

* OpenFlow 1.0 - Flow Table

- The second concept is Flow Table.
- We already study the flow table.
- So, the Flow Table lies actually at the core of the definition of an OF switch and we also depict a very generic Flow table here.
- here you can see, ^(Table-1) a Flow Table consists of flow entries, in this case we have like entry 0, 1 up to entry m .
- A Flow entry will consist of header fields, some counters and some actions.
- And this actions are associated with the entries.
- The header fields are actually used as a matching criteria to determine if an incoming packet matches this entry, if a match exists then the packet belongs to this flow.
- On the other side, the counter, ~~and~~ ~~they~~ they are used to track statistical properties related to the flow.

such as, how many packets have been forwarded, how many packets have been dropped, how many packets are sent to the controller and things like that.

While the actions, they describe what the switch should do with the packet after matching this entry.

(2nd table)
These are the three basic elements, the header fields, the counters and the actions performed.

(39: 37)

- OF- 1.0 30th slide
- The official First version was 1.0.
- And it was released in dec, 2009
- It is like a Initial release of OF
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* 31st slide

Some Concepts of OF 1.0

- Ports and Port Queues.
- Now we are going to see, what is inside the ports.
- Like we have Port 1, Port 2, 3 up to N.
- Port here actually correspond to a physical port not always the case but it corresponds to a physical port.
- And this concept is expended in subsequent releases of the OF for many years.
- Sophisticated switches have supported multiple queues per physical port and these queues are generally served by scheduling algorithms that allow the provisioning of different quality of service level for different types of packets.

- Now OF embraces this concept and (2)
permit a flow to be mapped to an
already defined queue and output port.
- Now you don't have queues only in
the incoming port, you do have quality
of service or provisioning queues
available at the outgoing ports as
well.
 - If we look back at this picture, the
output of a packet on Port N has been
zoomed here on right side.
 - Hence if we zoom this portion, this
Port N here, we reveal, ~~what we~~
now on this output port, we can
see Action boxes, we can see
diffⁿ queues. and the packet being
processed to Q1 here.
 - If you see at a broader level, you
will see that the packet has just been
forwarded to Port N. But inside that
port we have diffⁿ queues (Port
queues). And the packet based on the
QoS, it has been assigned to the first

Queue.

- The support for QoS is very basic in this version 1.0.
- And this support is actually expanded in the later versions but for us the important is that we have ports which correspond to physical ports and we do have queues defined inside those ports for providing diffⁿ QoS level for different types of packets.