Indigenous 5G Packet Core

Problem Statement: There is a need to develop an indigenous 5G core network that can be used as a proof-of-concept for future commercial implementations and a prototype to test future research ideas. India needs to have an indigenous 5G solution for many reasons, but an indigenously developed 5G core is critical given the security implications. Having an Indian, secure 5G core will be especially important for networks like defence and police.

Uniqueness of the Solution: Currently, any commercial grade 5G core network implementation that Indian academia or industry can use does not exist or is not available at a reasonable price. With their collaborators, the team has developed a solution that is part of and fully integrated with the larger end-to-end indigenous 5G/5Gi network. The solution is fully standards-compliant and has been tested with third-party components for interoperability. The 5G core components follow a cloud-native, high performance,

scalable design and follow all other industry best practices.

Current Status of Technology: All components were tested and validated with third-party testing equipment. The 5G core network is integrated with the rest of the 5G components and will be ready for a campus deployment soon.

Societal Impact: The solution proposed by the team can be a starting point for indigenously developed 5G products in India by Indian companies and startups. Having indigenously developed telecom products will lead to a maturation of the product ecosystem in India and help India climb up the ladder from being a technology consumer to a producer. In addition, developing Indian solutions to 5G will enable focusing on India-specific problems and push the nation's ideas into future standards.

Patent(s): Nil

Relevant Industries: Telecom, ICT.

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