netconf 2019 topics

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HW DMA uAPI - Mechanism

Device | **Kernel** | **User Space**

← ENA_ADMIN_DEVICE_ATTRIBUTES   ← ETHTOOL_GDRVINFO, ETHTOOL_GPFLAGS

Proprietary Firmware

DMA buf

str_cnt u32
flags u32

ethtool_drvinfo

...
n_priv_flags
...

flags bitmap

← ENA_ADMIN_EXTRA_PROPERTIES_STRINGS   ← ETH_SS_PRIV_FLAGS

DMA buf

string
string
string

...

string
string
string

...
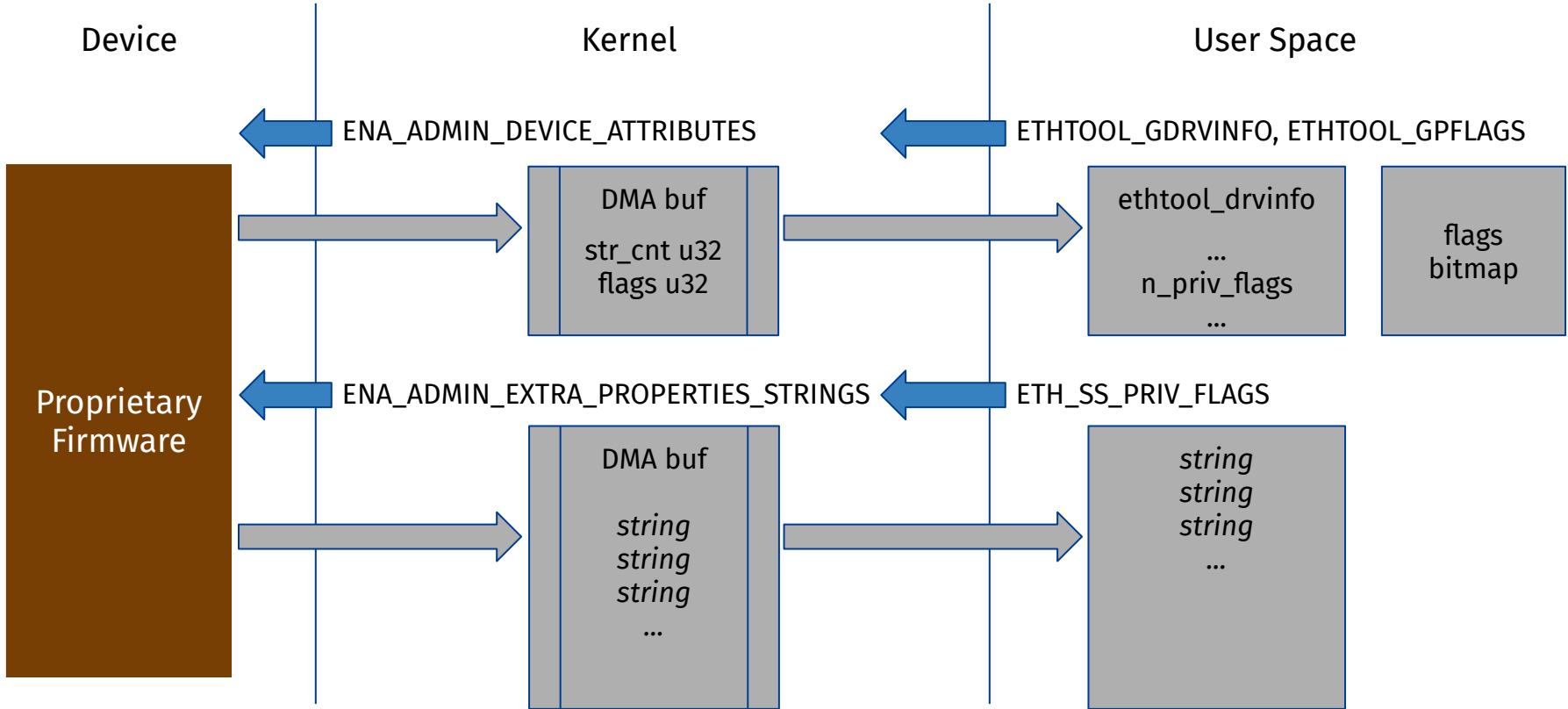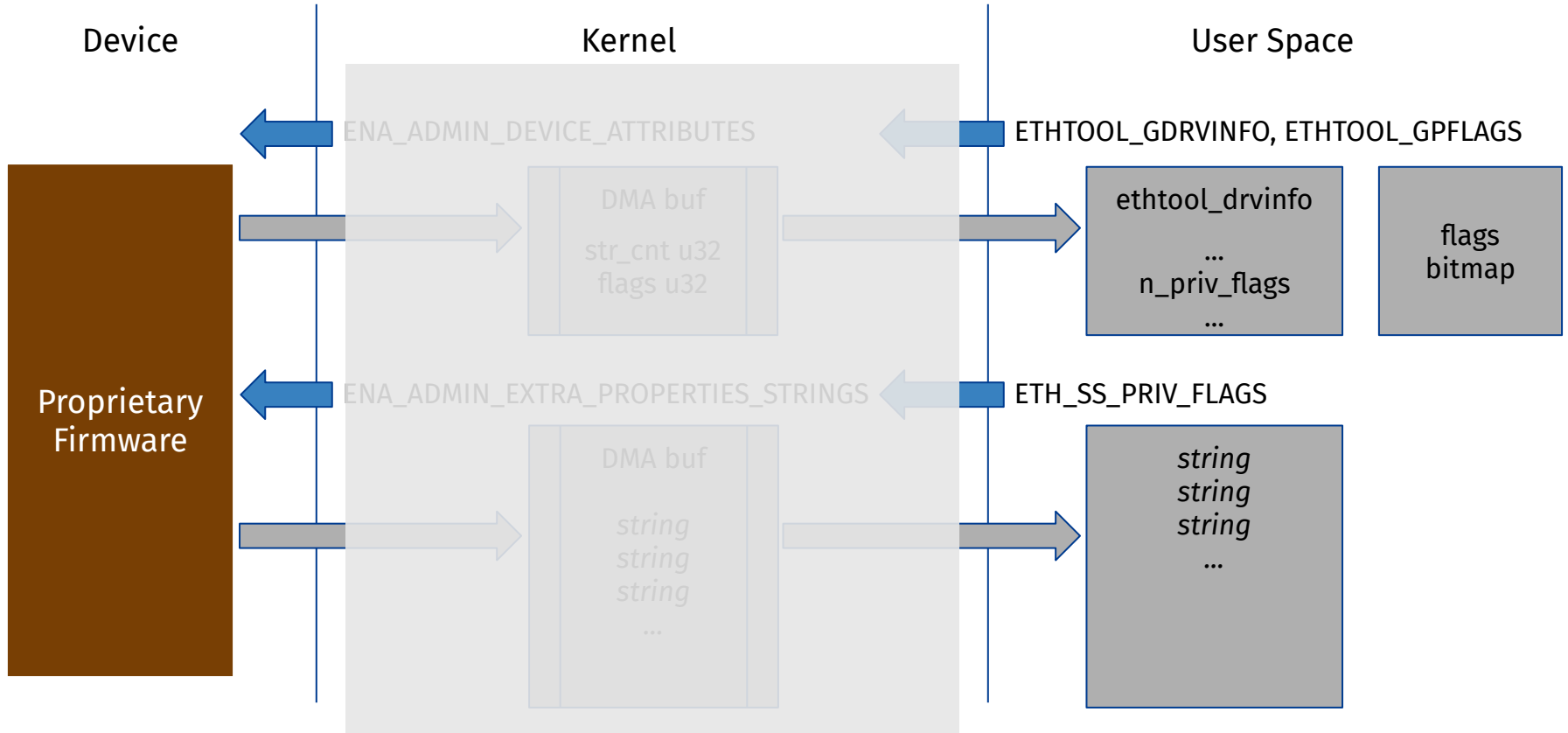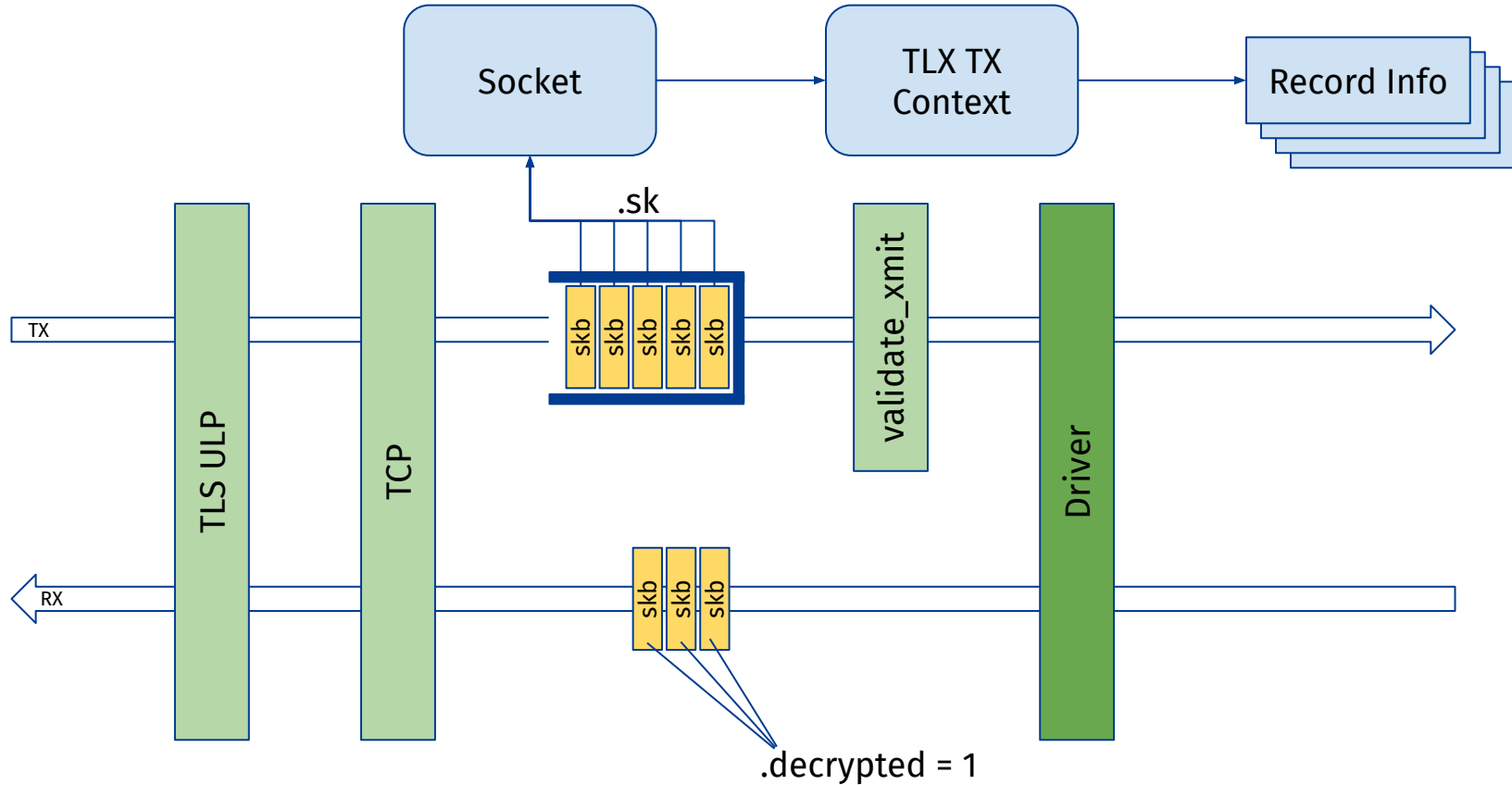
Reason:

- "Easy," forward and backward compatible design

Cons:

- Abuse of existing uAPI (the "it's obscure enough to make it mean whatever I want" mentality)
- No way to discern the actual functionality being implemented
- No way to avoid breaking the implementation
- No way to implement an interface common across vendors

TLS Data Flow

- Can't orphan
- Can't redirect
- Can't socket redirect
- Basically married to a socket...

Socket

sk

TLX TX Context

Record Info

TX

skb skb skb skb skb

validate_xmit

Driver

TLS ULP

TCP

RX

skb skb skb

.decrypted = 1