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IEEE 802.1 Maintenance Request
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| IEEE 802.1 REVISION REQUEST 0043                                     |
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DATE: July 26, 2012
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REQUESTED REVISION:
      STANDARD: 802.1Q-2011
      CLAUSE NUMBER: 10.7.6.1
      CLAUSE TITLE: MRPDU transmission actions


RATIONALE FOR REVISION:

Clause 10.7.6.1 states "MRPDU transmission as a result of the operation
  of a state machine in a Bridge occurs only through the Port associated
  with that state machine, and only if that Port is in the Forwarding
state."

This requirement (regardless of interpretation) is in conflict with
  10.3.(e), which states "If a port is removed from the set [of Ports in
  the Forwarding state for a given MAP Context], and that Port has declared
  one or more attributes, then this Port transmits a Leave message (see
10.6)
  for every attribute that it has declared."

10.3.(e) specifically requires that a port, which is no longer in the
Forwarding
  state, transmits a Leave message.

Further, beyond the conflict with 10.3, interpretation of 10.7.6.1 is
unclear
  with respect to spanning tree contexts.

In an SST environment, the behavior identified here is interpretted clearly:
  Ports which are not in the Forwarding state do not transmit MRPDUs.

However, correct behavior is not clear in an MST environment. In an MST
  environment, a port may be in the set of Forwarding ports in some spanning
  tree instances, but not in the Forwarding set in other spanning tree
  instances, and because this sub-clause is governing transmission of
  MRPDUs as a whole, rather than individual attributes, no specific
  spanning tree context is readily identifiable.

One might take a step beyond what is actually indicated in this
  subclause, and interpret it to mean that MRPDUs transmitted on a port
  do not include events for Attributes associated with spanning tree
  instances for which this port is not in the Forwarding state. This,
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however, leaves 4 problems:
  -What if an AttributeEvent is only being encoded for the sake of
efficiency?
  -LeaveAll events are not defined to be associated with any Spanning Tree
  context.
  -Domain attributes are not defined to be associated with any Spanning
Tree
  context. Further here, it is undesirable to ever block Domain declarations
  unless the port is not Forwarding in ANY Spanning Tree Instance. (Because
  streams for the associated SR Class may be transmitted on any VLAN.)
  -This still leaves a conflict with 10.3.(e), which indicates that
Leave events
  are transmitted when an attribute becomes blocking.

The intent of the prohibition from transmitting MRPDUs on blocked ports
  is unclear. The only (marginally) desirable effect it seems to produce
  is that of slightly reducing the bandwidth used on the link (which, in the
  point-to-point case is effectively blocked anyways). It may have been
  intended to avoid propagating declarations along pathways through the
  network which are at least partially blocking (which also would prevent
  information loops), however, this is already accomplished by the MAP
  function for each MRP application, which (for all currently defined
  applications) does not propagate declarations to or from blocking ports.

Therefore, the proposed solution is simply to omit the requirement that
  blocking ports do not transmit MRPDUs. This solution avoids the conflict
  with 10.3.(e), avoids confusion over which Spanning Tree instance is
  considered in the case of LeaveAll events or Domain messages, and also
  avoids the undesirable consequences associated with blocking Domain
  messages (which do not propagate).

PROPOSED REVISION TEXT:

"
10.7.6.1 MRPDU transmission actions

Unless stated otherwise in these action definitions, MRPDU transmission
as a result of the operation of a
state machine in a Bridge occurs only through the Port associated with
that state machine, and only if that
Port is in the Forwarding state.
"

becomes

"
10.7.6.1 MRPDU transmission actions

Unless stated otherwise in these action definitions, MRPDU transmission
as a result of the operation of a
state machine in a Bridge occurs only through the Port associated with
that state machine.
"

IMPACT ON EXISTING NETWORKS:

The proposed change only modifies the egress behavior for MRP packets,
  and not the ingress or propagation behavior. So, the proposed change would
  not reduce interoperability with existing networks, but will help ensure
  interoperability in future implementations.

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| Please attach supporting material, if any                             |
| Submit to:- Tony Jeffree, Chair IEEE 802.1                            |
|  and copy:- Paul Congdon, Vice-Chair IEEE 802.1                       |
|     E-Mail: stds-802-1-maint-req@ieee.org                             |
|                                                                       |
|              +------- For official 802.1 use -----------+            |
|              | REV REQ NUMBER:  0043                     |            |
|              | DATE RECEIVED:   09/06/2012               |            |
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|              | ACCEPTED/DENIED                           |            |
|              | BALLOT REQ'D YES/NO                       |            |
|              | Status: R                                 |            |
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