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What Is Intent-Based Networking?



Natalie Boyd | Director of Software Platforms
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Intent-based networking (IBN) is a relatively new term in the information technology space.

Gartner first coined the term in 2017 and called it the “next big thing” in a blog post. However, components to the technology began before 2017. In fact, as John Strassner, CTO of Futurewei, informed SDxCentral, “intent has been around for a long time. There were goal-based policies in the late 1990s.” Below is an explanation of the technology and its characteristics.

Intent-Based Networking Explained

“Intent” is the keyword in this technology. It describes a network’s business objective. IT professionals establish policies that specify the network’s business intent, auto-prescribe how to satisfy that goal, and automate at scale.

Traditional networking relied on a command line interface (CLI) to manually set up policies for all vendors’ networking devices individually. The vendors have the unique interface and syntax for their products, resulting in IT professionals learning the CLI syntax for each vendor’s device to achieve the network’s business objective. The technology’s approach is vastly different from CLI. Instead, IBN operates as a Network-as-a-Service (**NaaS**), meaning it is end-to-end networking that seamlessly manages all devices on one interface.

While Intent-based networking is compared with **software-defined networking (SDN)**, it also contrasts in a few distinctive ways. Mainly, intent-based networking adds **DevOps**, and it allows network operators more control over running the network.

However, **SDN is important** to intent-based networking because the latter uses virtualization in order to have one interface view the entire network. A software-based device can be updated remotely and at scale, instead of having to be individually configured with a CLI. These software-based devices are a key component to **SDN architecture** as well.

A more concise way to view IBN is as a lifecycle management software that “bridges the gap between business and IT,” according to Cisco, an **intent-based networking vendor**.

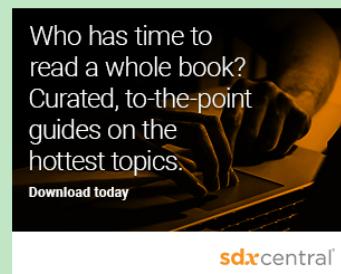
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The Characteristics

Veriflow pinpoints four attributes of the technology:

1. Its priority is always to deliver the business goal (the intent).
2. It operates as a NaaS.
3. It routinely and frequently verifies the fulfillment of the network's purpose via network verification. This type of networking conducts automated checks on the network to ensure that it is performing as intended, and it determines business goals without user input.
4. Works with all technologies and vendor products.

Intent-Based Networking: Key Takeaways

1. Despite a recent spike in attention, intent has been a tool for networks since the late 1990s in the form of goal-based policies.
2. IT personnel will establish a business goal for the intent-based network, which will use rules set by the IT personnel to achieve the goal.
3. Intent-based networking allows for the management of an entire network from a single interface.

Updated November 2020 by Connor Craven

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