

802.1AS: Problem of Constrained Systems

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Constrained Systems and 802.1AS

- Some TSN-capable systems are constrained ([RFC 7228](#))
 - E.g. 8-bit microcontroller, 10 KiB RAM, boot in < 100ms
- In the context of 802.1AS, this often means
 - Disable BMCA: Too heavy, too slow
 - Each port's state is either
 - Pre-configured: Fixed out-of-box
 - Static: Set by management
 - GM's time is non-traceable: Working clock
 - Can still be 'PTP' with inaccurate epoch (e.g. 1970)

The Problem

- Constraints apply to the implementation
- A standard that mandates a non-constrained implementation will be ignored
 - This is proven historically (not theoretical)
- Claim: We want constrained systems to be conformant to 802.1AS
 - Problem: Not true for 802.1AS Rev D1.0
 - E.g. **A.5 Major capabilities**

BMC	Does the device implement the best master clock algorithm?	M	10.3	Yes []
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Question:
Can We Agree this is a Problem?