A Deterministic Internet

Although the Internet achieved phenomenal advances during the last few decades, it is full of confusions, contradictions, or even convolutions. For example,

The Internet promotes leveling the playing field. But, Vatican City gets 21.4 per capita IPv4 address allocation, while over a dozen entities get none, with other nations receiving every possibility in between.

The Internet promised end-to-end connectivity. However, its current predominate operation model, CDN (Content Delivery Network) impedes such goal, even within a local community.

The Internet took issue with telco monopoly and government regulation on PSTN (Public Switched Telephone Network). Yet, we now have multinational conglomerates that each dominates a respective business sector to the point of ignoring responsibilities and evading regulations. Isn't this the centralization against the principle of a distributed Internet?

Also, the potential of roughly 200 global jurisdictions fragmenting the Internet to a geopolitical Splinternet is being criticized while the ASes (Autonomous Systems) have already made it a 76K layer Onion-net.

The most puzzling fact is that the Internet vigorously defends its borderless policy while its packet routing is currently handled by primarily the Border Gateway Protocol (BGP).

Overall, the Internet is susceptible to a full range of security breaches, from harassment to ransomware.

Recently, FCC (Federal Communications Commission) issued a NPRM (Notice of Proposed RuleMaking) for mitigating BGP risk. IAB (Internet Architecture Board) submitted a comment expressing concerns. Nevertheless, White House published a Roadmap to enhance the Internet routing security.

Is regulating BGP alone appropriate and sufficient? How about AS, DNS (Domain Name Server) & DHCP (Dynamic Host Control Protocol)? Perhaps we should identify the root cause and then focus on resolving the issues at the source?