

#### **GNSS Environmental Changes**





#### **Architecture of Centralized NRTK**





## **Limitations of Centralized NRTK**

- **\*** Very large number of measurements
  - Ex) 100 stations \* 20 satellites/epoch = 2,000 measurements

#### **\*** Large number of states to estimate

Ex) 100 stations \* (40 integer ambiguities + 20 iono. states + 6 tropo. state) = 6,600 states



#### **Architecture of Decentralized NRTK**





## **Benefits of Decentralized NRTK**

- Considerably reduced number of measurements
  - Ex) 3 stations \* 20 satellites/epoch = 60 measurements

#### Small number of states to estimate

 Ex) 3 neighboring stations \* (40 integer ambiguities + 20 iono. states + 6 tropo. state) = 196 states



# 2014 Experiment :

## Accuracy Evaluation





oogle earth

#### Configuration





#### **Interpolation of Correction Values**





#### **Positioning Error Statistics**



## 2020 Experiment :

# Real-Time Functionality Verification

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# THANK YOU



