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Creation of the Type-0 services for the ATLAS Inner Tracker Pixel Upgrade EVAN VAN DE WALL, Oklahoma State University-Stillwater, ATLAS COLLABORATION — In the mid-2020s, the Large Hadron Collider (LHC) will be shut down to undergo an upgrade to the High-Luminosity LHC. This upgrade will increase the number of collisions by an order of magnitude, resulting in over 200 collisions per bunch crossing. The increase in radiation and collision rate requires the inner detector to be upgraded to an all-new silicon-based tracking system called the Inner Tracker (ITk). This talk presents the work done to create the type-0 services that will be used in the ITk pixel detector. The work used a combination of simulations and prototype measurements to model signal integrity for the final design.

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