

AT&T 5G

Frequently Asked Questions

Q: We've announced we're investing in technology to launch a commercial 5G network. What will our business customers be able to do with a 5G network that they can't do now?

A: That's a great question because 5G will be the network of networks that enables new experiences not possible until now. 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). Because of this there are a number of potential use cases for businesses many of which aren't even known yet. 5G promises to take our customers places they've never been by unlocking new experiences such as augmented realities, virtual presence, driverless cars, telemedicine and connected buildings. Think of a Fireman who can see the layout of the building in their visor so they find those in need much faster. Also, in medicine take a football player, who just got hit. We can know in real-time from the data that the force of the impact has generated a concussion and he needs to come out of the game. Finally consider manufacturing where uptime of equipment is key. 5G can help identify defects sooner, decreasing downtime, thus increasing productivity and revenue.

Q: Everybody is talking about 5G but when will it actually arrive?

A: A two-step process will be used to deploy 5G. AT&T has made a commitment to build a standards-based 5G network. This will ensure the global interoperability and scale for our customers that they deserve. What that means is that we should begin to see some services as soon as late 2018 based on the initial standards (step-1). This overall approach will position AT&T to start the delivery of standards-based 5G mobile service to customers this year with support of new use cases and capabilities to follow over time.

Q: What will happen to the 4G LTE-Advanced network when 5G launches?

A: The road to standards-based 5G is through 4G LTE-Advanced. Initial deployments of 5G radios will reside on the LTE network core. Ultimately, standalone 5G will use a new network core that is separate from, but still interworks with, today's LTE network. So, the continued deployment of our 4G LTE-Advanced network remains essential to laying the foundation for our evolution to 5G.

Q: What's the relationship between 5G and a software-defined network?

A: 5G will be our first new major technology initiative "born in the cloud" and it is the offspring of the software defined network migration efforts that was first announced in 2014. AT&T has been an industry leader in transforming our entire network into one that is virtualized and software defined and 5G will be a huge part of that. Changing to a network that is software defined will enable AT&T to deliver services to our customers faster, improve security and increase automation in ways that a network built using proprietary

hardware can't. Our customer's needs are changing and the combination of 5G and SDN will enable new business models and innovation not seen before in our industry.

Q: What should business customers start thinking about 5G that they're not thinking yet?

A: 5G offers a lot for everyone but specifically business customers will see increased parity between what mobile networks offer relative to today's wired networks or a convergence of connectivity types. 5G will not only offer increased connection speeds but it will also deliver lower latency. 5G will require distributed edge clouds. In this model applications will run more efficiently and this model will set the stage for a new era of use cases. Network slicing will offer a degree of customization not found before in standards-based networks allowing customers to create VLANs or HOV lanes in the air interface. Due to this businesses should start rethinking and planning their relationship with this new network now. These new capabilities will stimulate conversations about what things can be done with 5G networks.

Q: With 5G coming should business customers limit investing in 3G and 4G LTE investments?

A: 4G networks aren't going away anytime soon. Research firm Ovum forecasts that by 2020, 3.62 billion people will subscribe to services delivered via 4G LTE networks, up from 1.05 billion in 2015. We continue to evolve our 4G LTE network via things like LTE-Advanced to deliver higher capacity, speeds and the best experience for our customers.

In addition, the path to standards-based 5G initially uses the non-standalone option, which means 5G radios ride on the existing LTE network core. Non-standalone 5G adds new, advanced features onto an already solid set of equipment – LTE – to provide customers with faster speeds, lower latency and a better overall experience.

AT&T has a wide array of assets available to our customers. This includes the 3G network that continues to support critical customer access needs today. The decision of what combination of device, network, and application are optimal is driven by the customer requirements and is use case based. AT&T's broad set of customer options will continue to grow and evolve as the market changes.

Q: What is ONAP and Indigo and what is the meaning of cloud to 5G?

A: There is a broader AT&T network story that is being told. It dates back to 2013 when AT&T released its Domain 2.0 white paper that justified why our network needed to move from a hardware-focused monolithic approach to one that is more open, simple and software driven. Some of the concepts involved in AT&T's network transformation are currently used in cloud datacenters. In many ways 5G is a bi-product of that vision and it is the first virtualized mobility network born in this new environment.

Today a significant portion of the data processing occurs in the device. 5G will create compute and storage capacity in the network through a model called edge computing (EC). Because the mobility network is distributed geographically there are opportunities to strategically locate this compute to support low-latency experiences like robotics, self-driving cars and more. This is important to business customers because of the opportunity to position 5G as a compute platform supporting refined enterprise experiences not possible with past mobility networks.



ONAP stands for Open Network Automation Platform. It is best to think of ONAP as a network operating system or simply the “brain” of the network. ONAP will allow us to do things like remotely change bandwidth or capacity in the 5G network.

5G will be powered by a new platform that we call AT&T Network 3.0 Indigo. Indigo is all about being data-powered and will add value by facilitating new data communities and advanced analytics. Leveraging the tremendous amount of data generated on our network will allow AT&T to better optimize our own network but also support customers through better security schemes and increased personalization in advertising models.