



Contribution ID: 5

Type: **not specified**

The State of the Art on Software-Defined Measurements (UFRGS)

Thursday, 12 November 2020 12:00 (30 minutes)

Software-Defined Networking (SDN) is a paradigm that explores the separation between data plane and control plane in communication networks. This separation has enabled opportunities to make these networks more flexible, dynamic, and customizable. In this context, the SDN paradigm can be applied to tasks inherent to the management of network environments, such as those related to measurement mechanisms. A Software-Defined Measurement (SDM) can be defined as the utilization of SDN-related techniques to perform a network measurement, a concept which has been explored by many authors. Although SDM techniques achieve unprecedented deep and wide measurement information leveraging the SDN architecture, most of them still are based on software that is plugged in the network (into control or data planes) to perform a predefined set of measurements tasks alike a measurement solution in traditional networks. We think that fully SDM techniques are those that go beyond, providing a certain level of programmability of the measurement task for the operator. SDMs can help network administrators to fit management tasks in SDN environments. However, due to the freshness of the SDM techniques themselves, it is difficult to draw a whole picture of their efforts. This presentation focus on a literature review on SDMs as well as a potential classification. Finally, future trends are discussed in order to predict what the future holds for SDMs.

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