P802.19.1 General Architecture

Date: 2010-01-19

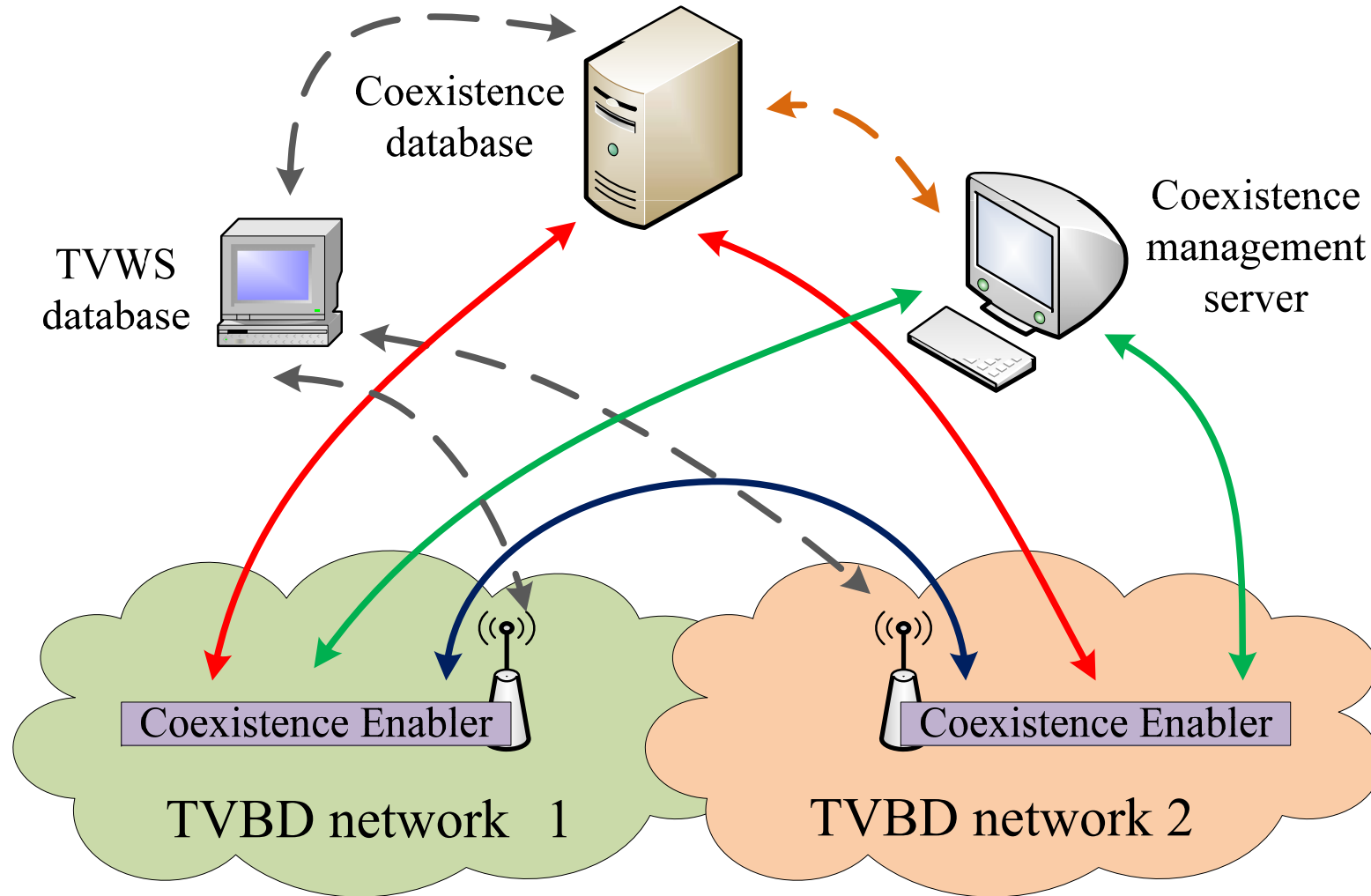## Authors:

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Abstract

This contribution proposes general system architecture for P802.19.1

General system architecture 1/2

Coexistence
database

TVWS
database

Coexistence
management
server

Coexistence Enabler

Coexistence Enabler

TVBD network 1

TVBD network 2

General system architecture 2/2

- **Coexistence Database**
  - Contains information required for TVWS coexistence
  - Provides this information to Coexistence Management Server
  - Provides this information to Coexistence Enablers

- **Coexistence Management Server**
  - Makes TVWS coexistence decisions
  - Provides TVWS coexistence guidelines to Coexistence Enablers

- **Coexistence Enabler**
  - Obtains information required for TVWS coexistence
  - Provides this information to Coexistence Database
  - Exchanges this information with other Coexistence Enablers
  - Makes TVWS coexistence decisions within the guidelines (if any) received from Coexistence Management Server
 - Implements TVWS coexistence decisions

Deployment options

- **Deployment option 1**
  - Coexistence Enablers use "direct discovery" (e.g. direct dedicated connection, wired/wireless beacon)
  - Coexistence decisions are done by Coexistence Enablers

- **Deployment option 2**
  - Coexistence Enablers use Coexistence Database for registration and discovery
  - Coexistence decisions are done by Coexistence Enablers

- **Deployment option 3**
  - TVBD networks use Coexistence Database for registration and for conveying information from Coexistence Enablers to Coexistence Management Server
  - Coexistence decisions are done in Coexistence Management Server and reconfiguration guidelines are provided to Coexistence Enablers
  - Coexistence Enablers make coexistence decisions within the guidelines received from Coexistence Management Server and implement these decisions
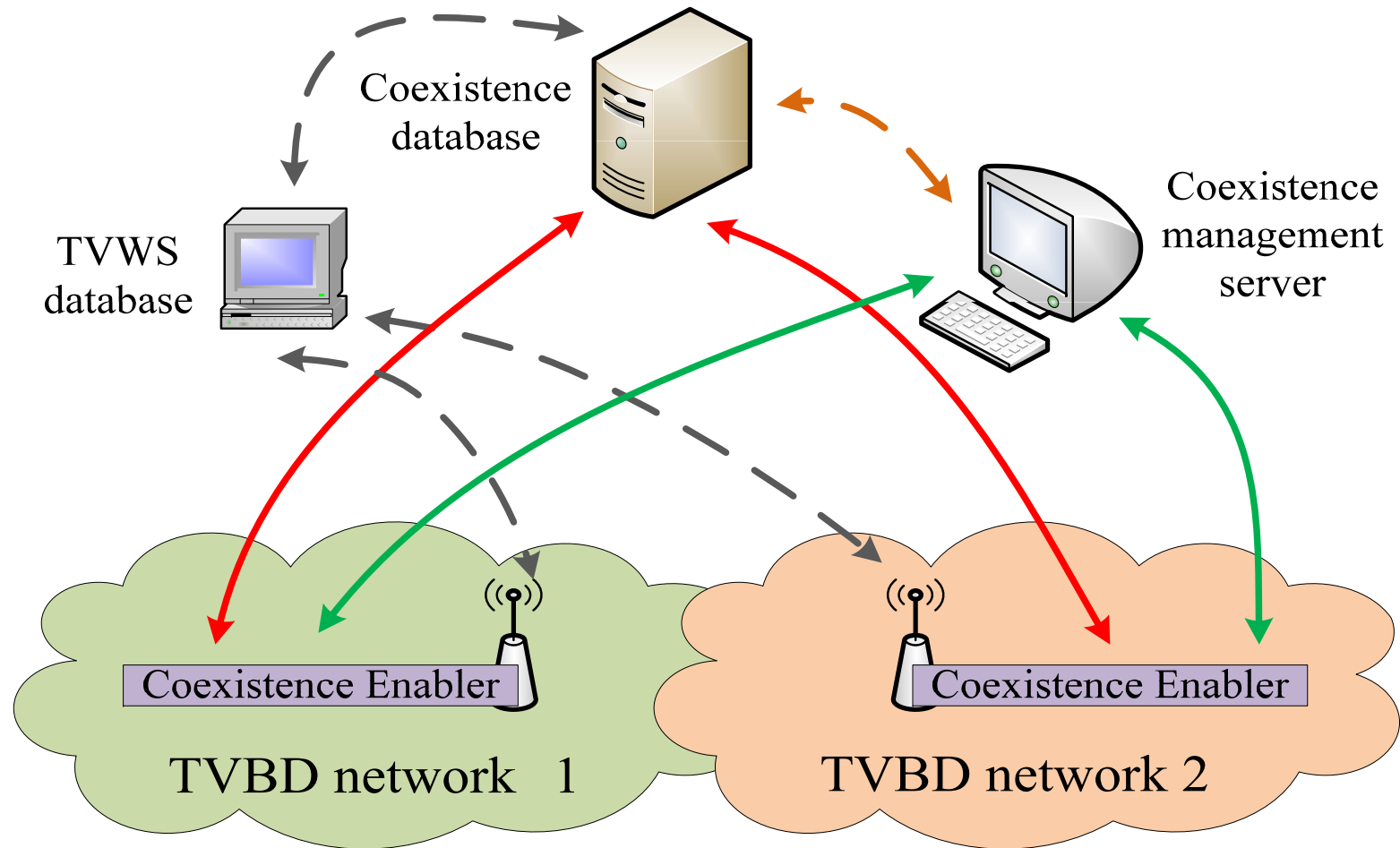
Deployment option 1

TVWS
database

Coexistence Enabler

Coexistence Enabler

TVBD network   1

TVBD network 2
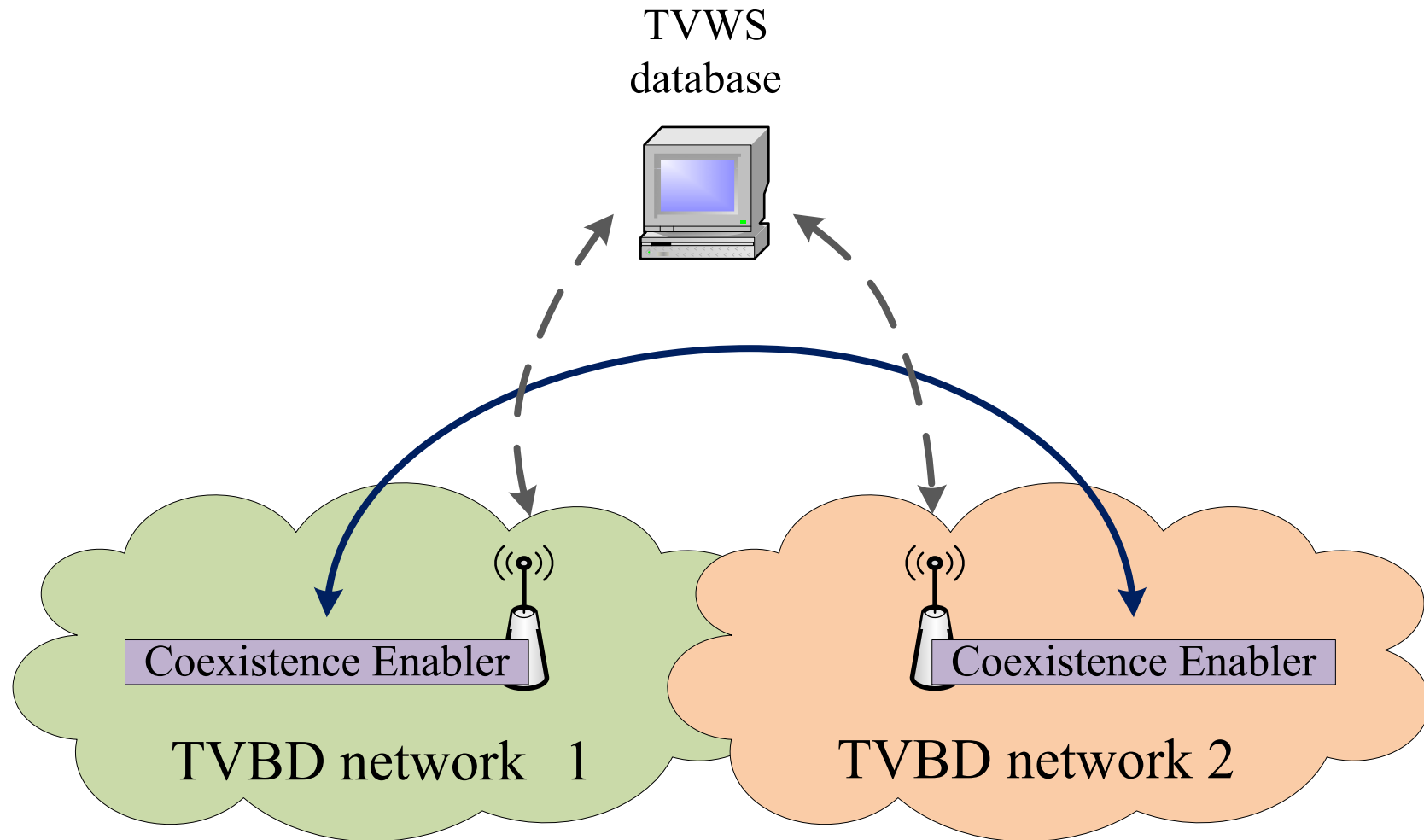
Deployment option 2
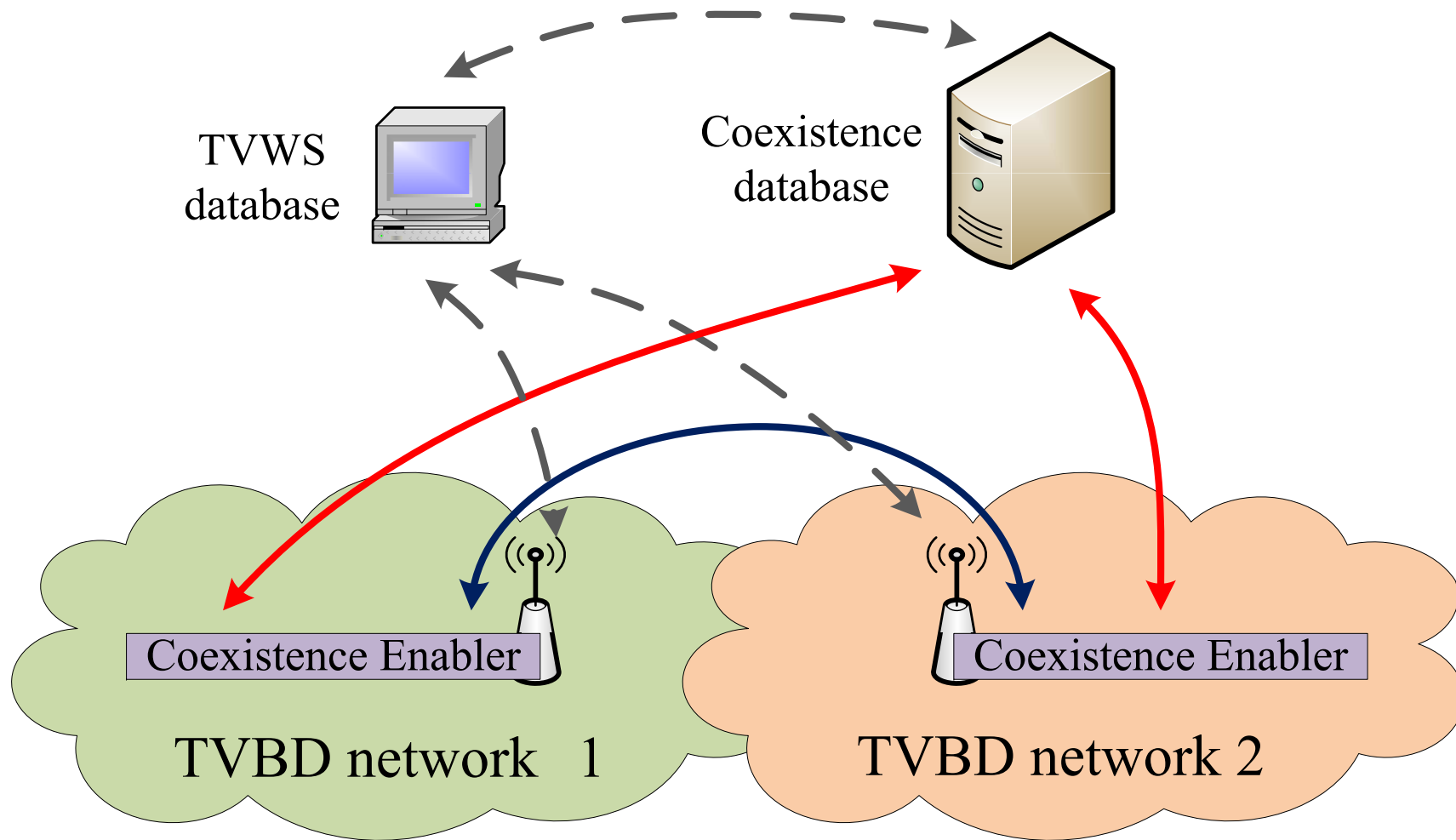
Deployment option 3

Conclusions

- **General system architecture is proposed**
  - This system architecture supports both centralized and distributed decisions making
  - This system architecture does not give any limitations on transport means (e.g., can support both wired and wireless implementation options)

- **Three deployment options are proposed**
  - Different deployment options could be beneficial in different scenarios

Acknowledgement