

IEEE P1900.4 WG

Information Model

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Part(s) of the P1900.4 D0.01 (approved in Madrid) addressed by the document?

4. System Architecture	
5. Use Cases	
6. General System Requirements	
7. Functional baseline Architecture	
8. Information Model and Representation	✓
9. Procedures	
Other : <i>(please detail)</i>	

Purpose

- ➔ First attempt to come up with detailed information model
- ➔ Define Manage Objects and associated Meta Data relevant to P1900.4 scenarios
- ➔ Describe Key Information Elements & their relationships
 - Class Diagrams

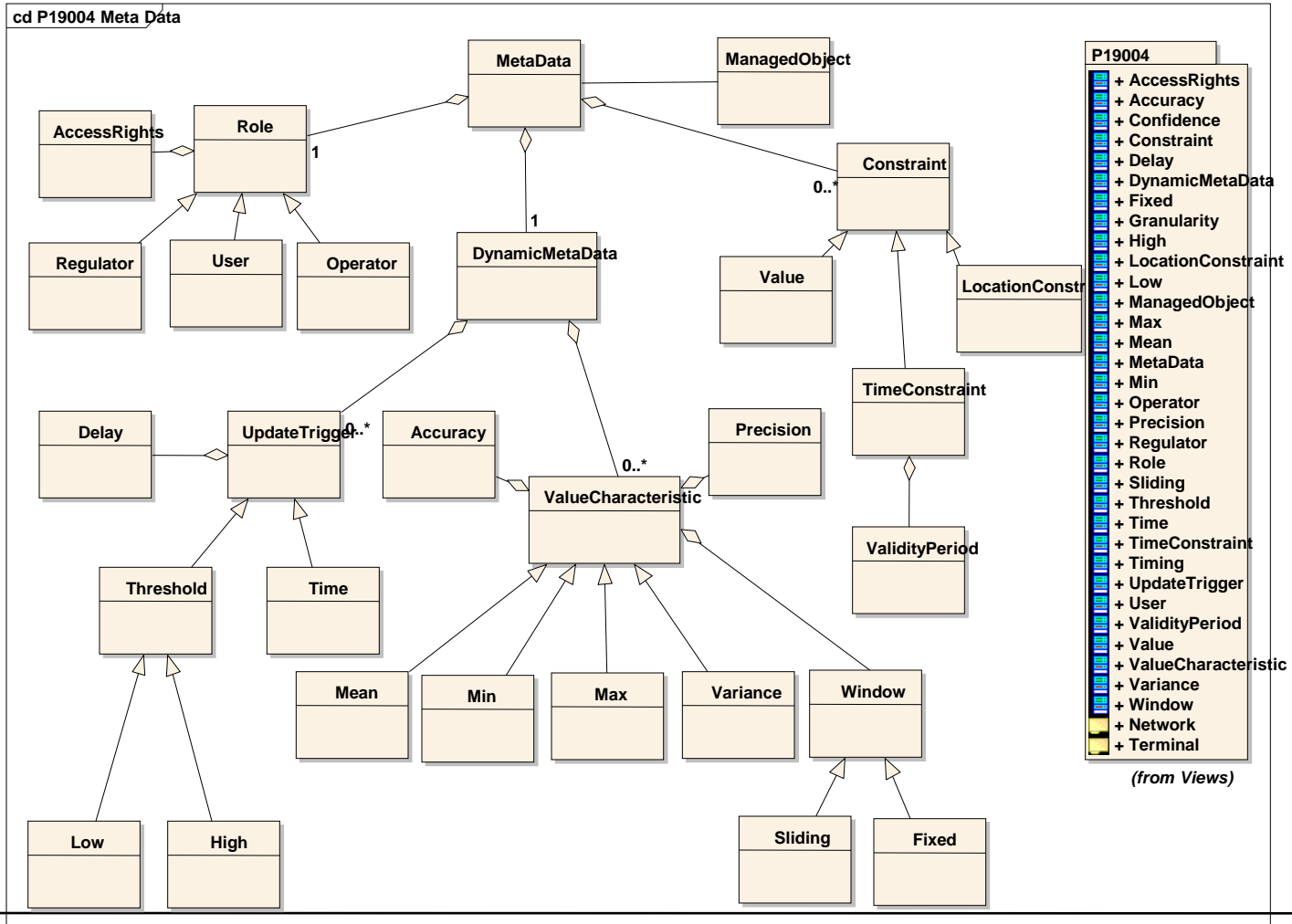
Overview

- ➔ Managed Object Meta Data
- ➔ Managed Objects in Terminals
- ➔ Managed Objects in RANs
- ➔ Managed Objects in NRMs

Managed Object Meta Data

- ➔ **Meta Data:** Provides Additional information about the managed Object
- ➔ **Types of Meta Data:**
 - **Role:**
 - Determines “ownership” & “access rights” – e.g. corresponds to regulator, operator or user.
 - **Constraint:**
 - location, time and value based constraints to determine the permissibility
 - **Dynamic Meta Data:**
 - common information which defines for example how & when object is updated, statistical properties etc. Useful to define measurement and configuration type information.

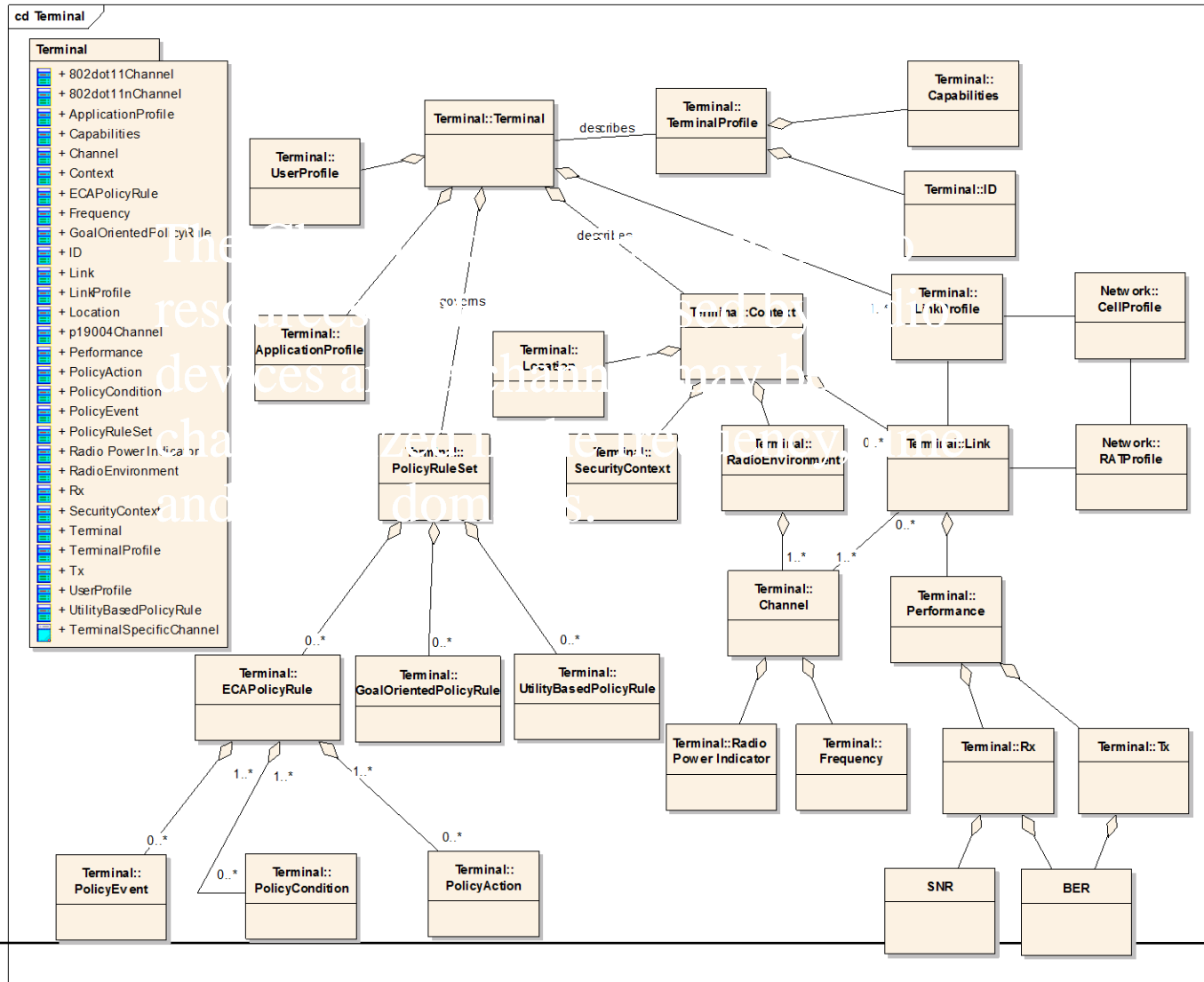
Meta Data Class Diagram



Managed Objects in Terminals

- ➔ Manage Objects includes
 - Link Profile, Terminal Profile, Policy Rule Set, Terminal Context (*user profile, application profile*)
- ➔ **Link Profile: comprises of managed object related to the networks that care accessible by the terminal device**
- ➔ Terminal Profile: contains terminal capabilities and uniquely identify a terminal
- ➔ Policy Rule Set: governs terminal behaviour in terms of selecting link configurations
- ➔ Terminal Context: contains managed object related to terminal context including location, radio environment, link performance

Terminal Managed Objects



Terminal::LinkProfile::

- ➔ Managed Objects to
 - TBD

Terminal::TerminalProfile::

- ➔ Managed Objects to
 - TBD

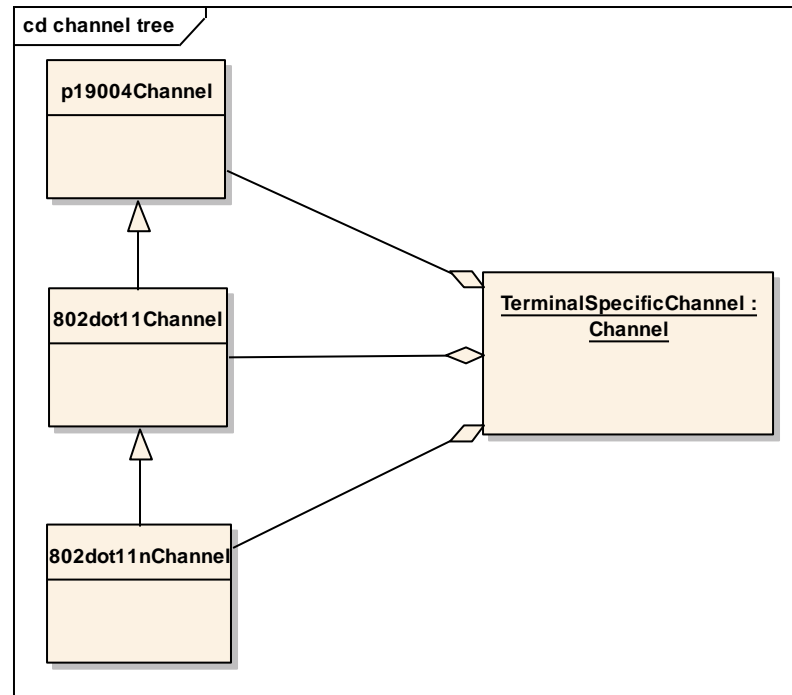
Terminal::PolicyRuleSet

- ➔ Managed Objects to
 - TBD

Terminal::TerminalContext:: RadioEnvironment

- ➔ Managed Objects to Characterise Radio Environment
 - Radio Resource Management schemes rely on monitoring of radio environment to estimate performance, identify spectrum opportunities etc
 - P1900.4 Managed Objects should cater for controlling measurement methods, statistical values derived etc in addition to capturing communication capabilities & performance information.
- ➔ Channel Object will contain the measurement and monitoring information objects.

Channel Object

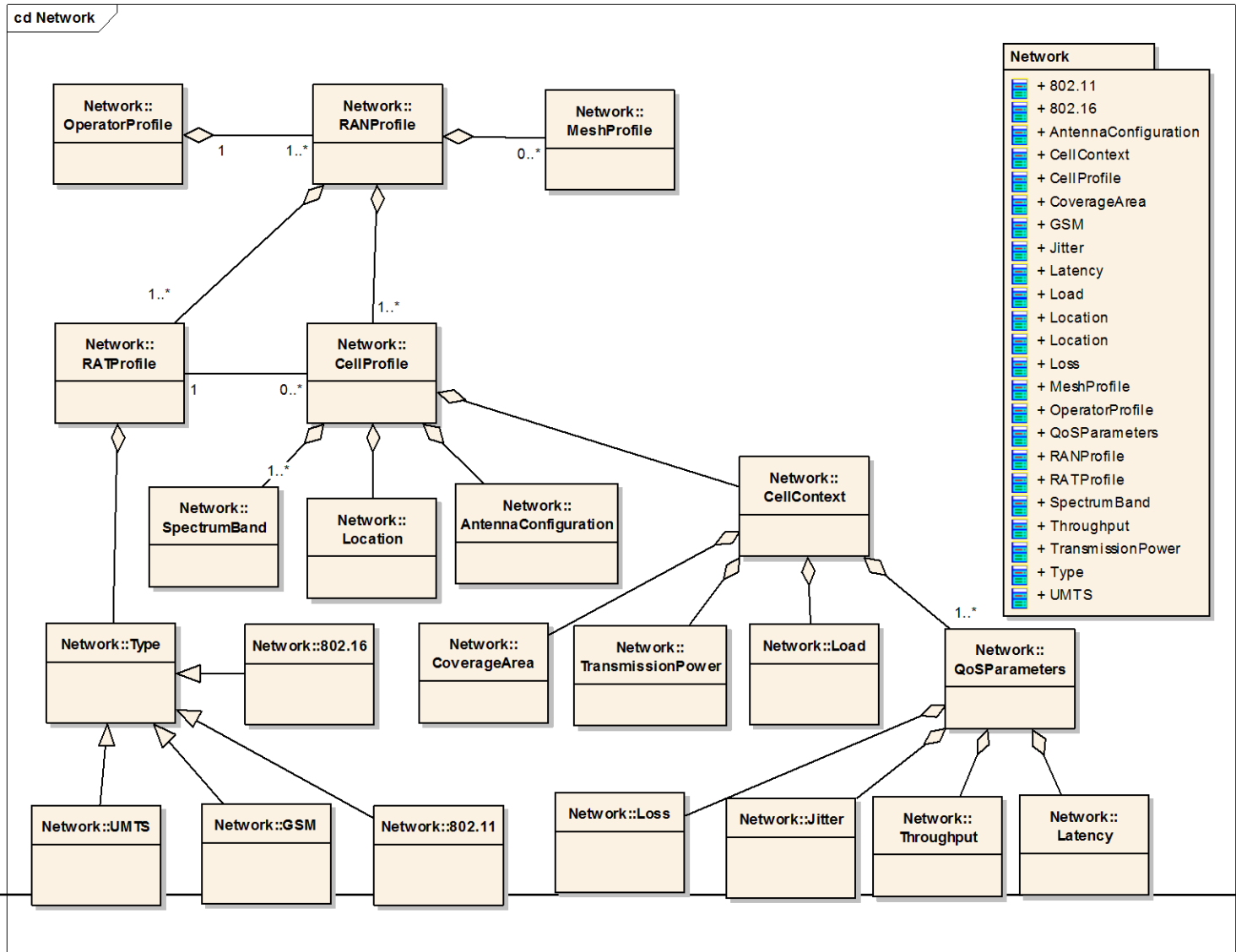


- ➔ Channel class abstracts radio resources that can be used by radio devices characterized in the frequency, time and space domains.

Managed Objects in RANs

- ➔ Manage Objects includes
 - RANProfile, OperatorProfile, MeshProfile, CellProfile, etc...

RAN Managed Objects



Managed Objects in NRMs

- ➔ Manage Objects includes
 - TBD

Discussions

- ➔ What are main Managed Objects in
 - Terminals?
 - RANs
 - NRMs
- ➔ Other types of meta data?

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