Five Criteria

1 Broad Market Potential

A standards project authorized by IEEE 802 shall have a broad market potential. Specifically, it shall have the potential for:
a) Broad sets of applicability.

Today, mobile phones, netbooks, laptops and other portable communication devices are often equipped with two or more access technologies such as IEEE 802.11, IEEE 802.15.4, IEEE 802.16, GSM, UMTS, CDMA and other emerging cellular technologies such as LTE. There is a need to control transitioning of a group of those devices in an efficient way. Media-independent handovers using multicast technologies is one of the attractive mechanisms to achieve this. The need is not only for mobile devices but also stationary devices such as smart meters and sensors that are equipped with IEEE 802 mesh networking technologies.

b) Multiple vendors and numerous users.
A wide variety of vendors are currently involved in building wireless products for the network equipment and terminal equipment in mobile and machine-to-machine (M2M) market segments. The number of connections for embedded mobile M2M applications hit 87 million in 2009 and is forecasted to reach 428 million by 2014. Vendors, operators and users are all affected by this trend.

c) Balanced costs (LAN versus attached stations).
Media-independent handovers using multicast technologies can potentially enable an efficient use of network resources compared to handovers based solely on unicast communications when the granularity of handover control is group of devices and the size of the group is large. On the other hand, there is little cost increase for the devices to support multicast-based media-independent handovers.

2 Compatibility

IEEE 802 defines a family of standards. All standards shall be in conformance with the IEEE 802.1 Architecture, Management, and Interworking documents as follows: 802. Overview and Architecture, 802.1D, 802.1Q, and parts of 802.1f. If any variances in conformance emerge, they shall be thoroughly disclosed and reviewed with 802.
Each standard in the IEEE 802 family of standards shall include a definition of managed objects that are compatible with systems management standards.

1. The proposed project will be developed in conformance with the IEEE 802 Overview and Architecture.
2. Managed objects will be defined, if needed, consistent with existing policies and practices for IEEE 802 standards.
3. The proposed amendment will maintain backward compatibility with the published IEEE 802.21 standard.

3 Distinct Identity

Each IEEE 802 standard shall have a distinct identity. To achieve this, each authorized project shall be:
a) Substantially different from other IEEE 802 standards.
b) One unique solution per problem (not two solutions to a problem).
c) Easy for the document reader to select the relevant specification.

Currently there is no IEEE 802 standard that supports group management in handover from one segment of a network to another in the same or a different network. The project will produce an amendment to the IEEE 802.21 specification. The enhancements in this amendment will be clearly distinguishable, since they will only address group communication issues with the Media-Independent Handover protocol.

4 Technical Feasibility

For a project to be authorized, it shall be able to show its technical feasibility. At a minimum, the proposed project shall show:
a) Demonstrated system feasibility.
b) Proven technology, reasonable testing.
c) Confidence in reliability.

The project is believed to be feasible. Securing group messages is a challenging problem and may need careful selection of technical solutions that satisfy the target use cases. If and when required, the working group will work with other SDOs, such as IETF, via appropriate liaison.

4.1 Coexistence of 802 wireless standards specifying devices for unlicensed operation

A working group proposing a wireless project is required to demonstrate coexistence through the preparation of a Coexistence Assurance (CA) document unless it is not applicable. The Working Group will create a CA document as part of the WG balloting process. If the Working Group elects not to create a CA document, it will explain to the EC the reason the CA document is not applicable.

A Coexistence Assurance document is not necessary for this amendment. It will not change access mechanisms nor physical layer operation of IEEE networks at all, as this is already out of scope for IEEE 802.21.

5 Economic Feasibility

For a project to be authorized, it shall be able to show economic feasibility (so far as can reasonably be estimated) for its intended applications. At a minimum, the proposed project shall show:
a) Known cost factors, reliable data.
b) Reasonable cost for performance.
c) Consideration of installation costs.

This is an amendment of an existing IEEE 802.21 standard and the economic feasibility for the MIH (Media-Independent Handover) product has already been established.