Aalto University
School of Electrical
Engineering

# Value Network Design for Internet

## Case: Future Internet / Scenario Planning

Course E7830
Aalto University

# Research Question of Scenario Planning

## Case: Future Internet

- Which are the alternative (technological) scenarios for Internet over 10 years and what are the key trends and uncertainties that produce these scenarios?

## Supporting Strategic Question

- IETF standards: What should be the IETF strategy of TEKES/Future Internet Programme to cope with each scenario?

# Scenario Planning Process

## 1. Setting the scene and scope

- Define *time frame*, *scope* and *decision variables*. Identify major *stakeholders.*

## 2. Identifying key trends and uncertainties

- *Key trends* = important forces which experts consider predictable.
- *Key uncertainties* = important forces whose outcomes are not very predictable.

## 3. Scenario construction

- *Select two most important key uncertainties* → scenario matrix.
- Add impact of other key uncertainties and trends.
- Assess *internal consistency* and plausibility, revise.
- Assess *stakeholder behaviour.*

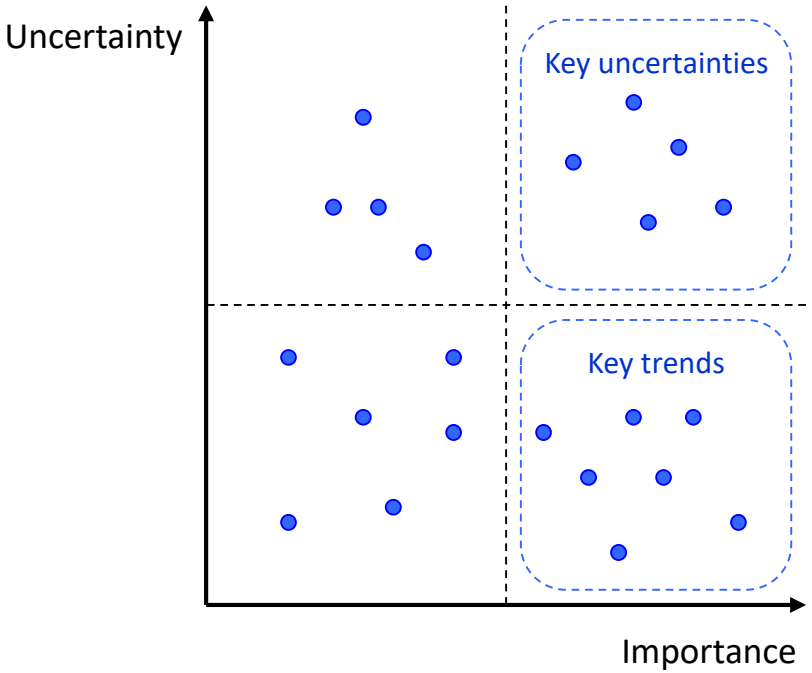
## 4. Quantitative modelling



Source: Schoemaker, 1993, Tapio Levä, 2009

# Identifying Key Trends and Uncertainties

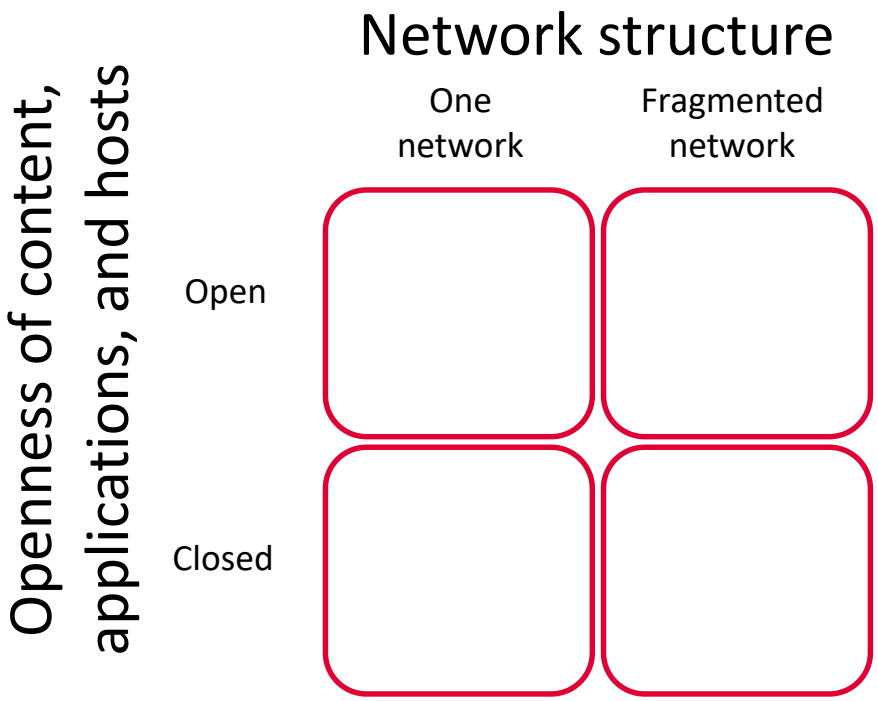
- Brainstorming
  - To identify key trends and uncertainties
  - 3 sessions with academics and industry experts
  - Divided to 4 x 45 min
    - **P**olitical / regulatory forces
    - **E**conomic / industry forces
    - **S**ocial forces
    - **T**echnological forces




- Expert interviews
  - To deepen the understanding of key uncertainties and scenario drafts
  - 11 interviewees representing different stakeholders

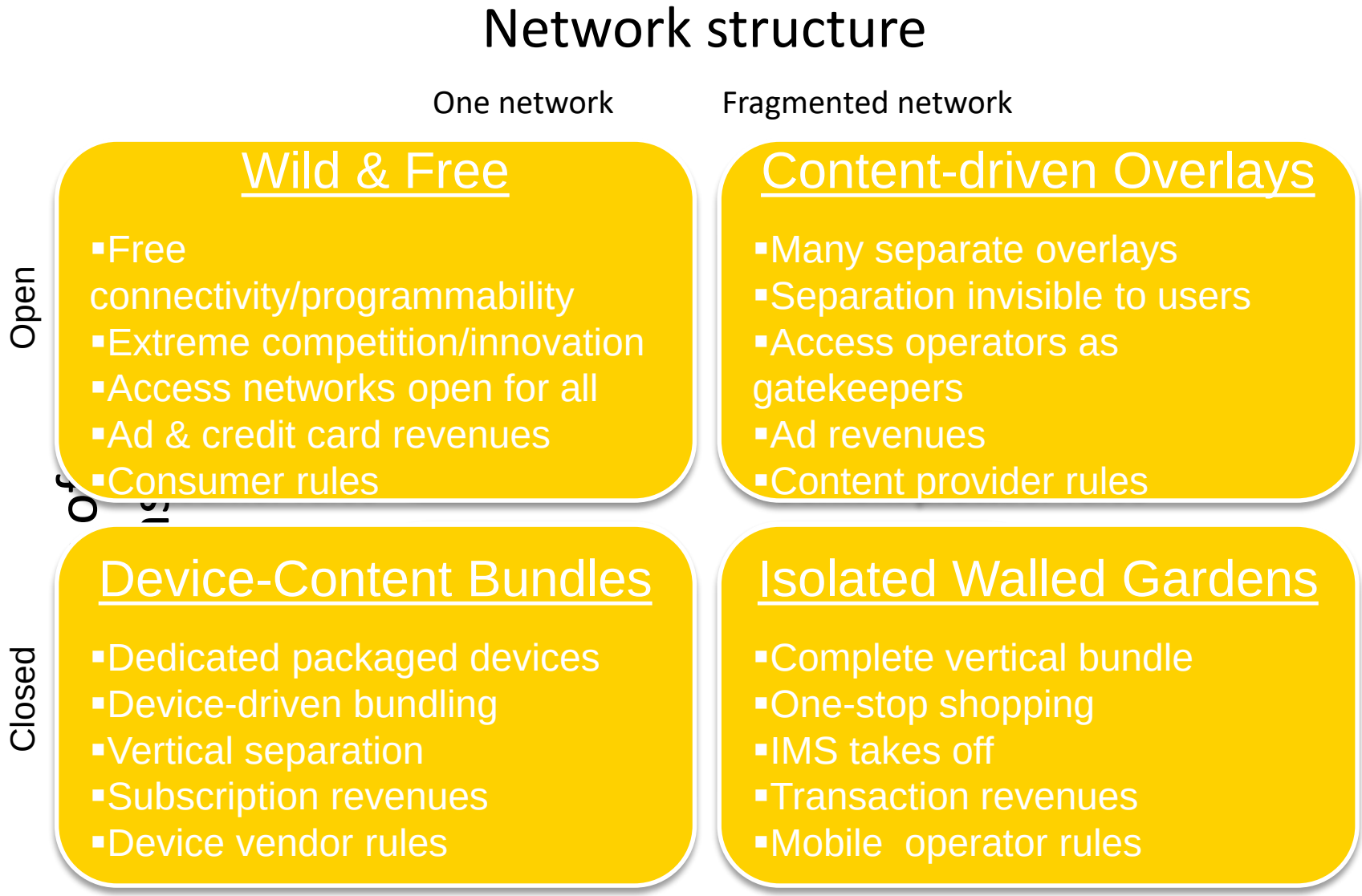
# Key Uncertainties (=what we don't know about future)

- Most important key uncertainties
  - Network structure?
  - Openness of content, applications, and hosts?



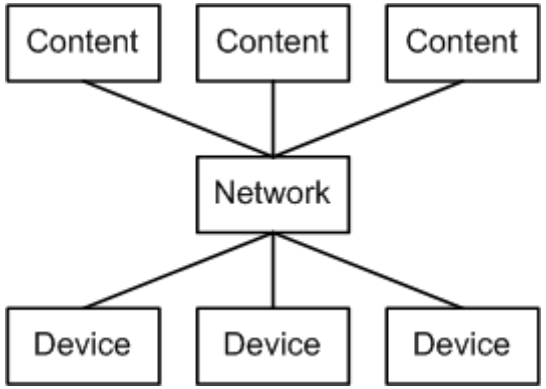

- Other key uncertainties
  - Will Internet face a larger collapse?
  - Where will the intelligence be located?
  - What will be the dominating business model in Internet economy?
  - Where will the standardization happen?
  - What is the level of trust / security / authentication in the Internet?
  - Will the traffic be treated neutral?
  - Standards vs. proprietary solutions?

# Internet Architecture Scenarios

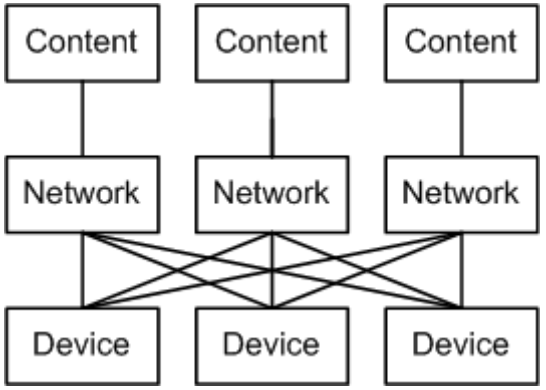


# Tech+Industry Architecture in Scenarios

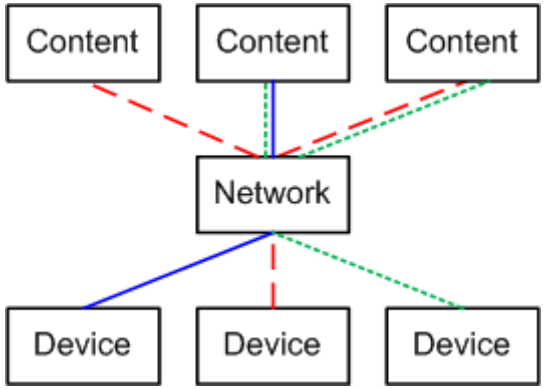
## Wild & Free



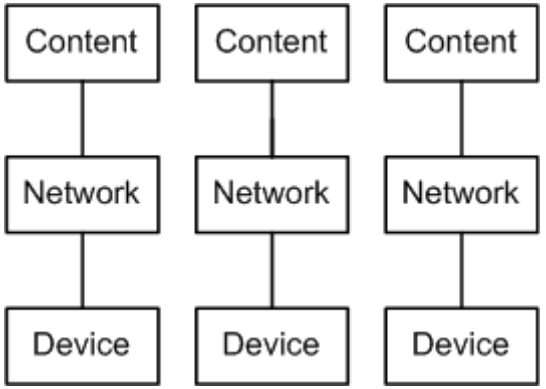

## Content-driven Overlays




## Device-Content Bundles

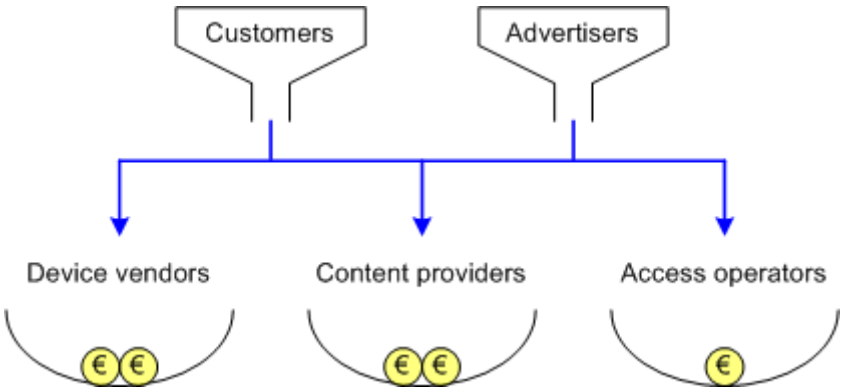



## Isolated Walled Gardens

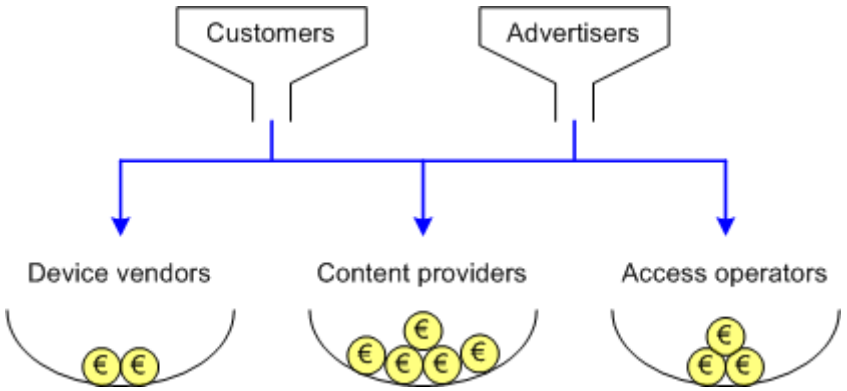


# Value Distribution in Scenarios

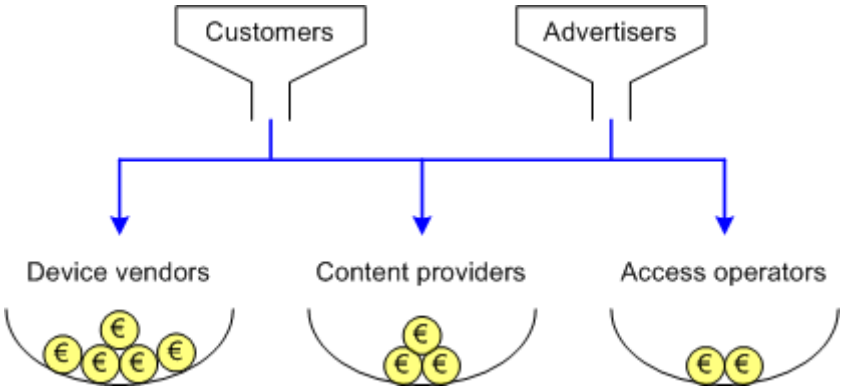
## Wild & Free




## Content-driven Overlays




## Device-Content Bundles




## Isolated Walled Gardens