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# IEEE Link Security SG PAR & 5 Criteria considerations

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# Charter of SG

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- Identify Security Objective & its Scope in 802 networks
- Create PAR and 5 Criteria
- Recommended Placement of Work.

# Scope of Project

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The Project will develop a Security Protocol Framework of a union of security services applicable to all classes of IEEE 802 Access Networks. The framing of applicable mandatory services to a given topology or medium will depend on the threat model identified for that topology or medium. Specifically the framework will include an above-MAC layer authentication and key management services.

# Purpose

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- Purpose of the project
  - Provide an umbrella security framework for IEEE 802 access networks
  - leverage the security protocol work done in other WG's and elsewhere as applicable: *other project with similar scope, viz., 802.10*
  - Variations in mechanisms governed by media-specific threat models

# Five Criteria

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- ***A set of formal criteria that the SG has to demonstrate that the proposed project meets***
  1. Broad Market Potential
  2. Compatibility
  3. Distinct Identity
  4. Technical feasibility
  5. Economic feasibility.

# 1. Broad Market Potential

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- *Broad set(s) of applications.*
- *Multiple vendors, multiple users.*
- *Balance cost (LAN vs. attached stations)*
  
- Security is a critical requirement of all network topologies including at link layer.
- With applicability to expanding broadband and enterprise access – this security standard encourages safe and broad deployments

# Compatibility with IEEE Standard

- *Conformance with CSMA/CD MAC, PLS.*
- *Conformance with 802.2.*
- *Conformance with 802 Functional Requirements*
- The proposed standard is an enhancement/extension to the existing behavior and will be preserving compatibility with and interoperate with existing IEEE standard products including
  - Conformance with 802.2 and 802.3 MAC, PLS standards.
  - Conformance with current 802 functional requirements
  - Deviations, if any, shall be articulated fully.

# Distinct Identity

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- *Substantially different from other 802 specifications/solutions.*
- *Unique solution for problem (not two alternatives/problem).*
- *Easy for document reader to select relevant spec.*
  
- As spelled out in Scope & Purpose – also causing the SG to be formed in the first place – this solution will have a unique identity and like no other existing 802 specification.



# Technical Feasibility

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- *Demonstrated feasibility*
  - *Reports*
  - *working models.*
- *Proven technology, reasonable testing.*
- *Confidence in reliability*
- Known deployed authentication and key management models such as 802.1X and Kerberos will be considered.
- Algorithms and protocols that are proven reliable and secure in industry will be primary components of the architecture.
- Standard development will encourage and rely on parallel experience on working models – including analogous 802.11i and DOCSIS.

# Economic Feasibility

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1. Cost factors known, reliable data.
  2. Reasonable cost for performance expected.
  3. Total Installation costs considered.
- *The resulting standard will economically benefit by secure deployment of 802 products*
  - *Cost for performance, while remains to be detailed, are expected to be reasonable by indications of analogous implementations*

# Recommended Placement

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- In a Renewed 802.10 WG with enhanced charter
  - To allow broad applicability of SDE
  - Explore and recommend a key management framework in conformance with proven deployments