



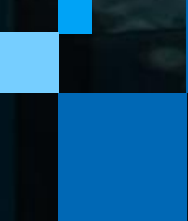
IEC/IEEE 60802 – Use Cases

Considerations for Virtual NICs

David McCall

david.mccall@intel.com

19th October 2026

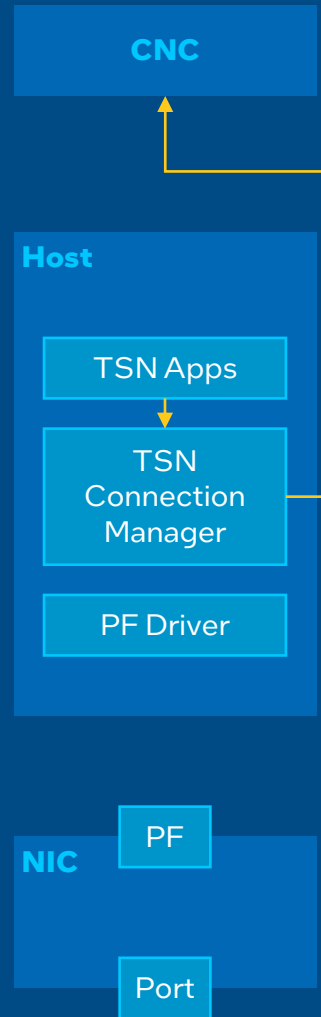


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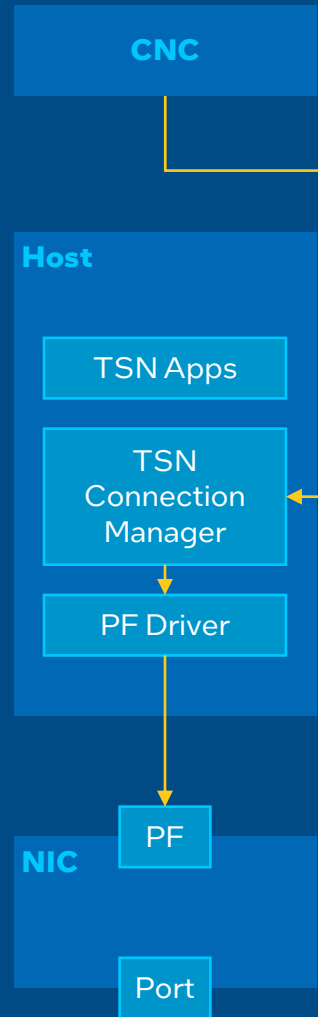
Content

- High Level Virtual NIC Architecture
- Virtual Bridge?
- The Problem with Gate Control Lists

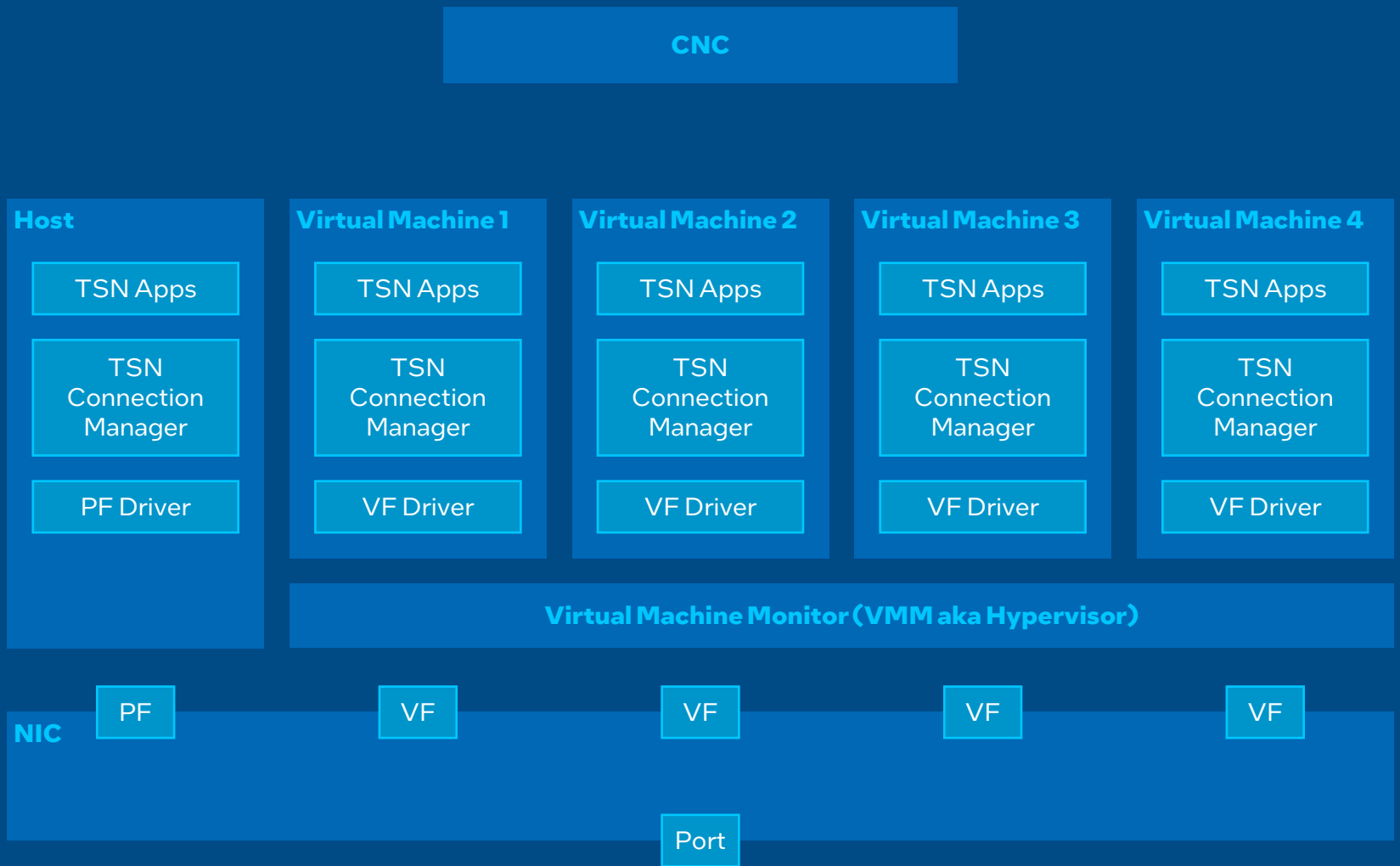
NIC Physical Function (PF) – Connection Request



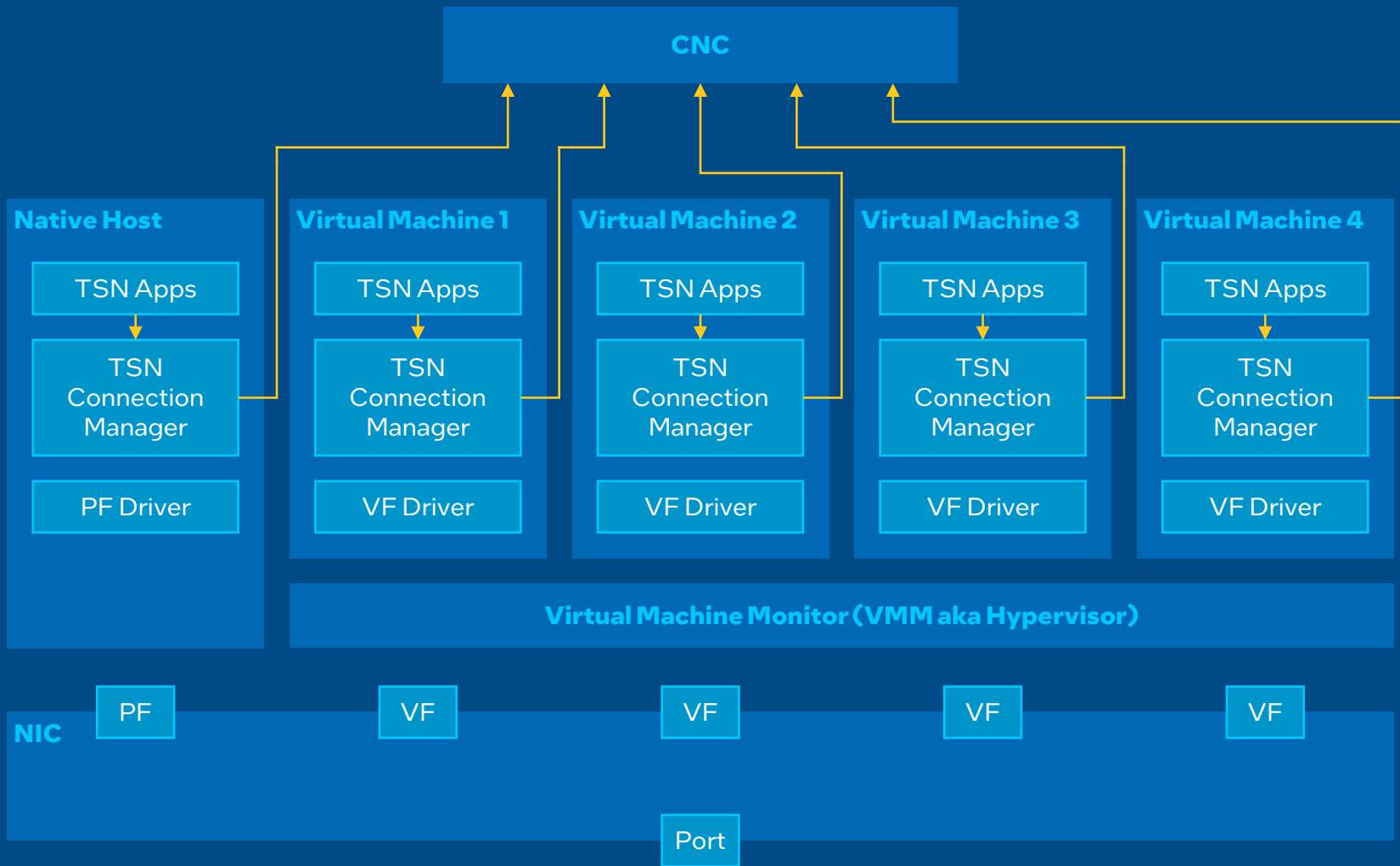
NIC Physical Function (PF) – Configuration



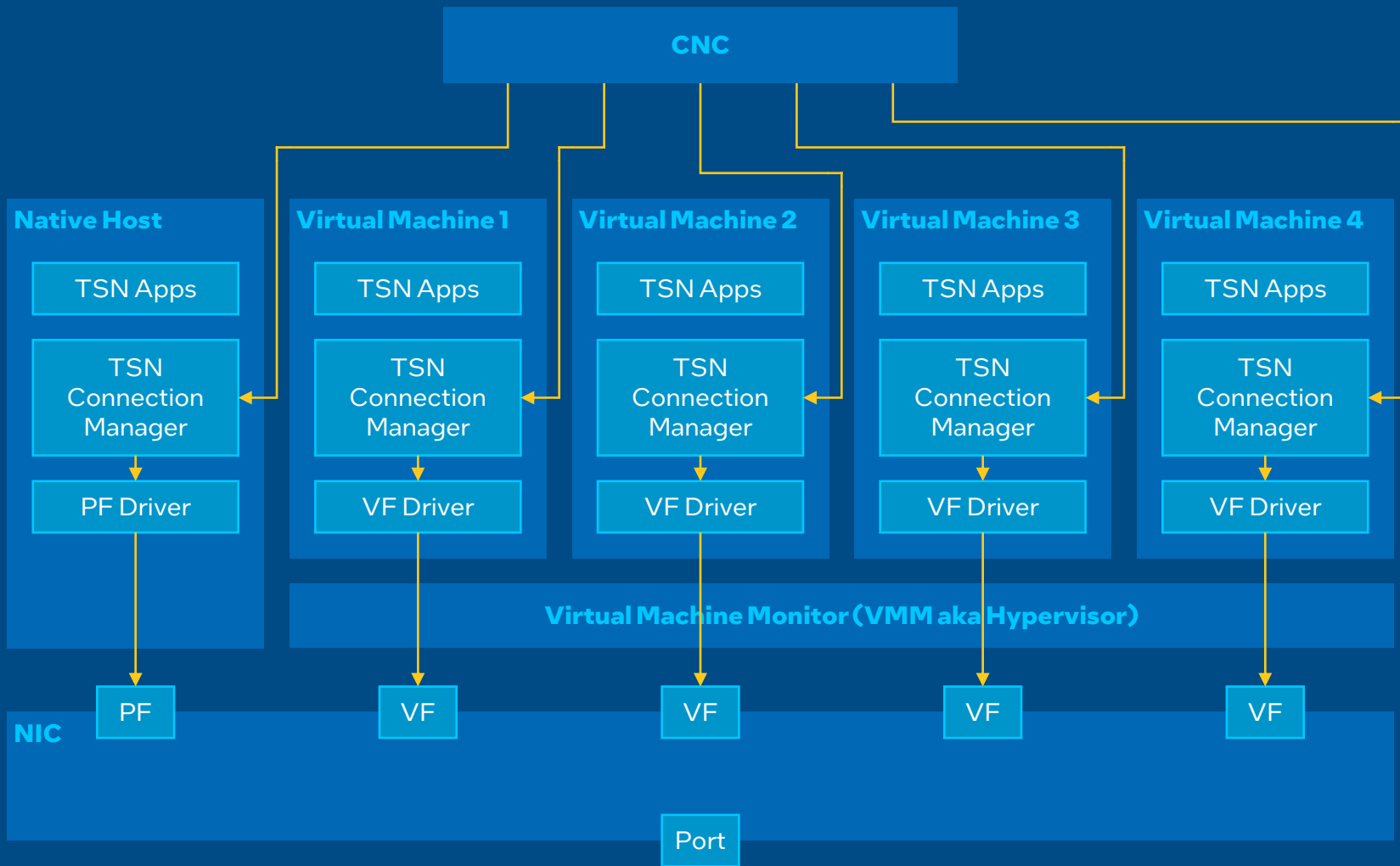
NIC Virtual Function (VF)



NIC Virtual Function (VF) – Connection Requests



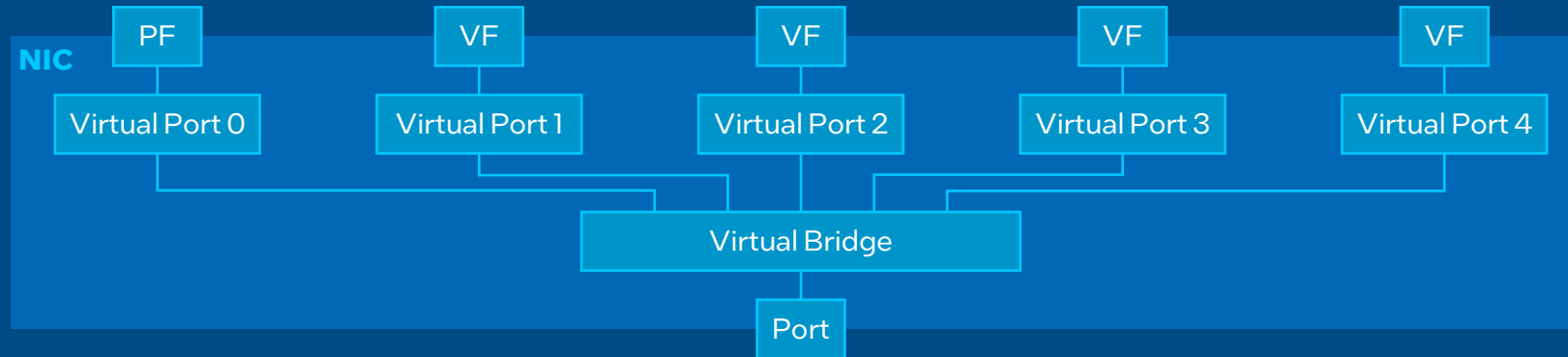
NIC Virtual Function (VF) – Configuration



How much does the CNC understand about the situation?

- Without any guidance CNC may think there are, for example, 5 NICs
 - 5x ports
 - 5x the number of queues
- Can current mechanisms be used to model the situation?
 - 5 NICs...down to 1 port...looks a bit like a bridge?

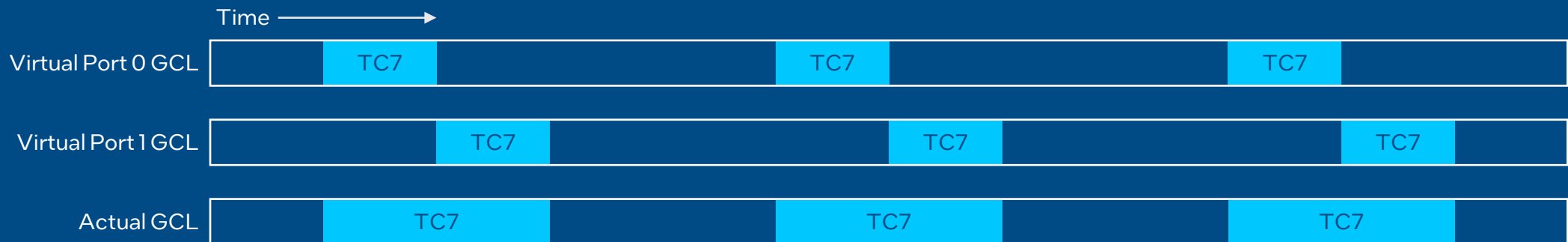
Virtual Bridge?



- Clear that VFs sit above Virtual Ports...but what about the PF?
- For the approach to work, it needs to sit above a Virtual Port as well.
 - Not ideal

The Problem with Gate Control Lists

- The “Virtual Bridge” approach can also result in unexpected behaviour.
- For example, for Time Aware Traffic Shaper (Qbv)...
 - CNC opens a cyclic window for PF (Virtual Port 0) for Traffic Class 7
 - CNC then opens an adjacent window for VM1 (Virtual Port 1) also for Traffic Class 7
 - But there is only one port...
 - So, Virtual Port 0 traffic could transmit late, or Virtual Port 1 traffic could transmit early



Next Steps

- Planning to bring a proposal to November Plenary Session

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