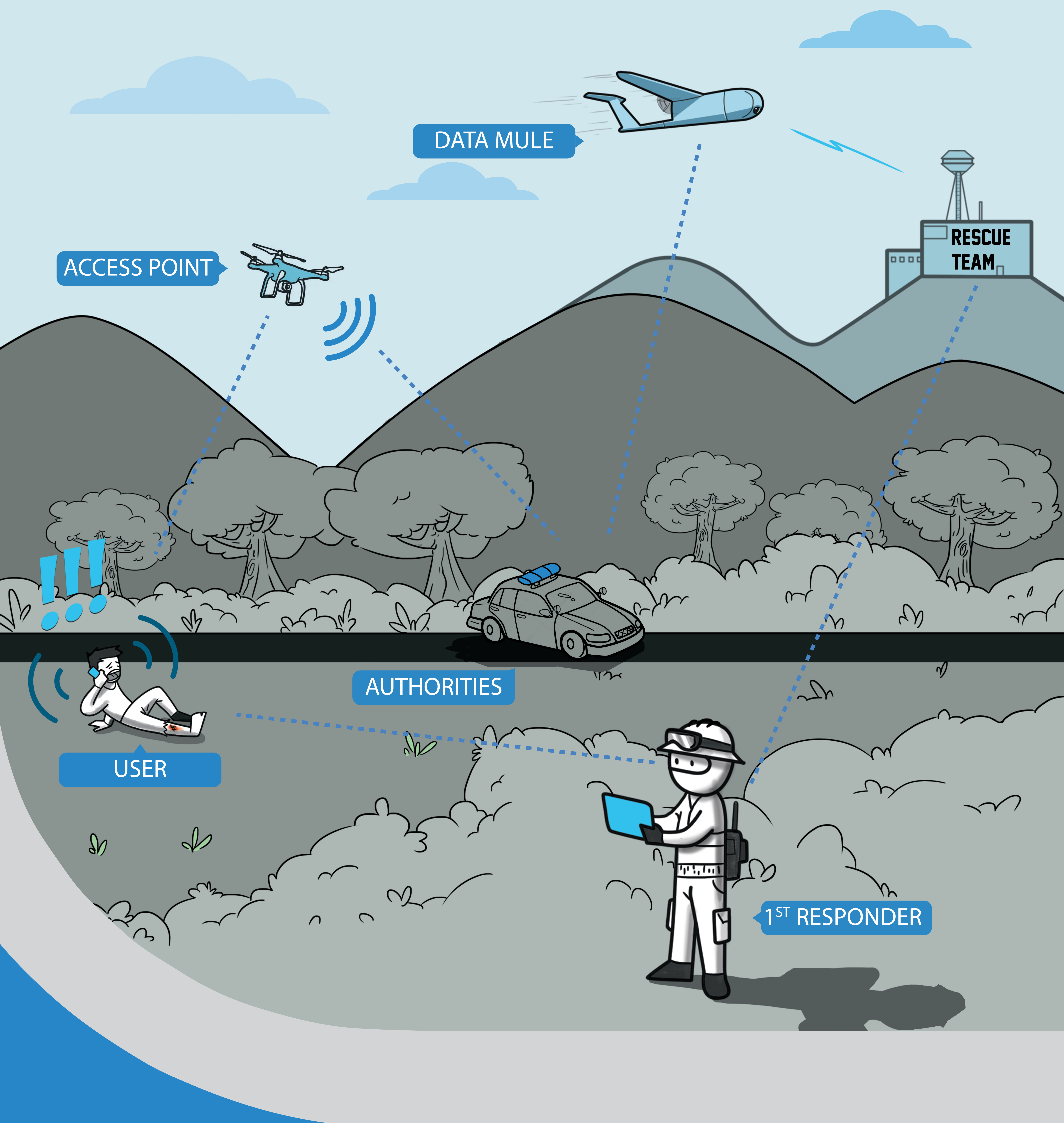




Universal, mobile-centric and opportunistic communications architecture



## MOTIVATION

- INTERNET IS EXPECTED TO:
  - Support diverse set of new applications and services
  - Connect a vast numbers of heterogeneous devices
  - Support the ever-growing need of user mobility

- HOWEVER UNIVERSAL COVERAGE IS NOT FEASIBLE:
  - Populations living in physically remote locations
  - Communications may incur in high deployment costs
  - Ubiquitous mobile broadband coverage is currently seen as not feasible by major operators

## OBJECTIVES

- COMBINE TWO EMERGING NETWORKING PARADIGMS:
  - Information Centric Networking (ICN)
  - Delay Tolerant Networking (DTN)

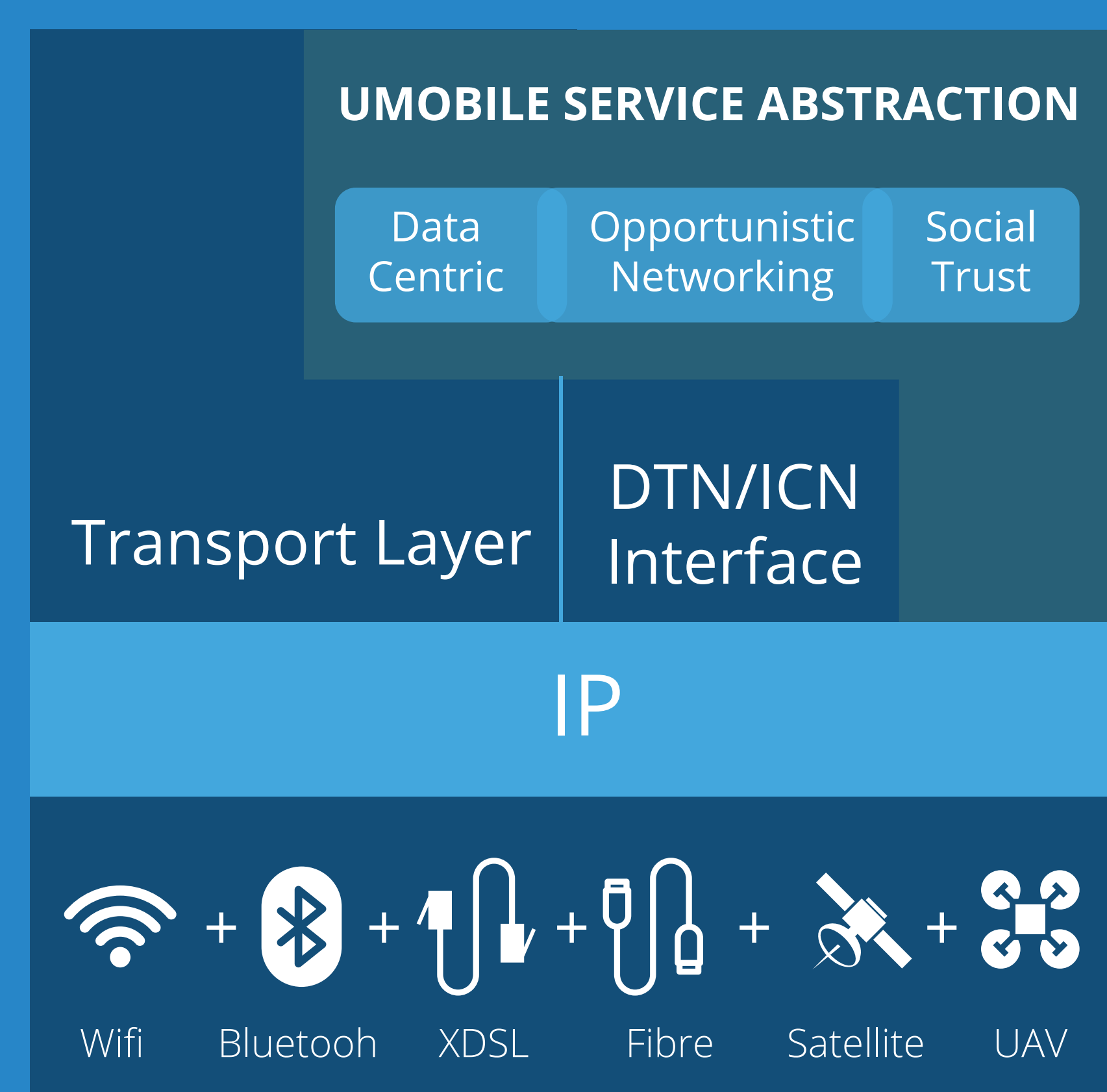
- IMPROVE INTERNET PERVASIVE ACCESS BY:
  - Moving from the traditional host-centric access paradigm to a data-centric model
  - Creating a communication model robust to intermittent connectivity

- INTEGRATE:
  - Social trust computation
  - Cooperative incentive modeling
  - Individual and collective behaviour inference

## INNOVATIVE ASPECTS

- INFORMATION-CENTRIC COMMUNICATIONS:
  - Communications based on data interests expressed passively or actively by the user
  - Uniform abstraction: simple API to request, capture, and make data available
- INTERMITTENT CONNECTIVITY SUPPORT:
  - Flexible and resilient hybrid network that can work in both connected and disconnected environments
  - A fine-grained quality-of-service abstraction for all applications, based on dynamic resource allocation
- TRUST-BASED NETWORKING:
  - Ensure adequate levels of motivation to engage in pervasive data sharing
  - Aware of human behaviour

## APPLICATIONS



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