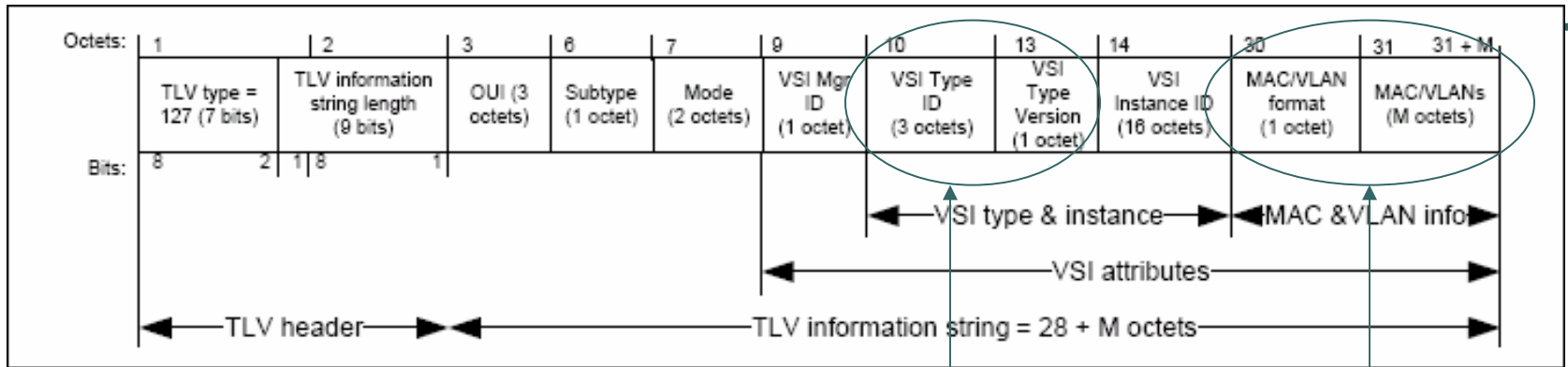


VLAN info in VDP

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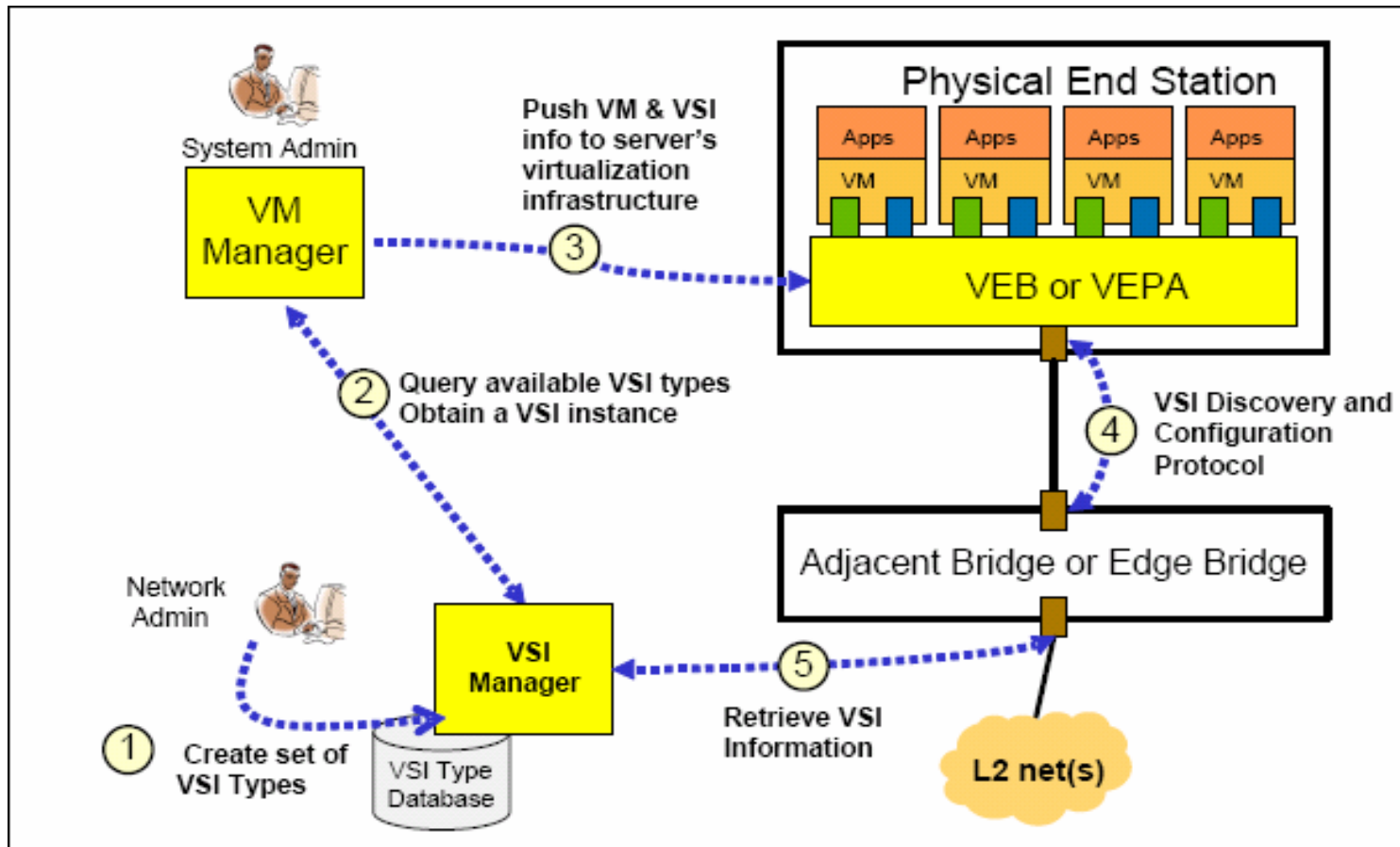
VDP TLV



Use these IDs to get
VSI type definition
which may include
VLAN info

A list of MAC/VLAN
IDs

Current VSI provisioning (1)



Current VSI provisioning (2)

Step 3: The VM manager configures VSI with VTID and VSI Instance ID obtained from VSI Manager's VTDB.

Step 4: Before VSI instance (VM) activation, the VDP Module performs VSI Discovery and Configuration protocol exchanges to associate the VSI instance with a VTID, MAC Address and VLAN Identifier. The VDP Module is intended to be implemented as part of the server's virtualization infrastructure (e.g. in the Hypervisor or a service VM guest running on top of the Hypervisor). The VDP Module is also implemented in the adjacent bridge.

Step 5: As part of the VDP exchange the adjacent Bridge retrieves the VSI Type from the VTDB by using the VTID and possibly the VSI Type Version and VSI Instance ID. The adjacent Bridge stores the association of VLAN ID, VSI Type, VSI Type Version and MAC Address in its local memory. This association is then applied to the traffic flow from/to the VSI Instance. Note the VTDB access protocol is not part of this document.

Current VSI provisioning (3)

- Station sends list of MAC/VLAN IDs to bridge
- Where does station get VLAN info? (though out of scope of Qbg)
 - VLAN ID info is in VSI type definition: retrieved by VM manager from VSI type definition and sent to station in step 3
 - VLAN ID info is not in VSI type definition: system admin configures VLAN ID info himself/herself to VM manager and then sends to station in step 3

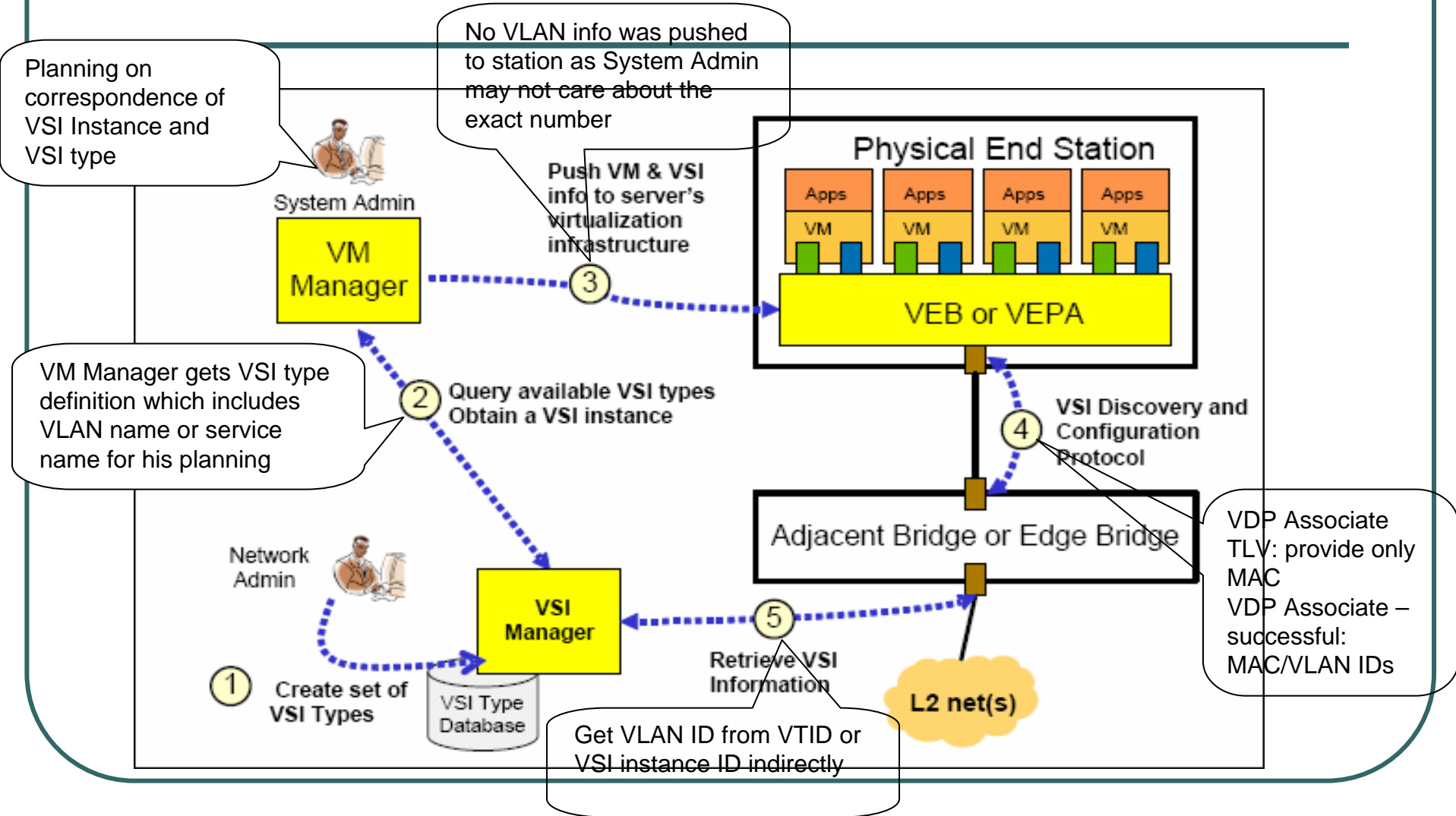
What is VLAN Info?

- **To system admin:** VLAN info is more like a VLAN name or service type or port group name(which may have an index for easy reference). System admin groups VMs into different VLANs based on some common feature.
E.g. grouping VM 1,5 &8 into one VLAN as they are all web servers. To system admin, he needs to provision VSI type of “web-server” to this group of VMs.
- **To network admin:** VLAN info is VLAN ID, the exact value he wants to see in C-tag field of Ethernet frame. He may do filtering or other policies based on this number for L2 traffic.

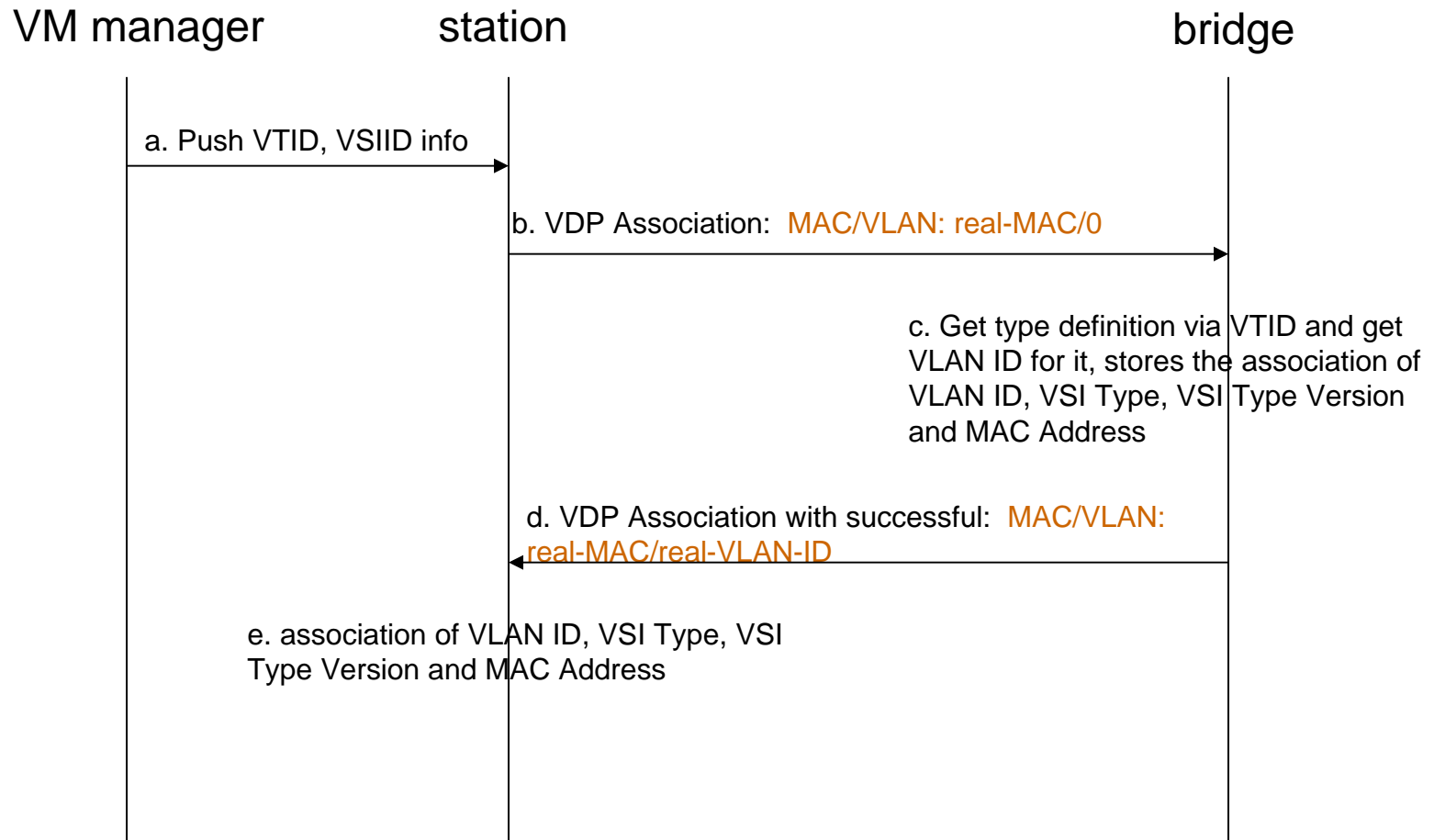
Motivation for allowing VLAN ID to be sent from bridge to station

- **Rationale:** VLAN ID is a network relevant parameter which is under control of network admin. System admin may not care about the exact value as long as VSIs are provisioned with correct value.
- System admin only needs to do the server planning based on logical partition or service, say port group named “web server” or “IT department”. He/she does not need to know or care about what is the exact VLAN ID number for it.
- Network admin knows the exact number for a particular VLAN, say VLAN “web server” uses VLAN ID 10. And he/she may not want to put VLAN ID in VSI type definition.
 - Network Admin does not want to disclose the ID info to VM manager directly
 - Network Admin may want to change VLAN ID later, so VLAN ID info is not in VSI Type definition (but service name/index or port group name may be inside)

VSI provisioning



Use case for getting VLAN ID from bridge



Changes to current VDP

- It is an alternative way to current VDP message flow, not a replacement.
- Allow station to send VDP Associate without VLAN ID info and to receive the real VLAN ID from the bridge via VDP Associate Successful
 - VDP Associate TLV with VLAN ID = 0
 - VDP Associate Successful TLV to get real VLAN ID

Backup slides

Some variants in MAC/VLAN field

- **Single MAC, single VLAN**
 - Possible case
 - Ok to send VLAN ID from bridge to station
- **Single MAC, multiple VLANs**
 - regular case
 - Assumption: MAC is allowed to associate with the whole list of VLANs
 - Ok to send VLAN ID from bridge to station
- **Multiple MACs, multiple VLANs**
 - Scenarios for vNIC having multiple MACs?
 - All MAC/VLAN combination valid? If not, who should decide what are valid combinations – guess System Admin
 - Sending VLAN ID from bridge to station is not applicable unless network admin knows the combinations

Thank you