Abstract Submitted
for the APR21 Meeting of
The American Physical Society

ServiceX: On-Demand Data Transformation and Delivery, and Applications KYUNGEON CHOI, University of Texas at Austin, ATLAS COLLABORATION — One of the biggest challenges in the High-Luminosity LHC (HL-LHC) era will be significantly more data to be recorded and analyzed from the collisions at the ATLAS and CMS experiments. ServiceX is a software R&D project in the area of Data Organization, Management and Access (DOMA) of the IRIS-HEP to investigate new computational models for the HL-LHC era. ServiceX is an experiment-agnostic service to enable on-demand data delivery specifically tailored for nearly-interactive vectorized analyses. It is capable of retrieving data from the data lake, on-the-fly data transformation, and delivering user-selected data in a variety of different formats which can be streamed to the analysis system using an efficient wire protocol that can be readily consumed by a variety of computational frameworks. We will briefly discuss the current status of ServiceX and introduce few practical use cases. An integration of ServiceX and TRExFitter, a popular framework to perform profile likelihood fits in ATLAS, will be discussed with an emphasis on the delivery of data.

KyungEon Choi
University of Texas at Austin

Date submitted: 06 Jan 2021 Electronic form version 1.4