

# DTNMA Status

## IETF 121 DTN WG

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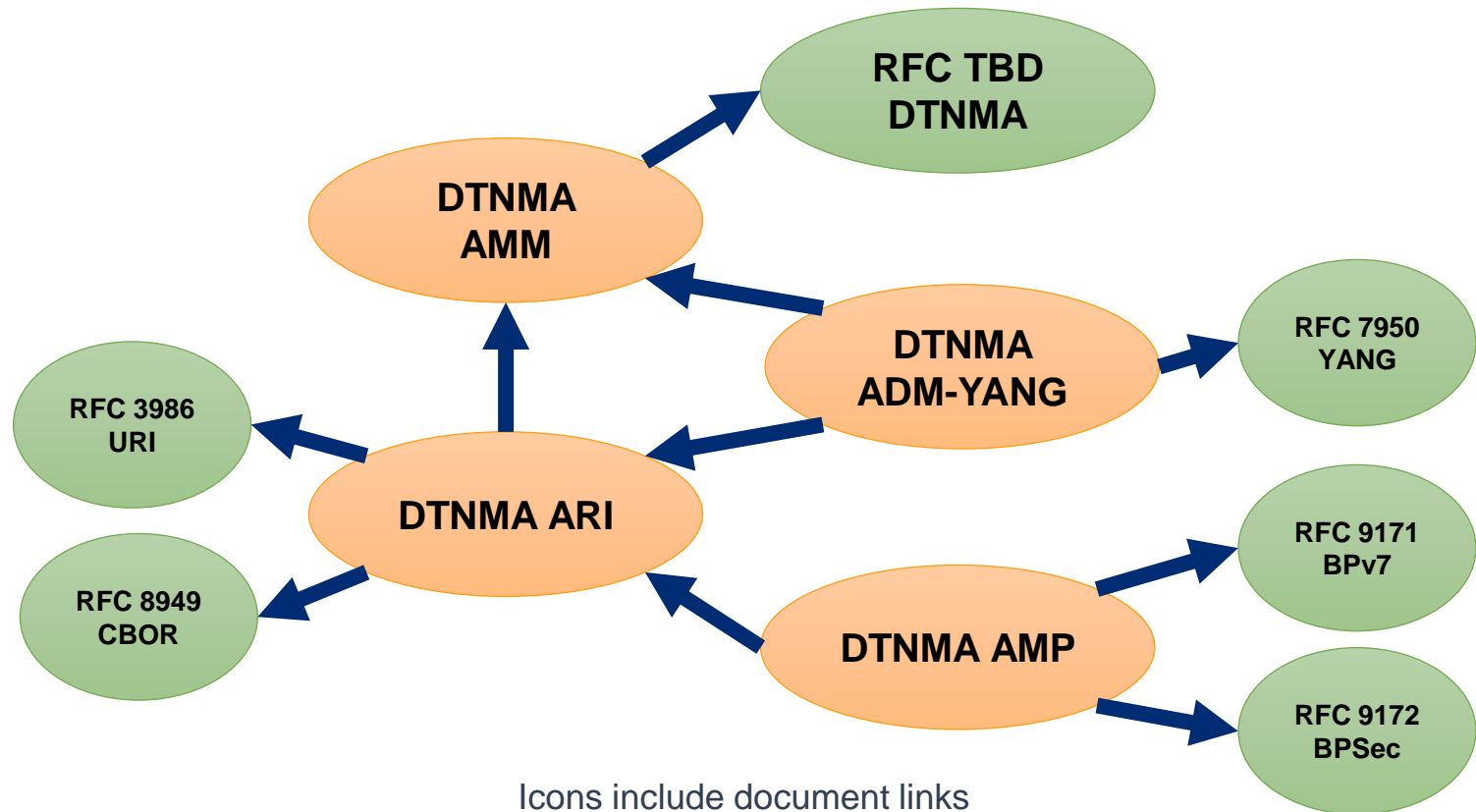
# Background

- The DTNMA draft [draft-ietf-dtn-dtnma-14](#) is in the Editor's queue
- The AMM/ADM/ARI documents have been adopted by WG
  - AMM document [draft-ietf-dtn-amm-01](#) has been refined down to a few number of TBDs within specific activities
  - The YANG-encoded ADM module is now a separate document [draft-ietf-dtn-adm-yang-01](#)
  - ARI document [draft-ietf-dtn-ari-02](#) is updated with some refinements
- The AMP document has been requested for adoption by WG
  - This is still personal draft [draft-birrane-dtn-amp-09](#)
- Existing implementation of earlier drafts of DTNMA (then called AMP) are part of NASA-AMMOS [ANMS](#) and APL [DTNMA Tools](#)
- Work has begun on updating implementations to the latest drafts

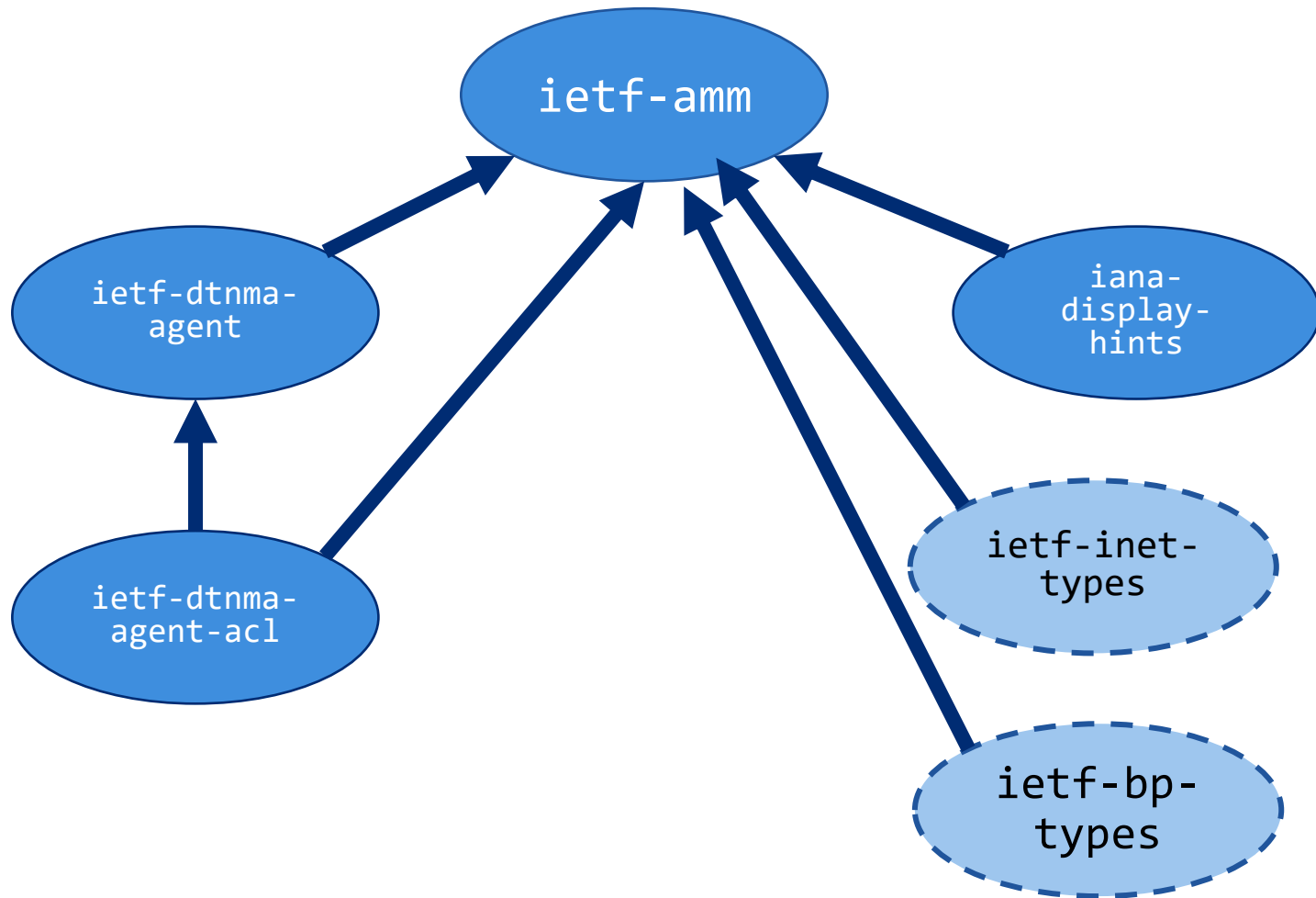
# DTNMA Topic Areas

- Application Management Model: What types of things are being managed, structural and behavioral definitions
  - Object types
  - Data values and structure
  - Built-in value types, semantic value types
  - Agent and Manager Activities
- Application Data Models: Static AMM object instances
  - Representation (*e.g.* YANG-syntax)
  - Base semantic types (*e.g.* ietf-amm and iana-display-hints ADM modules)
- Operational Data Models: Runtime AMM object instances
  - Representation (*e.g.* Agent introspection)
- Data Value Exchange: ARI structure
  - Representation
  - Transport bindings, including security requirements
- Agent State Management
  - Initial “Agent ADM” and “Access Control ADM”

# DTNMA Document Normative References



# ADM Module Imports



Dashed icons are potential future ADM modules.

# Implementation Experience

- Aspects of the new changes have been prototyped using
  - ACE (Python library) and CACE (C99 library) as a basis for encoding/decoding ARIs and ADMs
  - Reference DA and DM (C99 libraries) and behavior and transport bindings
  - CAMP (Python tool) for Agent C99 and Manager SQL code generator
- Prototyping has led to improvements in usability for the ADM syntax especially, using ARI as the principal form of cross-reference to AMM objects and type names
- These tools are now developed in fully open source repositories
  - [ACE](#)
  - [CAMP](#)
  - [DTNMA Reference Tools](#)
  - Each of these has a stable “main” branch and a development “apl-fy24” to update behavior based on latest internet drafts
- And the integrated system [ANMS](#)

# Next Steps

- Close any more gaps in the AMM/ADM/ARI documents to make them have complete definitions for all behavior
  - Discussion on two-part ADM enumeration (e.g. `ari://<org>;<mod>/`)
- Gather more implementation experience of for new ARI and ADM representations
- Shepherd changes for pyang (used by the IETF Datatracker)
- Adopt the simple AMP draft to the DTN WG to complete the document cluster