Controlling Secure Network Enrollment in RPL Networks

draft-ietf-roll-enrollment-priority-06

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The Story So Far

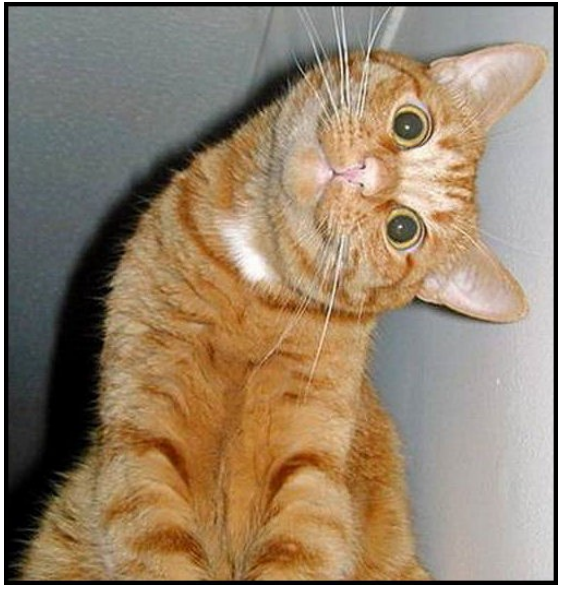
- Behaviour assumed in RFC9032
- Document Adopted March 2020
- Merged with draft-hushe-roll-dodag-metric after virtual interim meeting January 2021.
- Version -04 posted with merged document
- Reviews and Discussion Summer 2021
- Observation that changes to record interacts poorly with trickle, Summer 2021
- Proposal to not change rank in priority field, allow only DODAG root to set it only.
- But, this fails to satisfy desire to balance where nodes join in the tree.
  - new lollipop counter proposed as solution?

Still open Issues

- Trickle timer means that DIOs are not sent if there is no topology change.
  - So would changes to min priority be considered a change?
  - The DODAG size field could change quite often, particularly during network formation, how should it be dealt with?
- If updated min priority does not reset Trickle Timer, then this option needs to go into some new flooded control.
  - What are the desired properties of this new control, and what other things should go into it?
- New lollipop counter proposed to deal with changes
  - Alternatively, split up extension into two new extensions?

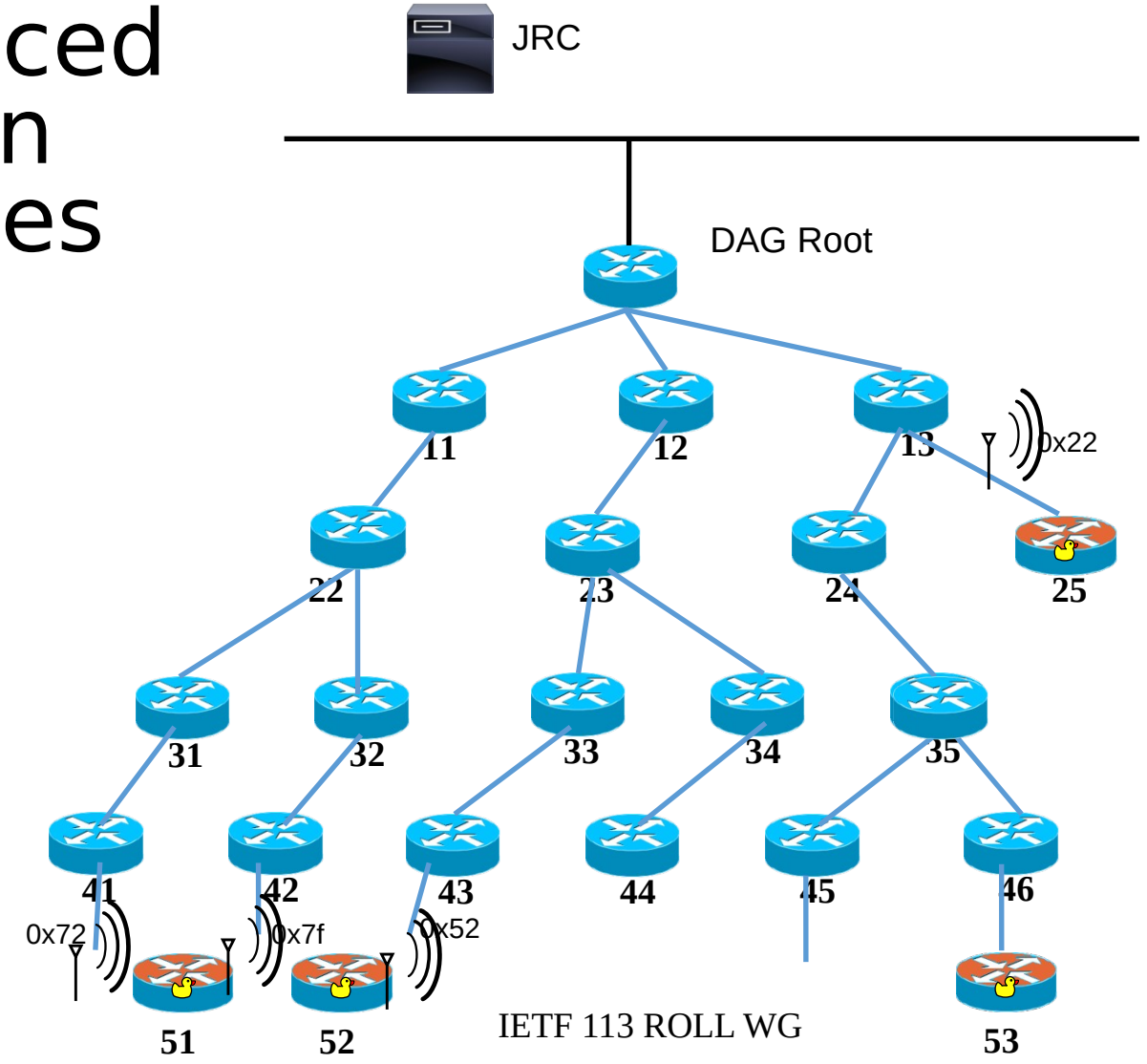
Discussion!

draft-ietf-roll-enrollment-priority-04



Auxiliary Slides Follow

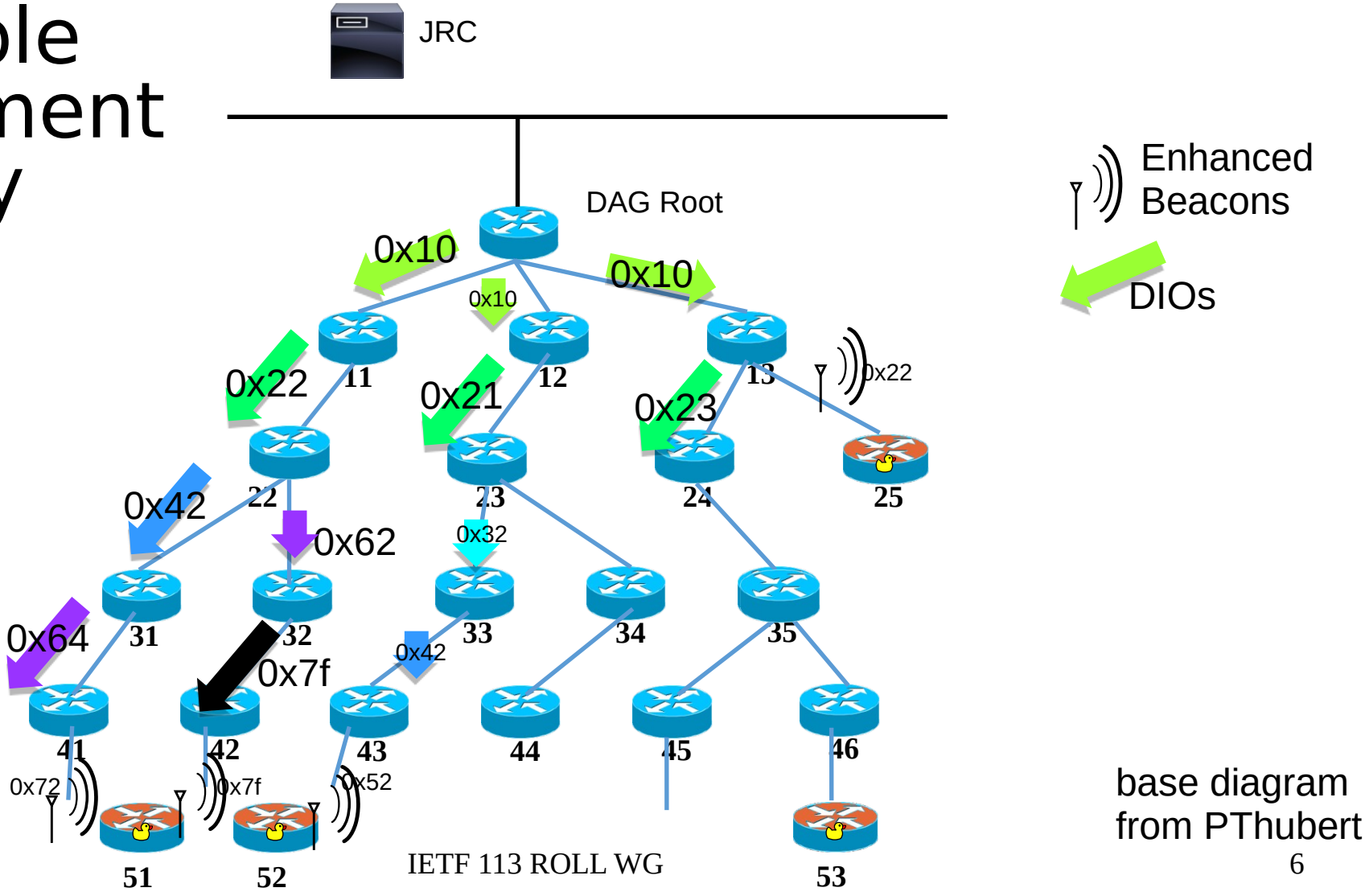
Enhanced Beacon Samples

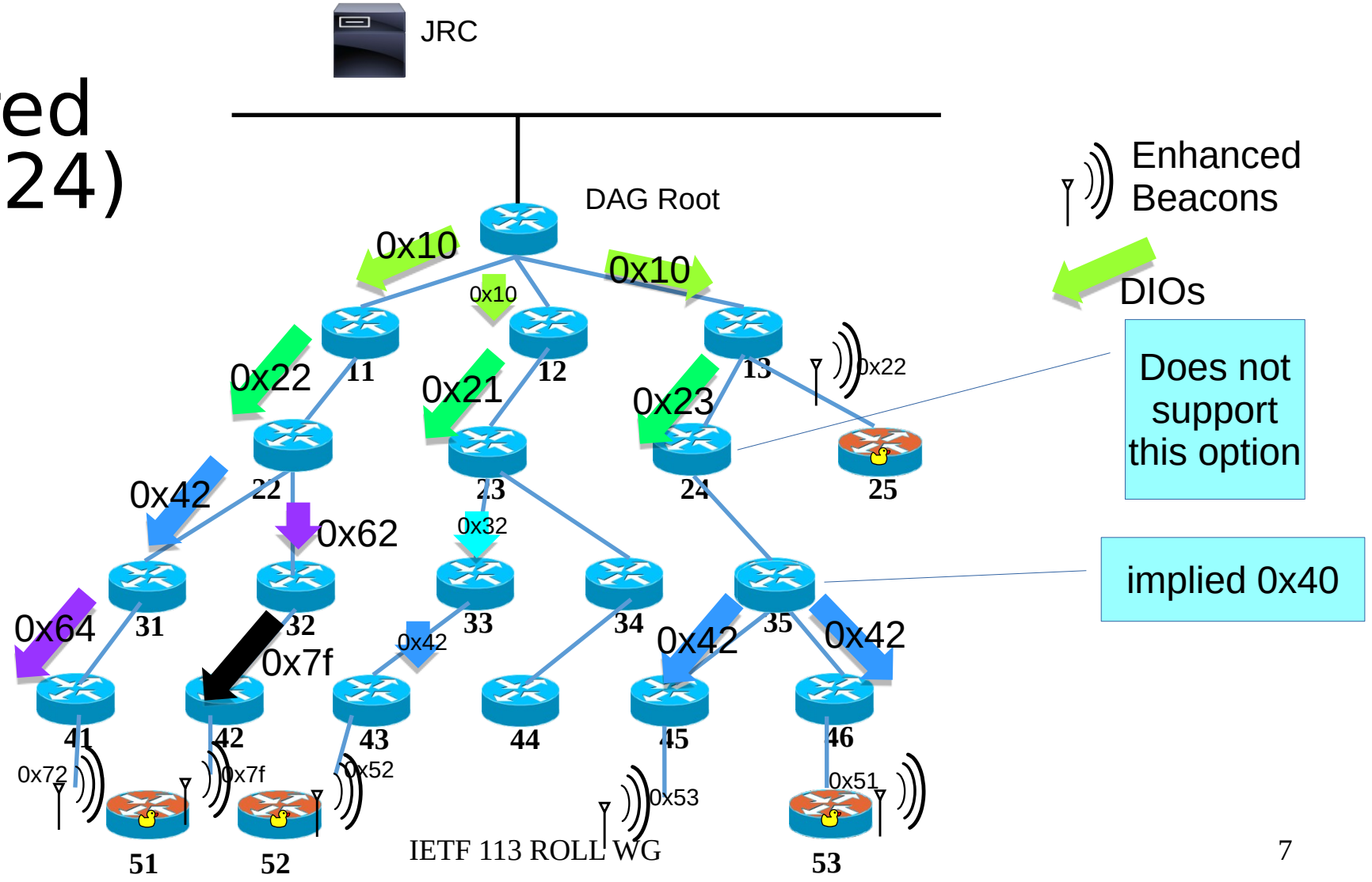


Enhanced Beacons

base diagram from PThubert

Example enrollment priority



base diagram from PThubert

With impaired node (24)