED TO GAIN EXPERIENCE



SUMMARY

- › AS A WHOLE, NETWORKING IS UNDERGOING SIGNIFICANT CHANGES
- › 5G SYSTEMS AS A WHOLE GET TO USE AND EXPERIENCE, MANY OF THOSE CHANGES
- › MORE EVOLUTION TO COME, LONG LEARNING CURVE





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