CELTIC-NEXT Event
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Pitch of the Project Proposal
E5G "Enabling 5G"

Clevernet

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E5G in a nutshell

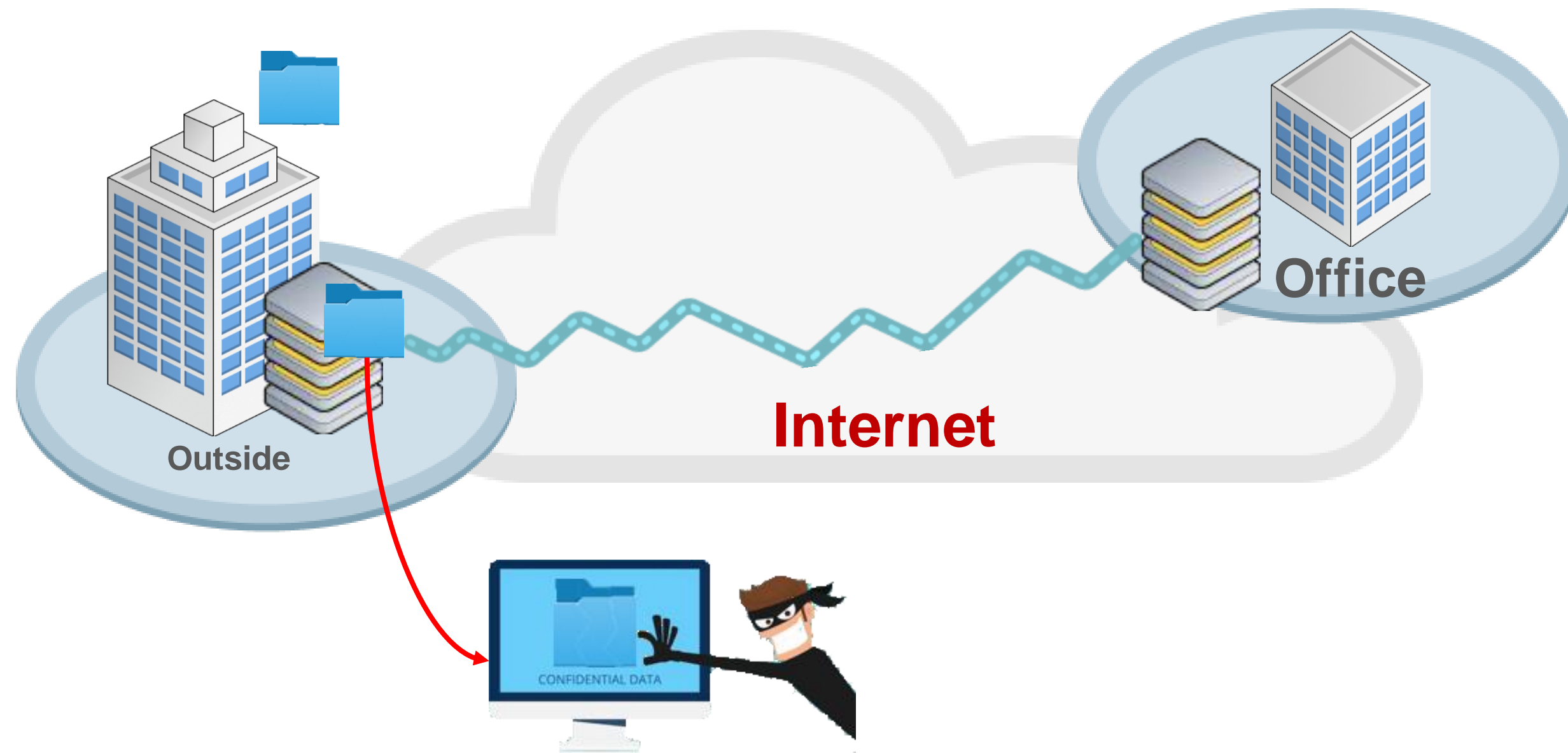*What is the main benefit of the idea/proposal?*

5G brings Operators the opportunity to extend the scope from Connectivity to new Services & Solutions

What makes the added value?

- mmWave-based Fixed Wireless Access: *TCP optimization and caching techniques*
- Efficient Management of "5G Lanes": *Modeling & designing algorithms for the dynamic allocation of resources in response to demands at different time scales*
- Self-Organized Networks (SON) for 5G: *Successful Implementation requires Context Awareness + Scalability + Complexity*
- 5G in support of IoT: *Deploying computing & networking resources at the edge, and use-case based monetization models*

Why should I participate in the project?

EU must lead "the evolution of the G", and Clevernet is eager to contribute
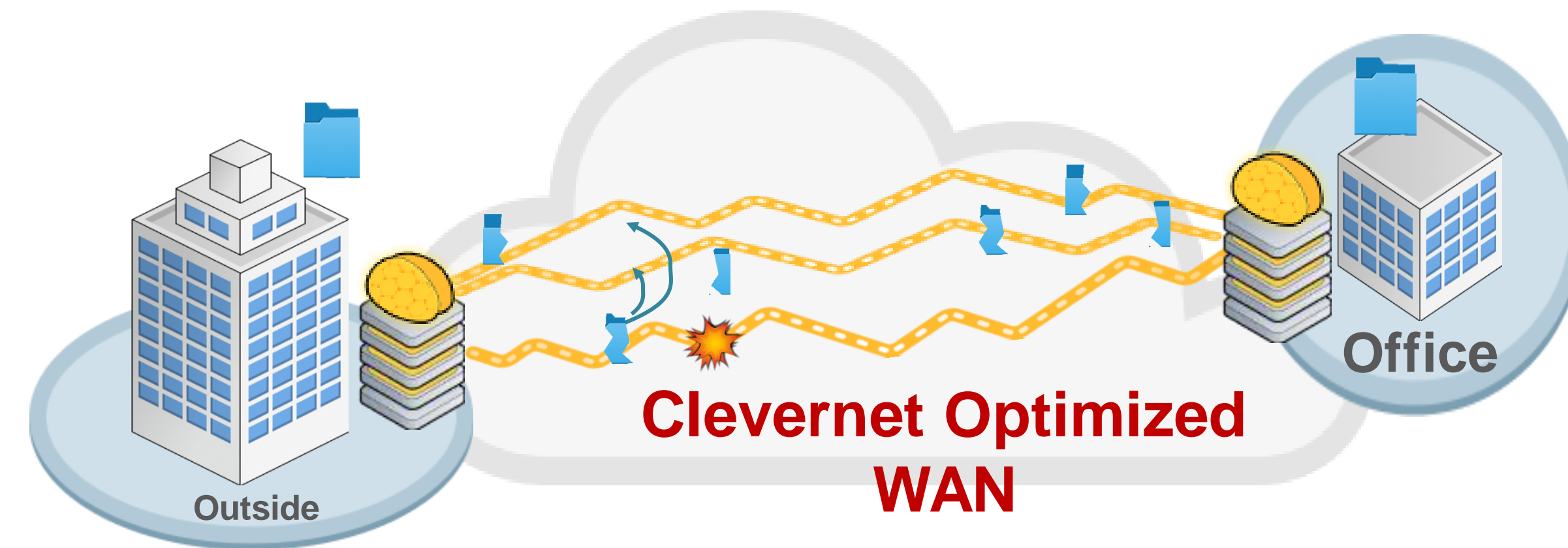
Security + Throughput

Insecure

Slow

Throughput on a file transfer in a 1Gbps connection between 65 - 81 Mbps

Path Characterization

Simultaneous Multipath: X6.5 Throughput 421-550Mbps

Link failure resiliency

Transparent to users

E5G proposal (1)

Clevernet proposes four broad themes but it is Open to incorporate suggestions/research areas of interested partners

- Fixed Wireless Access (FWA) based on mm-Wave

- Efficient Management of "5G Lanes"

- Self-Organized Networks (SON) for 5G

- 5G in support of IoT

E5G proposal (2)

Relevant Technical Areas

o TCP Optimization, Caching Techniques, Context Awareness *(mmWave-based FAW Wireless)*

   • *Benefits: densification leading to improved service & new revenue opportunities*

o Slicing, Resource Allocation Algorithms, Machine Learning *(Efficient Management of 5G Lanes)*

   • *Enables tailoring services to apps requirements → new & improved services*

o Context Awareness, Machine Learning, Monitoring, Big Data *(SON for 5G)*

   • *Efficient management of 5G networks*

o 5G in support of IoT *(use cases, monetization models)*

   • *5G brings new wings to IoT (reach, efficiency) → innovative applications, fresh revenue sources*
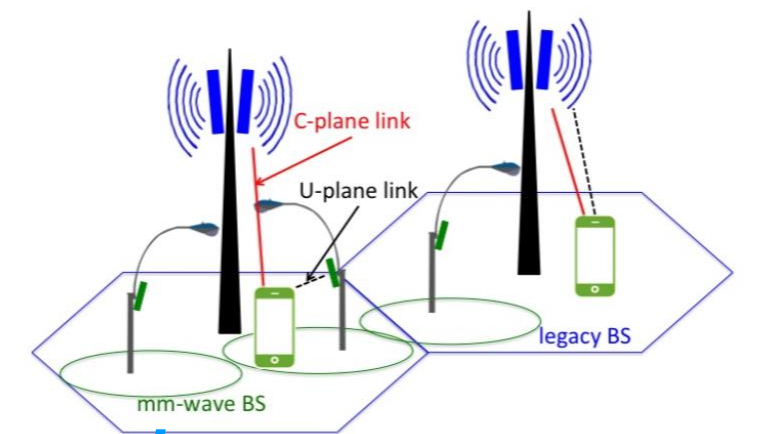
Fig. 1. Dual-connectivity scenario in which C-/U-plane connections are shown.

Partners

- Clevernet brings to the table
  - Expertise in networking, Linux kernel, algorithms, machine learning, SD-WAN
  - Leadership in IoT and Fog/Edge Computing
  - Initial contacts with 2 ISPs and 3 SMEs and a large company from 3 different countries
- Clevernet seeks:
  - At least 2 ISP partners willing to share their deployment and operational challenges, expertise, and insights
    - ✓ *Network deployment & operational expertise, network management*
  - At least 2 IoT related entities
    - ✓ *Experience in deployment of IoT solutions*
  - At least 2 final users to validate concepts and designs
    - ✓ *Experience in bringing lab experiments to PoCs, PoCs to field trials, and field trials to deployment proposals*

Confirmed Partners

Contact Info

For more information and for interest to participate please contact:

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Presentation available via: