



EACP REQUIREMENTS

draft-retana-rtgwg-eacp

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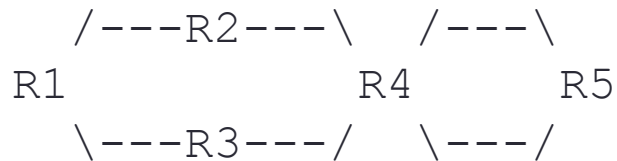
What this Draft is not doing

- Detailed use cases
- Requirements specific to protocol extensions
- Algorithms for optimizing energy cost of specific paths (vs. the energy footprint of the whole network)

Scope and Goal of this Draft

- Provide a Framework for Energy Aware Control Planes
 - Considering energy awareness with regards to Control Plane design and network operation, focusing on the network requirements footprint
- Catalogue proposed solutions to reduce power
 - Examine impacts and possible problems caused by various mechanisms
- Give guidance to designers, from a user's perspective
 - Highlight the need for satisfying end-to-end service level requirements (performance, reliability, survivability), while aggregate power demand is being reduced
- Catalogue issues proposals in this space need to address
 - Go between the algorithms and the techniques
 - Ex.: If you're going to propose a system that uses microsleeps, then you need to consider...

Requirements (Example)



In the network illustrated, if a modification is made to the control plane in order to remove the link between R1 and R4 in order to save energy, all the destinations shown in the diagram remain reachable. However, from the perspective of R1, the best path available to reach R2 has increased in length by two hops. The original path is R1->R2, the new path is R1->R3->R4->R2. This represents a stretch of 2.

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Designers who propose modifications to control plane protocols to achieve network energy efficiency SHOULD analyze the impact of their mechanisms on the stretch in typical network topologies, and SHOULD include such analysis when explaining the applicability of their proposals.

Status & Next Steps

- Changes between the -00 and -01 versions.
 - Updated authors' contact information.
 - Modified some of the rfc2119 keywords.
- Review and add to fill in where needed
 - Impact of virtualization vs. equipment footprint