

# Connected Mobility Seminar (IN2107)

8.2.2021

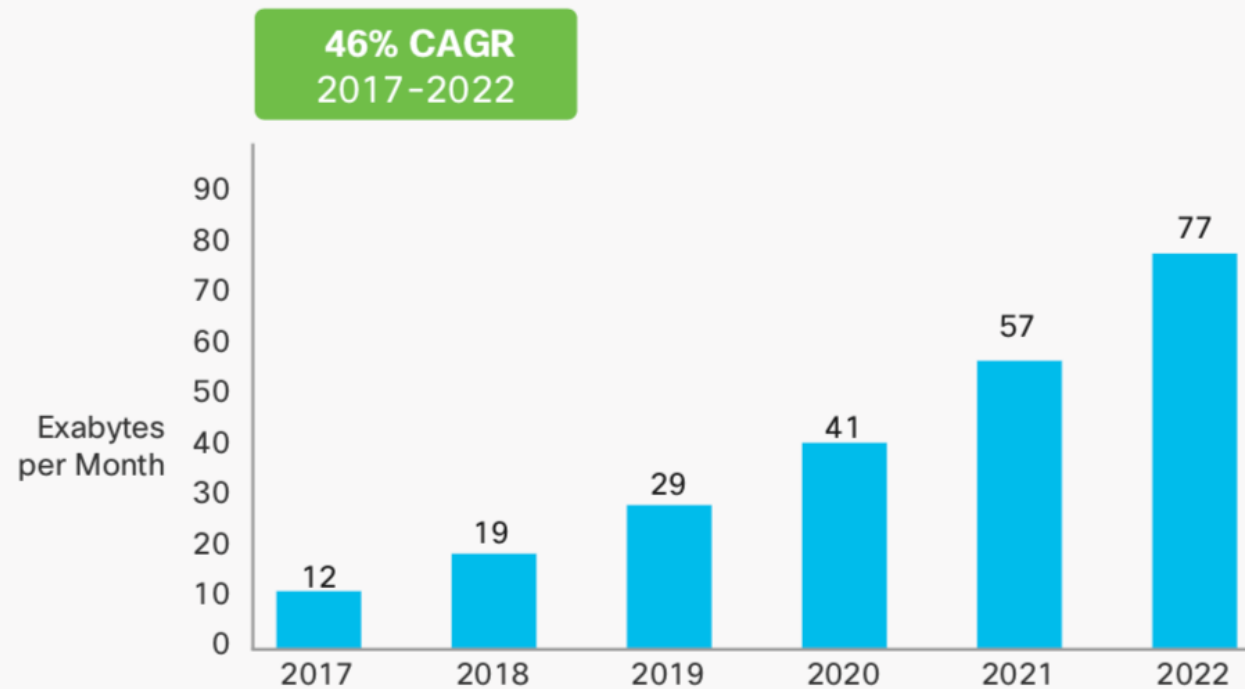
Teemu Kärkkäinen

Chair of Connected Mobility



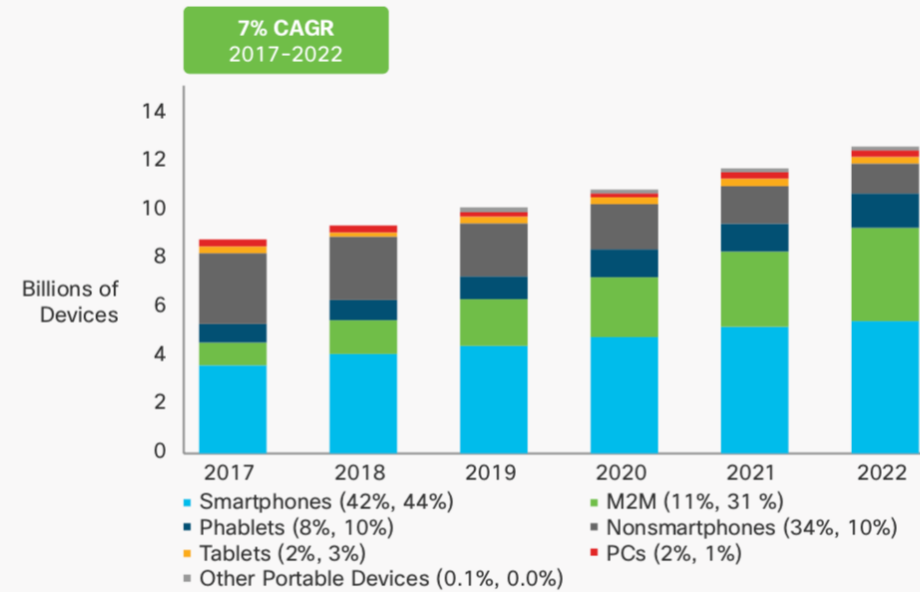
# Overall Mobile Data Traffic

Figure 2. Cisco Forecasts 77 Exabytes per Month of Mobile Data Traffic by 2022



Source: Cisco VNI Mobile, 2019

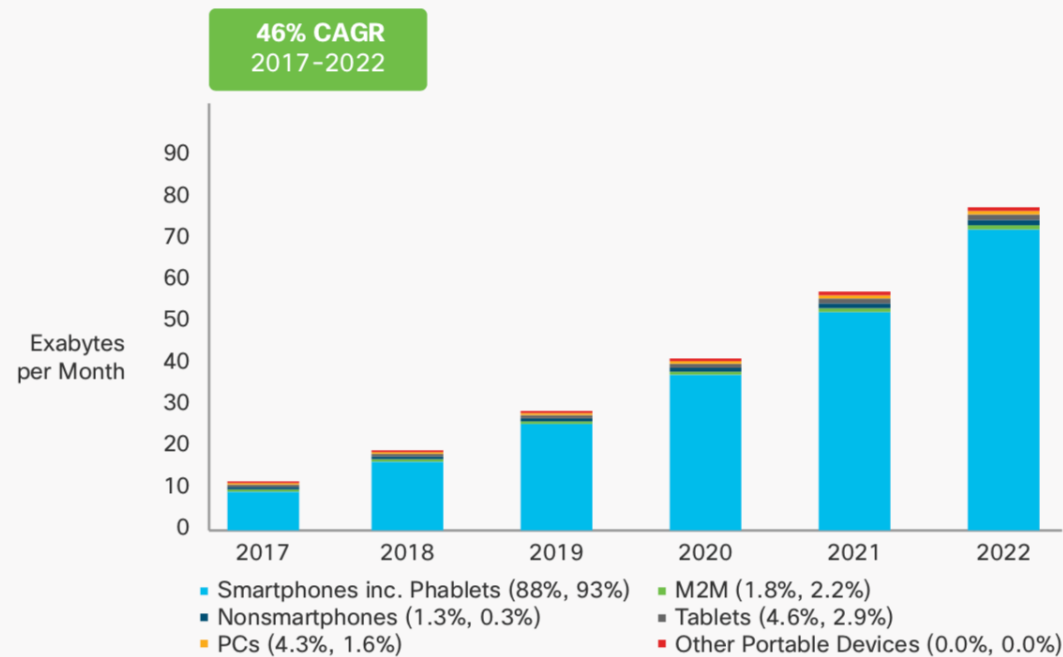
Figure 4. Global Mobile Devices and Connections Growth



Note: Figures in parentheses refer to 2017, 2022 device share.

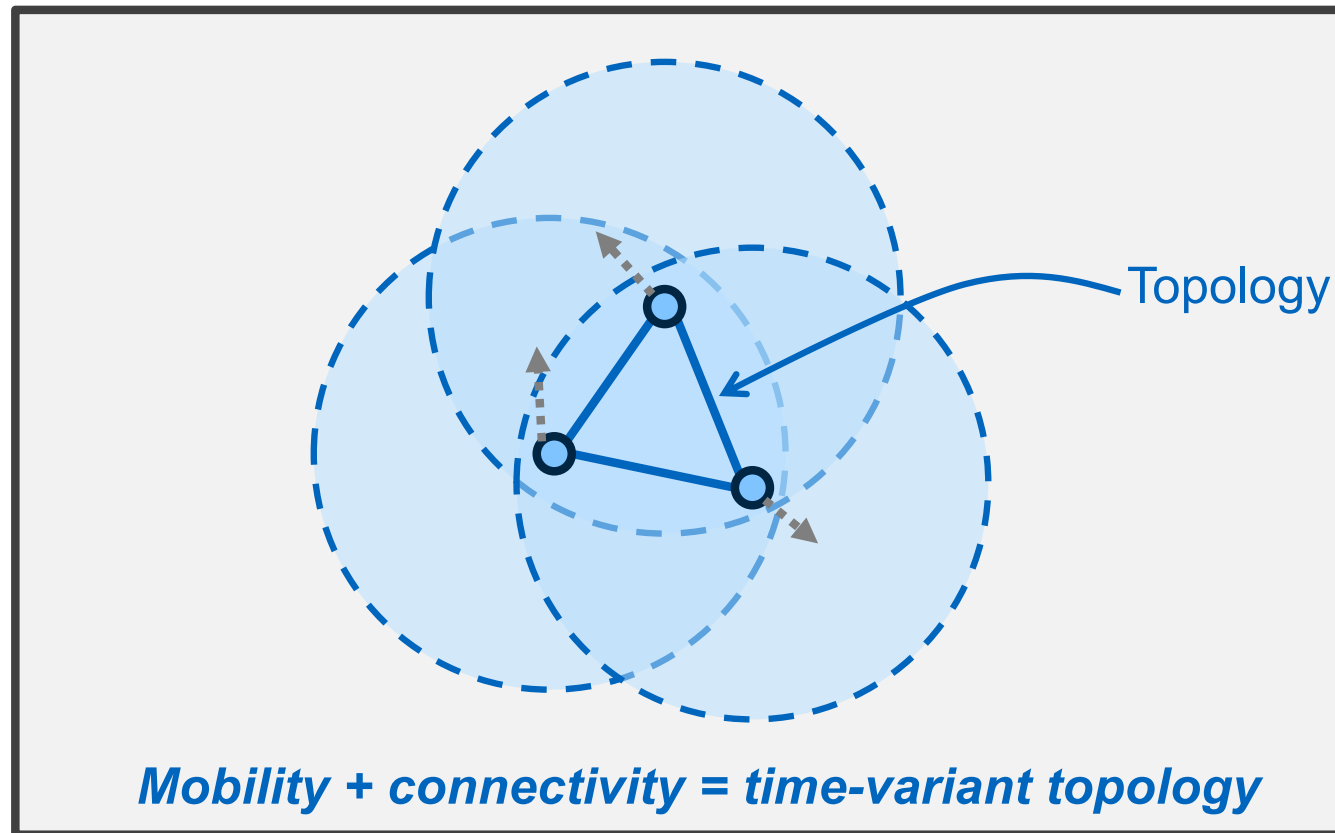
Source: Cisco VNI Mobile, 2019.

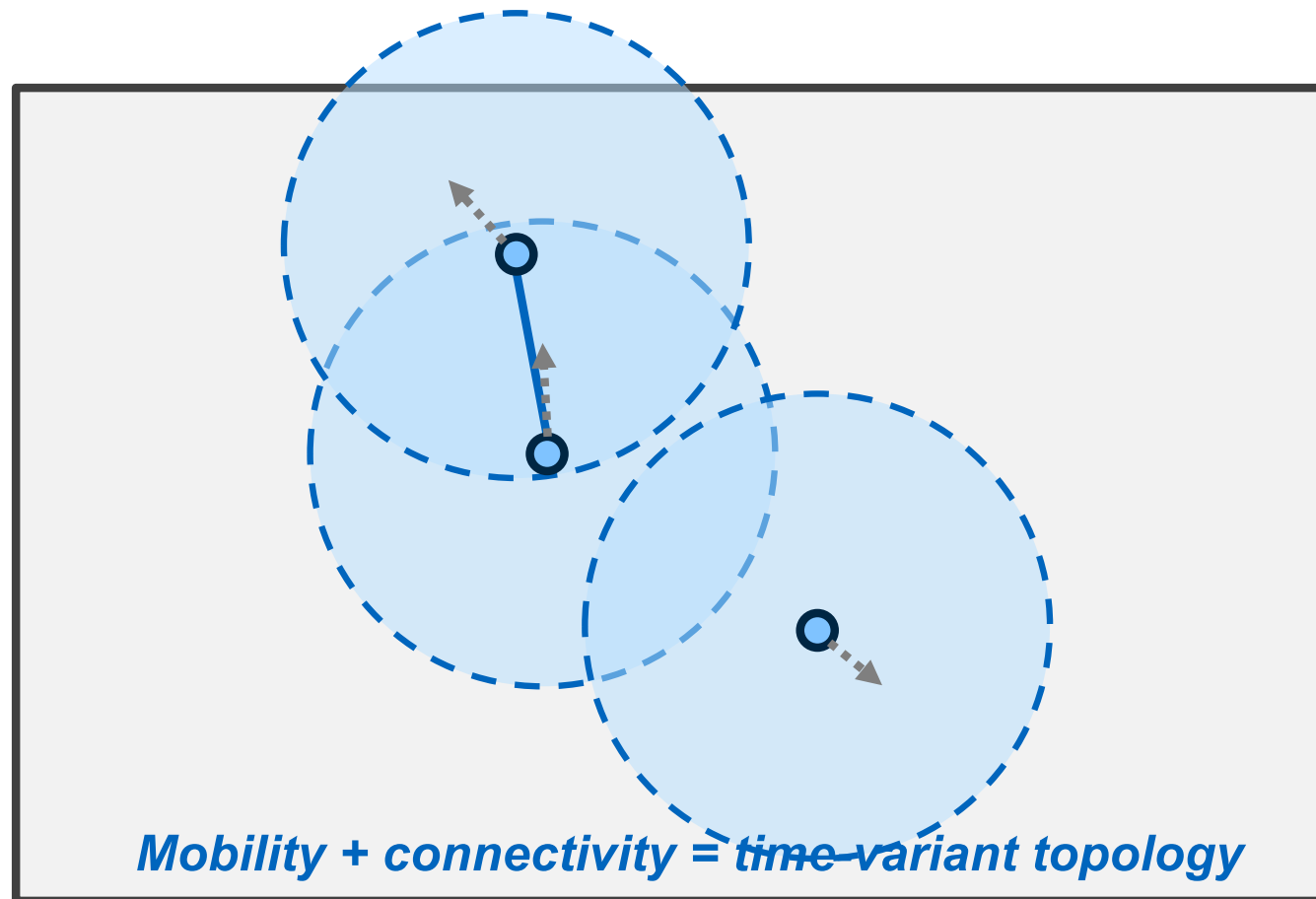
Figure 5. Global Mobile Traffic Growth by Device Type

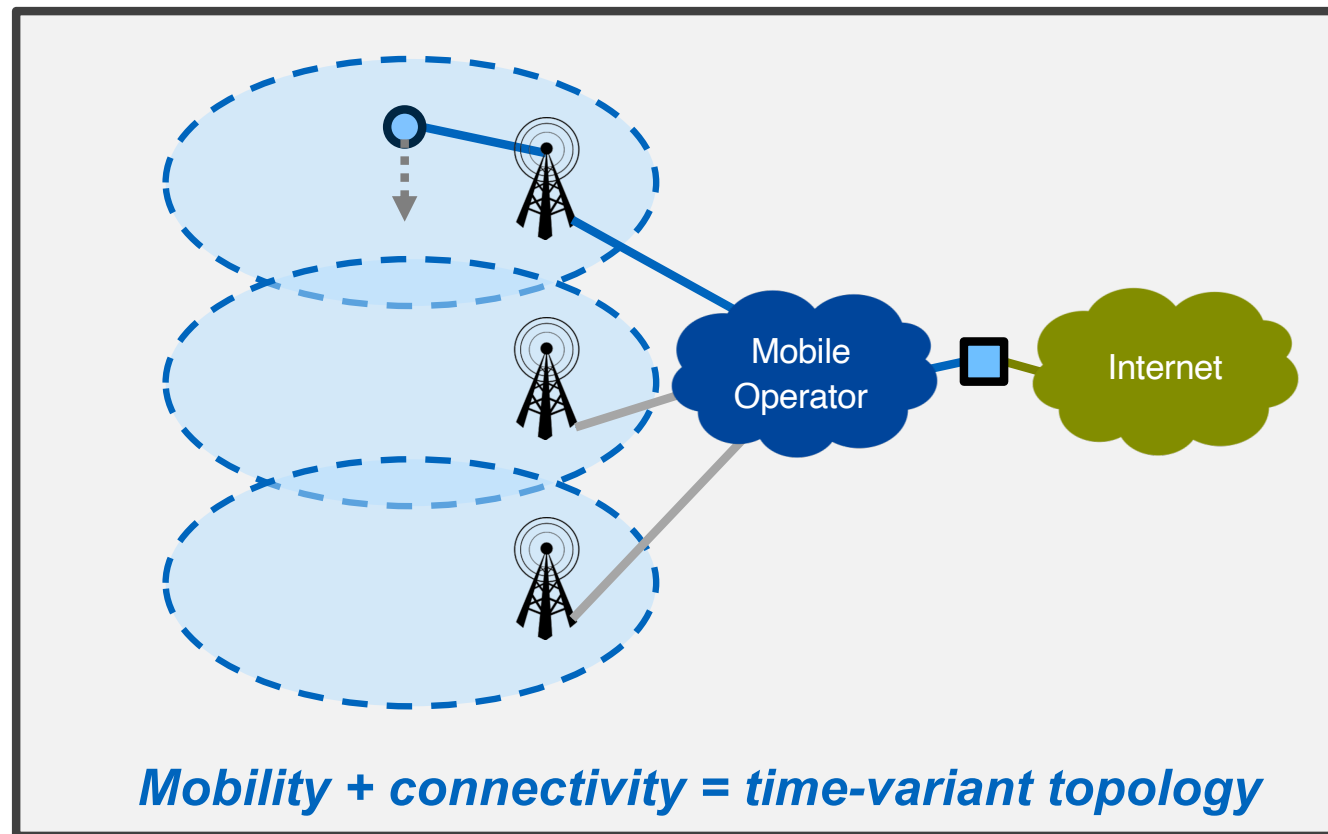


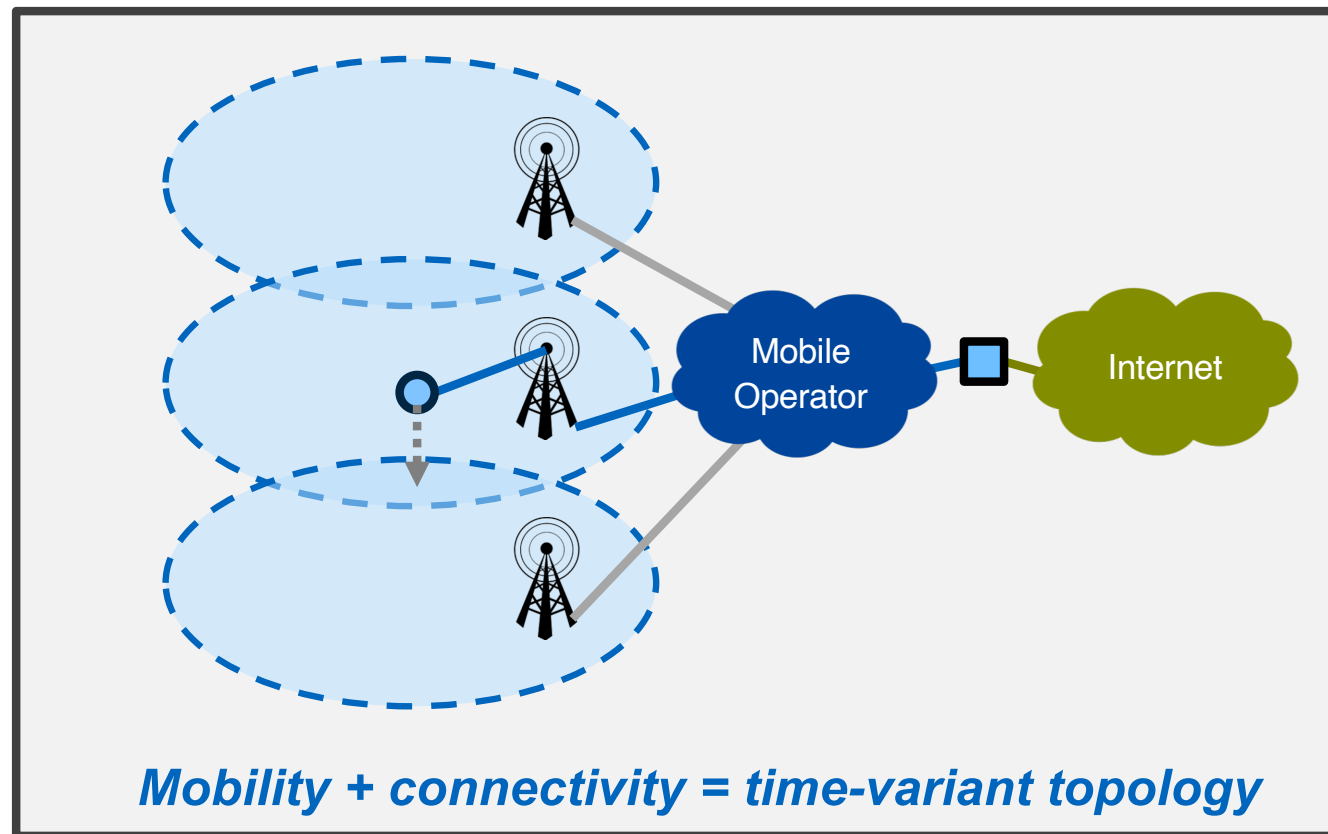
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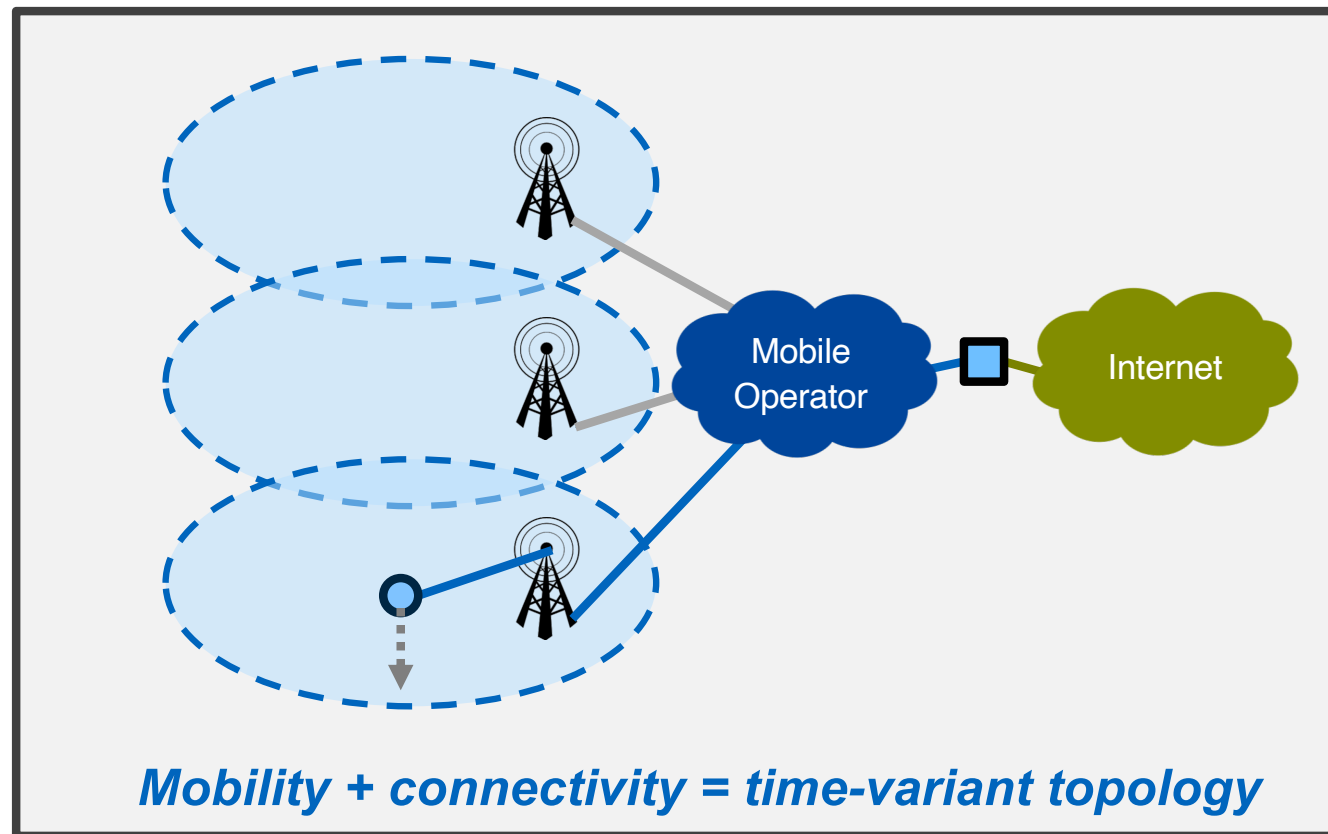
Source: Cisco VNI Mobile, 2019.





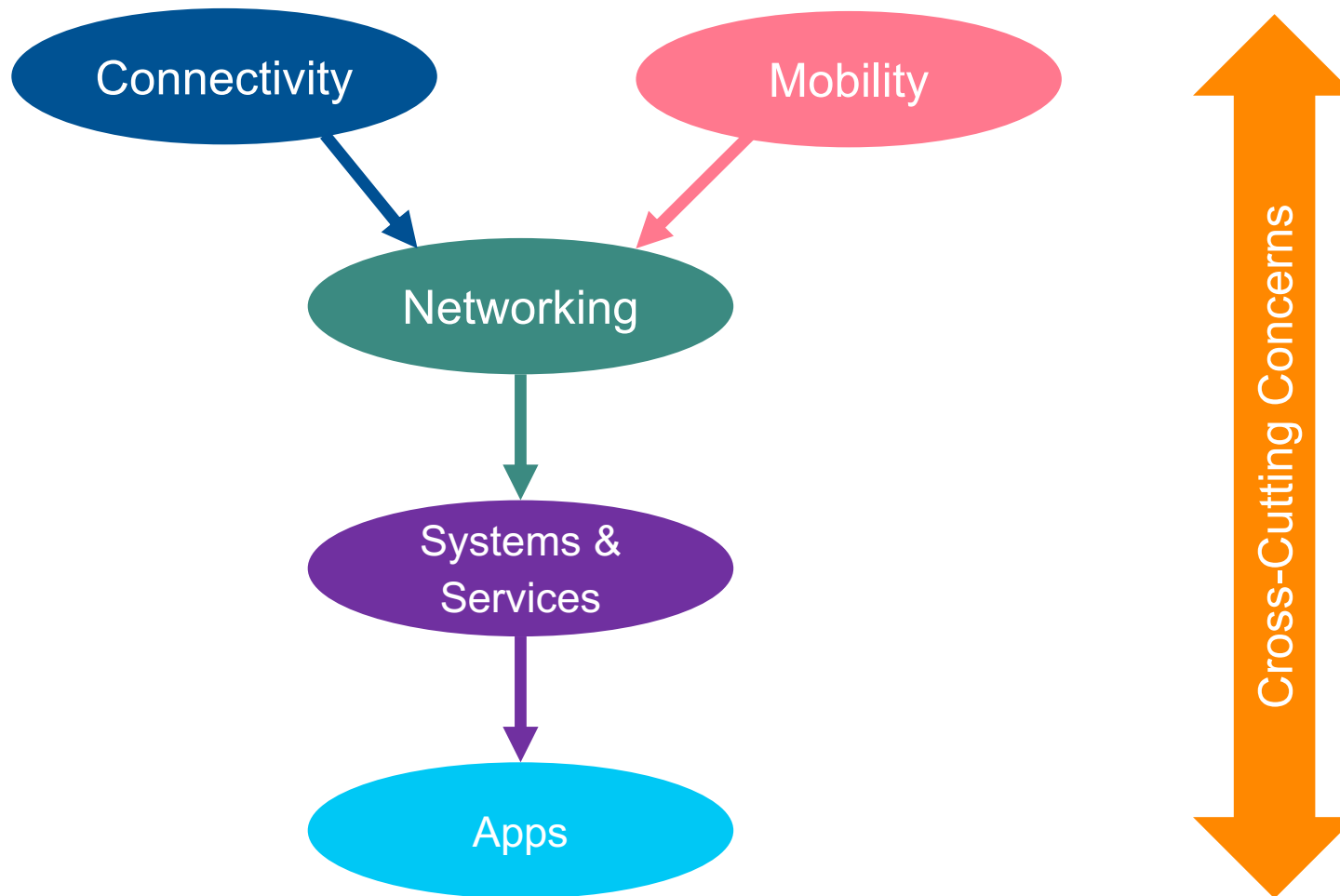








# Topic Structure



# Covered Topics

- Covers the full range of topics in Connected Mobility:
  - “**Connected**” = protocol stack from wireless links to apps.
  - “**Mobility**” = measuring, characterizing and modeling how humans (and other things) move.
- **Overview**
  - Mobile systems and mobile connectivity concepts
  - Connected mobile systems & networks
  - Mobility models
  - Mobile networking and connectivity models
  - Mobile transport and application support
  - Mobile offloading
  - Mobile measurements
  - Security and privacy – and ethics
  - Mobile service infrastructures
  - Case studies: location-based services

## Requirements to take the course

- **Bachelor's degree** in computer science or a related field.
- Basic background in communications and networking technologies.
  - Variety of topics allows for varied technical backgrounds.
- Ability to write and present in **English**.

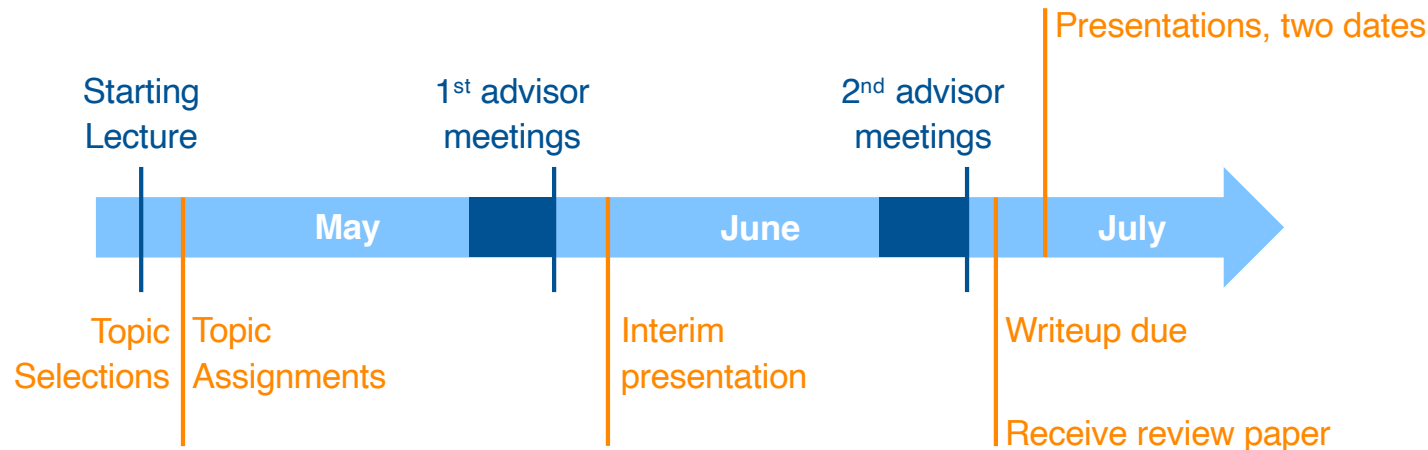
## Requirements to complete the course

- **Written paper**, 7-9 pages in English using ACM sig template.
- **Presentation** of the paper in English (~30 min).
- **Reviewing the paper** and **acting as an opponent** to another student.

## Course structure

- Registration with the Matching System of the department. (11.2.-16.2.)
  - Emailing a letter of motivation ([kaerkkae@in.tum.de](mailto:kaerkkae@in.tum.de)) may increase your chances
- Further information from the course staff to the matched students, e.g., dates, times and locations of meetings. (25.2.-10.3.)
- Starting lecture introducing the topic areas.
- Topic selection process and final topic assignments.
- One-on-one meetings with advisors.
- Paper submission.
- Reviewing another student's paper.
- Presenting the paper, acting as an opponent to another presentation.

# Organization



## Requirements to complete the course:

- **Written paper**, 7-9 pages in English using ACM sig template.
  - Cover the base material.
  - Create a **synthesis** of the topic—ties the papers together into a whole.
- Attendance of **two advisor meetings**.
- **Presentation** of the work in English (interim 15 min, final 30 min).
- **Reviewing the paper** and **acting as an opponent** to another student.