List of several SDN switches that support Group Table ALL feature

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Abstract—We list some Software Defined Networking (SDN) products that support the Group Table ALL feature which can be used to forward incoming packets to multiple outgoing ports via packet replication.

I. SDN Switches

When using Group Tables, each group entry can have multiple action buckets each programmed with a set of actions. The "ALL" feature means all action buckets of a group entry will be executed and each bucket will be supplied with a copy of incoming packet that matches the group entry predicates. This feature has been in OpenFlow standard since version 1.1 and was added for the purpose of flooding, broadcasting or multicasting [1].

Although in the standard, this feature has not been widely supported by switch vendors. Recently, physical switches on the market have started providing support for this feature. We merely list several products that currently support this feature and cite related documents which contain detailed information on how these features are actually supported (e.g., maximum number of entries, maximum action buckets per entry and whether group chaining is allowed).

Group Tables ALL can be used for building multicast forwarding trees. Earlier multicasting approaches focus on connectivity as an objective [2]. Using SDN, one can build more efficient trees according to network topology and conditions as well as data properties. While assigning trees to data flows, in addition to reducing bandwidth usage, several objectives include reducing completion times [3], [4], minimizing deadline miss rate [5], [6], and balancing link utilization [7].

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Table I
SDN PRODUCTS WITH SUPPORT FOR OFPGT_ALL

Vendor	Product
HP [8]	HP 5920 & 5900 Switch Series
HP [9]	HP 5130 EI Switch Series
HP [10]	HP Switch 2920 series, HP Switch 3500 series, HP Switch 3800 series, HP Switch 5400 series, v1 and v2 modules, HP Switch 5406R series, HP Switch 5412A series, HP Switch 6200 series, HP Switch 6600 series, HP Switch 8200 series, v1 and v2 modules
Juniper Networks [11]	MX Series, EX9200, QFX5100 and EX4600
Alcatel-Lucent [12]	OmniSwitch 10K, OmniSwitch 9900, OmniSwitch 6900, OmniSwitch 6860, and OmniSwitch 6865
IBM [13]	IBM System Networking RackSwitch G8264
Brocade [14]	Brocade VDX 2741, Brocade VDX 6740, Brocade VDX 6940 and Brocade VDX 8770

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