

**optional alternate
sourcePortID meaning
(and “path version trace”
and “path version test”)**

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sourcePortIdentity

- in 1588 the sourcePortIdentity is the identifier of the closest upstream GM or BC
- for 802.1AS-2011, all time relays are BCs
 - this means that the sourcePortIdentity is the port ID of the port on the BC that sent the Sync/FollowUp
- but we are trying to make them act like transparent clocks
 - which in 1588v2 requires that the sourcePortIdentity is forwarded
- for 802.1AS-rev, I proposed that a time relay is NOT a BC in the 1588 sense only for sourcePortIdentity, that it is more like a TC
 - meaning that the received sourcePortIdentity in a sync or follow-up is repeated by a time relay
 - it would be “grand master identity”
 - *I think this would be really useful!*
 - but that would be breaking 1588, but perhaps if we ask 1588 to allow profiles to make this change

preference

For links that have a one-to-one correspondence between a master port and the downstream slave port

- SourcePortIdentity in Sync (and FollowUp) messages should be the portIdentity of the port on the current GM
 - no change to general messages (e.g., Announce)
- This was the original proposal for 802.1AS “way back when”
 - who knows why we changed it?
- I believe the current meaning of SourcePortIdentity has no useful purpose in Sync/FollowUp for this case
 - does it?
 - does *anybody* have a use for the current meaning?

proposal

- allow profiles to specify whether sourcePortIdentity is repeated or not
- Change the clause defining SourcePortIdentity in clause 13 to:
 - Except for Sync and Follow Up, the value of the sourcePortIdentity field shall be the value of the portDS.portIdentity member of the data set of the port that originated this message. Profiles may allow sourcePortIdentity in Sync and Follow Up to be either:
 - 1) The value of the portDS.portIdentity member of the data set of the port that originated this message, or
 - 2) The sourcePortIdentity from the last valid Sync (and Follow Up for two-step) received on the slave port
- we could create a new data set member:
 - optionalDefaultDS:syncSourcePortIdentity - sourcePortIdentity from the last valid Sync (and Follow Up for two-step) received on the slave port.

interoperation issues

- networks that include 802.1AS-2011 devices, or other existing 1588v2 profile devices on the path to the GM will NOT propagate the GM sourcePortIdentity on that path
 - how does a slave clock determine that?
 - need a way to test the path back to the GM
 - two possible ways: trace and test

path version trace

- **add a new optional forwarding TLV “PATH_VERSION_TRACE”**
 - “pathVersionSequence”: list of major/minor version numbers corresponding to clockIdentity values in pathSequence in the existing path trace
- **old BCs just forward, so nothing added to pathVersionSequence**
- **BC’s implementing path version trace compare received pathVersionSequence and pathSequence and inserts zeros (?) as version numbers for the number of missing versions at the end.**

path version test

- for Sync/FollowUp (and maybe DelayRequest/DelayResponse)
 - Repeat the versionNumber and minorVersionNumber if
 - $\text{versionNumber} * 16 + \text{minorVersionNumber} < \text{DS.versionNumber} * 16 + \text{DS.minorVersionNumber}$
 - Otherwise just send the DS.versionNumber and DS.minorVersionNumber