

Moon Mobile Provider Requirements

Atsushi Tagami

Executive Director

Network division, KDDI Research

2024/11/7 , IETF 121

KDDI's Space Communications

KDDI is a Japanese telco providing terrestrial and satcom services.

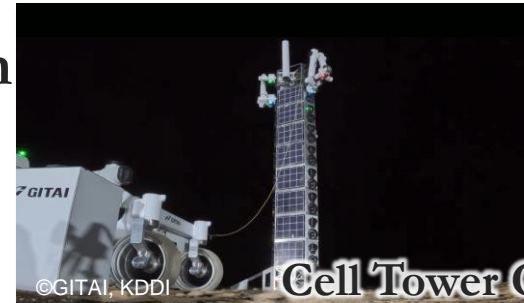
- 1963 ~ SatCOM between US-Japan
- 2024/E ~ Starlink direct to call in Japan
- 2028 ~ Moon-Earth Direct Communication
- 2030 ~ 5G on the Moon



First Transpacific Reception of a Television Signal via Satellite



Grand Stations in Western Japan

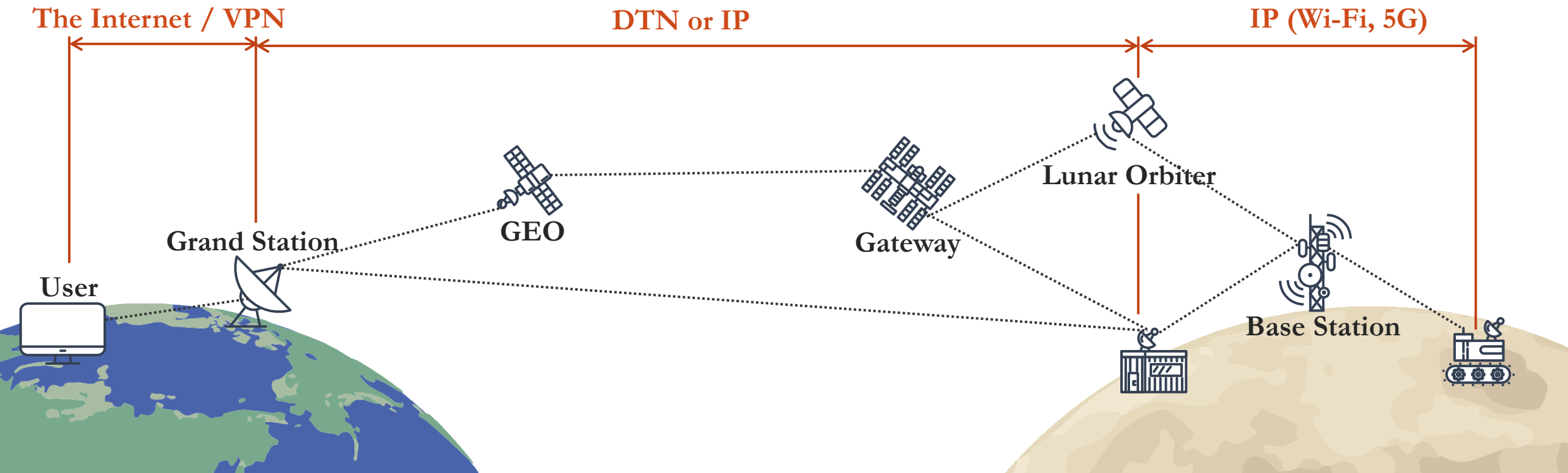


Cell Tower Construction Demo

Lunar Mobile Communications

Internet protocols would be used on the moon and between Earth and the moon.

- Network operation and maintenance on the moon
- Interoperability between the moon and the earth



Area of Interest

Routing and Addressing schemes

- Routing protocol (OSPF, BGP, ...), DNS, NAT, ..
- Multi domain networks : the moon surface, between the moon and Earth (incl. LunaNet), and on Earth

Transport protocol

- Timeout timer, congestion control, flow control
- How do the end terminal know the predictable disconnections between satellites?

Application protocol

Clock synchronization