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## India aims to become Atmanirbhar in digital connectivity

NEW DELHI: India is aiming to become Atmanirbhar (self reliant) in Internet connectivity and mulling to set up the IPv6 or Internet Protocol version VI-based root server locally to safeguard critical digital infrastructure, ending the foreign dominance.

**"India is the largest subscriber of IPv6 contributing to nearly 50% of the total base worldwide. The initiative aims to boost a trusted and fully-secure digital infrastructure," Rakesh Mohan Agarwal, chairman, ITI Limited told ETTelecom.**

Back in 2009, India had first come up with the IPv6 roadmap, and the task was given to the state-run Telecom Engineering Centre (TEC) under Agarwal, who conducted more than 50 workshops nationally to bring awareness.

Further, in 2012, another roadmap was unveiled by the Department of Telecommunications (DoT), and had chalked out the strategy with collaboration with a Japanese laboratory. But the situation has so far not progressed much.

Billionaire Mukesh Ambani-owned Reliance Jio, which is a native IPv6 operator, commands more than two-third of the India's IPv6 traffic that has also resulted in a rapid rise of country's IPv6 user base from mere 1% to 15% in 2016, to nearly 50% by the end of 2020.

**"ITI will extend full support in taking things to the next level for the betterment of the country's digital infrastructure. The initiative to connect devices with IPv6 will safeguard Digital India program and place the country at an advantageous position," Agarwal said.**

Prime Minister Narendra Modi's prestigious Digital India umbrella program, launched in 2015, aims to facilitate 100% mobile telephony, digital delivery of citizen-centric services, and a high-speed broadband for 1.3 billion Indians.

In the third phase of the ambitious IPv6 roadmap, the private industry should come forward and play a role in safeguarding the connected infrastructure indigenously, to achieve the Atmanirbhar connected Bharat or a connected self-reliant India, the top official said.

If India becomes successful in establishing a root server locally, it could provide multifold benefits since IPv6 can assign nearly 340 trillion trillion trillion IP addresses and corresponding devices in comparison to 4.3 billion IPv6 addresses.

The latest version would also boost billions of connected devices anticipated in the Internet of Things (IoT) era following the launch of fifth generation (5G) commercial services.

Out of 13 root servers presently, the US alone hosts 10 of them, two are located in the EU, and one in Japan. Both Russia and China have though moved ahead to set up their own servers in a bid to end Western dominance.

Industry veteran and Bharat IPv6 Forum chairman Satya N Gupta said that a homegrown root server would be essential for security and data protection purposes as well as to overcome ever-growing cyber threats.

"We have indigenous capacity. Such an initiative is either taken by the state-run company or a local private entity, and the industry can contribute in making it operational," he said, adding that such an initiative can be replicated and developed for neighbouring countries as well.

Gupta said that the ambitious initiative would also safeguard the Work-from-Home (WFH) or remote-work culture since it can allocate a single Virtual Private Network (VPN) address to every individual home, and it can be fully secured.

India's capability to create a root server would require extensive research and development (R&D) activities particularly in the software domain, and if it gets an administrative nod, it would be independent with IPv6 functionality.

With digital connectivity becoming pervasive and the Internet as a key resource for socio-economic development, the root server would play a pivotal role in the safety and stability of the Internet at the top of the Domain Name System or DNS.

The prestigious program, if approved, may be undertaken by the National Internet Exchange of India (NIXI).

Some of the present and former government officials and veterans such as Anil Jain, chief executive of NIXI, Dr. Govind, former NIXI chief, RK Bahuguna, former chairman, RailTel and Praveen Misra, senior scientist at the Education and Research Network (ERNET) have come forward to collaborate in the national initiative.

The recently-launched forum is also planning to bring a whitepaper on IPv6 by July this year, to further advise the policymakers on next steps to achieve self reliance in the Internet domain.