Intent Based Networking - the technology

Abstract:

At the highest level, intent is a declarative specification of the desired outcome. And the desired outcome is complete automation of the whole network service life-cycle, which consists of the following phases:

- design (intent consumption)
- build (intent modelling)
- deploy (intent instantiation)
- validate (continues intent validation)

Intent defines the "what" not the "how".
Intent is dynamic, and a fundamental requirement of an IBN system is that it should be capable of ensuring that intent's expectations are met in the presence of change.

In order to enforce that intent expectations are met, the IBNS has to be the single source of truth (regarding the intended state of both your infrastructure and your business rules) that one can programmatically reason about in the presence of change.

Taxonomy of IBN introduces 4 levels of maturity, from basic automation to self-operating networks.

Ability to constantly validate that the operational state is the intended state is fundamental for IBN to coherently provide full life cycle management, from design to deployment to operations.

This is to introduce the concept of IBA - Intent Based Analytics that are context and intent aware and gather only data that is relevant to the intent as the opposite to "big data fishing".