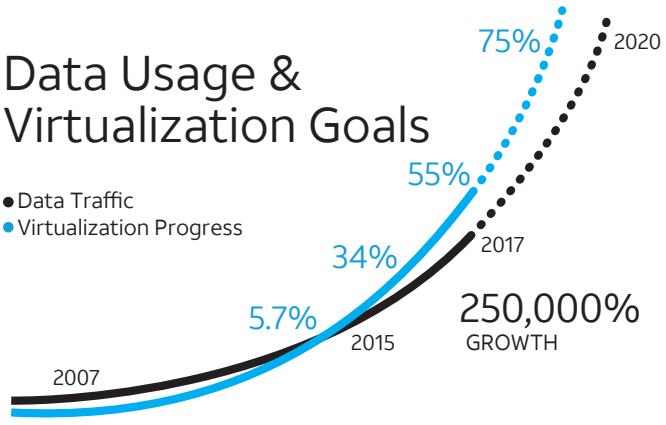
5G – Next Generation Mobile Network

- 5G simply stands for fifth generation and refers to the next and newest mobile wireless standard.
- At AT&T, we're leading the evolution to 5G. We're always evolving our network and looking forward to what's next. The work we're doing on our network today is laying the foundation for 5G.
- Until 5G, speed was the primary driver and defining criterion among the Gs (2G, 3G, 4G). While speed will be important for 5G, the true 5G promise is much more.
  - The vision of 5G is to enable the wireless network to essentially do what a fixed network can do (such as low latency and high throughput).
- 5G will transform the way you work, play and enjoy entertainment.
  - 5G promises to take people places they've never been by unlocking new experiences such as augmented realities, virtual presence, driverless cars, telemedicine and connected homes.
  - 5G will accelerate the delivery of entertainment at home and on the go and many more consumer and business experiences.
  - We view potential 5G use cases in three primary categories: enhanced mobile broadband, massive connectivity (IoT) and low latency applications.
- Customers will see much lower latency on 5G networks. Lower latency means customers will be able to click a button and see instant action in an online game.
- 5G is ideal for bandwidth-hungry applications because it will support multiple radio interfaces, enable more spectrum efficiency, and take advantage of our advanced network capabilities.

> *"5G's promise of greater speed and overall network performance brings huge opportunities."*
>
> ***John Donovan,***
> *Chief Strategy Officer and Group President, Technology and Operations*



- With a SDN, Big Data and Open Source network approach, and planned fiber build-out to millions of locations throughout the United States, AT&T is in a unique position to support next-generation 5G applications quickly and efficiently.
  - Our global leadership in moving to SDN is a key attribute in our 5G evolution, because it delivers a sizeable cost advantage in the deployment of 5G technology over a traditional, hardware-centric network approach.
- We currently have 5G lab work operating in four major cities – Austin, Texas, Middletown, N.J., Atlanta, Ga. and San Ramon, Calif.
- AT&T expects to be the first U.S. company to introduce mobile 5G service in a dozen markets by late 2018.

> *"Data on our mobile network has increased about 250,000% since 2007."*
>
> ***John Donovan,***
> *Chief Strategy Officer and Group President, Technology and Operations*