ITI LIMITED

MEDIA COVERAGE REPORT

Press Meet in New Delhi

On

"Atmanirbhar Secured Internet Access"

on 2nd February 2021

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ITI LIMITED

IPv6: India aims to become Atmanirbhar in secured Internet access

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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 more than 50% of the total base worldwide. The IPv6 initiative aims to boost a trusted and fully-secure digital infrastructure," Rakesh Mohan Agarwal, chairman, ITI Limited told ET Telecom.

India ranked No. 1 in IPv6 worldwide with nearly 60% adoption, followed by Belgium (58%). Thanks to Reliance Jio's greenfield network that holds 91.8% of the IPv6 subscriber base, capturing second position to T-Mobile (92.3%), according to Akamai. 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, a native IPv6 operator that forayed into commercial telecom services in 2016, has led to a rapid rise in the country's IPv6 user base from mere 1% to 15% five years ago, to nearly 92% today.

"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 IP addresses and corresponding devices in comparison to 4.3 billion IPv4 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 neighboring 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 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.
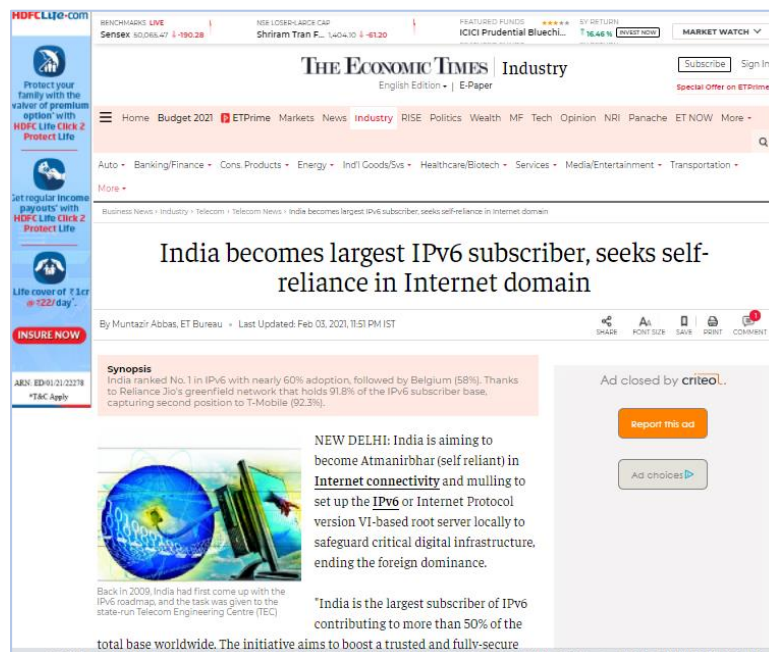
With digital connectivity becoming pervasive and the Internet as a key resource for socio-economic development, the root server would play a pivotal role in the safety and stability of the Internet at the top of the Domain Name System or DNS.

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.

India becomes largest IPv6 subscriber, seeks self-reliance in Internet domain

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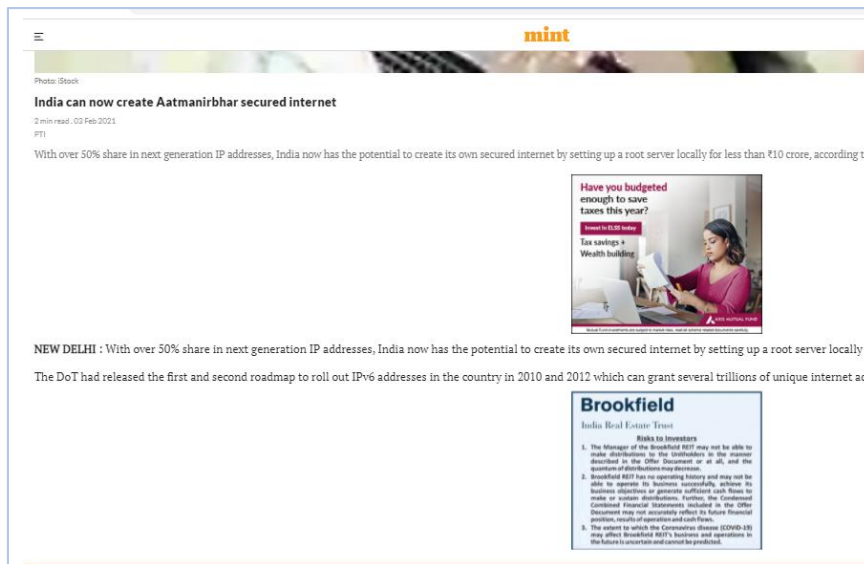
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"The work on IPv6 started in 2006. India was last to implement IPv6 roadmap. It now has over 50 per cent market share in IPv6 address and leads the world in terms of subscribers," ITI Chairman and Managing Director RM Agarwal told PTI.

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Internet works by connecting internet protocol (IP) addresses of websites, subscribers etc. Earlier IPv4 version of IP addresses was in work which are limited in numbers and not enough to cater to the growing demand of data services.

"There are only about 3 billion IPv4 addresses which are already exhausted whereas under IPv6 there are several trillions of IP addresses. Reliance Jio contributed in taking India to the leadership position. Each of Reliance Jio customers are connected through IPv6 address. We can now have our Aatmanirbhar secure internet. India can now set up its own root server with less than ₹10 crore," IPv6 Forum chairman Satya N Gupta said.

He said IPv6 Forum is working to implement and expand IPv6 in India to develop the platform indigenously by using trusted devices. At present, there are 13 root servers which play a vital role in working on the internet globally. 11 root servers are located in the US and 1 each in Europe and Japan.

"The Internet will stop working if any of the root servers are switched off. With an indigenous root server, India can continue to communicate within its own jurisdiction. Government, industry and other stakeholders can jointly manage it. We want technocrats in India to develop IPv6 servers," Gupta said.

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Agarwal said that ITI will conduct workshops for expansion of IPv6 technology in the country and also support other Asian countries.

"We were supported by other countries when we were in the first phase. Now it is our job to help others. IPv6 is pivotal for Digital India. To support 5G and related technologies like machine-to-machine, internet of things etc we need IPv6," Agarwal said.

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He said industry alone can develop the server which will also enhance cyber security in the country. "The National Internet Exchange of India (Nixi) already has expertise in IPv6. The company can develop native technologies on IPv6 and export them as well. Theoretically, every country will have its own root server," Gupta said.

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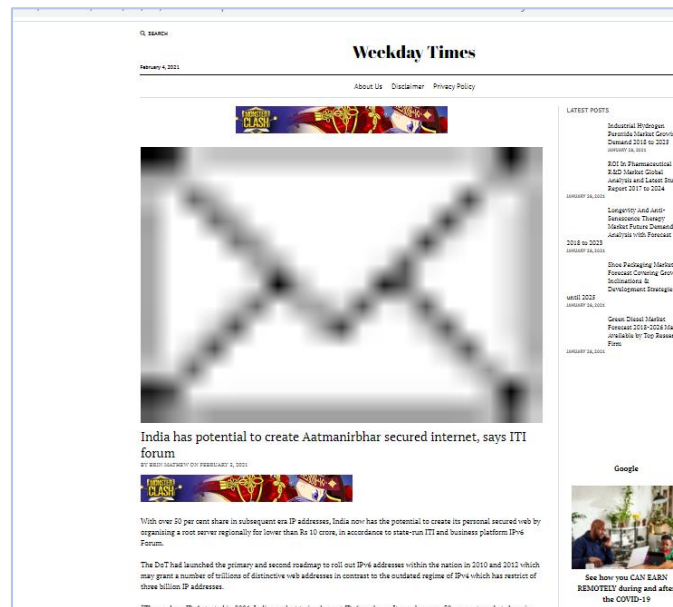
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The DoT had launched the primary and second roadmap to roll out IPv6 addresses within the nation in 2010 and 2012 which may grant a number of trillions of distinctive web addresses in contrast to the outdated regime of IPv4 which has restrict of three billion IP addresses.

"The work on IPv6 started in 2006. India was last to implement IPv6 roadmap. It now has over 50 per cent market share in IPv6 address and leads the world in terms of subscribers," ITI Chairman and Managing Director RM Agarwal advised PTI.

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Internet works by connecting web protocol (IP) addresses of internet sites, subscribers and so on. Earlier IPv4 model of IP addresses was in work that are restricted in numbers and never sufficient to cater to the rising demand of information providers.

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He mentioned business alone can develop the server which can even improve cyber safety within the nation.

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Agarwal mentioned that ITI will conduct workshops for growth of IPv6 know-how within the nation and in addition assist different Asian international locations.

"We were supported by other countries when we were in the first phase. Now it is our job to help others. IPv6 is pivotal for Digital India. To support 5G and related technologies like machine-to-machine, internet of things etc we need IPv6," Agarwal mentioned.

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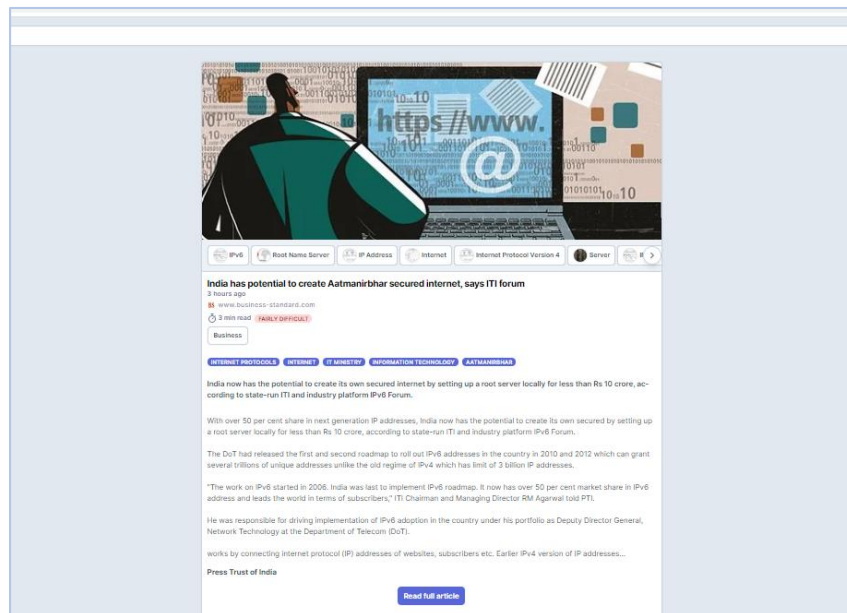
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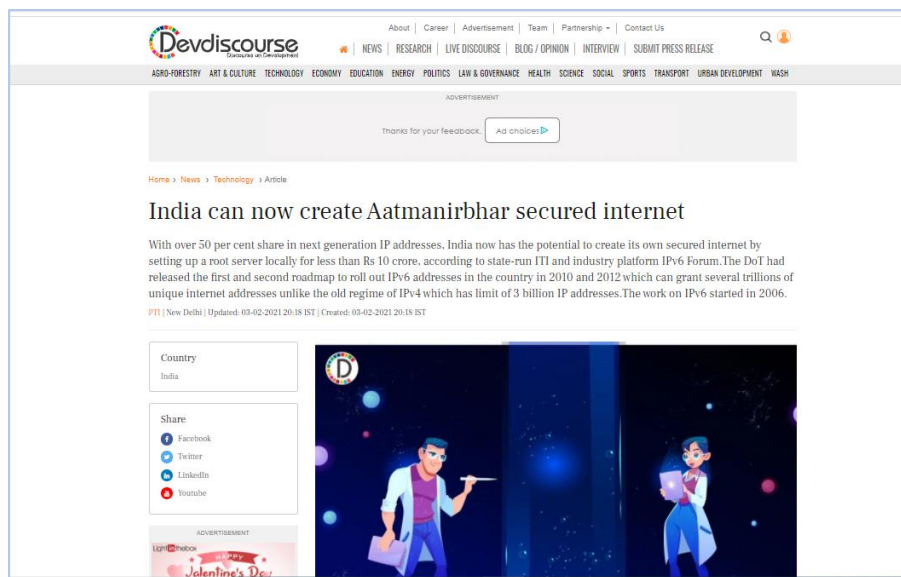
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''There are only about 3 billion IPv4 addresses which are already exhausted whereas under IPv6 there are several trillions of IP addresses. Reliance Jio contributed in taking India to the leadership position. Each of Reliance Jio customers are connected through IPv6 address. We can now have our Aatmanirbhar secure internet. India can now set up its own root server with less than Rs 10 crore,'' IPv6 Forum chairman Satya N Gupta said.

He said IPv6 Forum is working to implement and expand IPv6 in India to develop the platform indigenously by using trusted devices. At present there are 13 root servers which play a vital role in working on the internet globally. 11 root servers are located in the US and 1 each in Europe and Japan.

''The Internet will stop working if any of the root servers are switched off. With an indigenous root server, India can continue to communicate within its own jurisdiction. Government, industry and other stakeholders can jointly manage it. We want technocrats in India to develop IPv6 servers,'' Gupta said.

He said industry alone can develop the server which will also enhance cyber security in the country.

''The National Internet Exchange of India (Nixi) already has expertise in IPv6. The company can develop native technologies on IPv6 and export them as well. Theoretically, every country will have its own root server,'' Gupta said.

Agarwal said that ITI will conduct workshops for expansion of IPv6 technology in the country and also support other Asian countries.

''We were supported by other countries when we were in the first phase. Now it is our job to help others. IPv6 is pivotal for Digital India. To support 5G and related technologies like machine-to-machine, internet of things etc we need IPv6,'' Agarwal said.

'India can create its own Aatmanirbhar secured internet by setting up root server locally for under Rs 10 cr'

New Delhi, Feb 3 (PTI): With over 50 per cent share in next generation IP addresses, India now has the potential to create its own secured internet by setting up a root server locally for less than Rs 10 crore, according to state-run ITI and industry platform IPv6 Forum.

The DoT had released the first and second roadmap to roll out IPv6 addresses in the country in 2010 and 2012 which can grant several trillions of unique internet addresses unlike the old regime of IPv4 which has limit of 3 billion IP addresses.

"The work on IPv6 started in 2006. India was last to implement IPv6 roadmap. It now has over 50 per cent market share in IPv6 address and leads the world in terms of subscribers," ITI Chairman and Managing Director RM Agarwal told PTI.

He was responsible for driving implementation of IPv6 adoption in the country under his portfolio as Deputy Director General, Network Technology at the Department of Telecom (DoT).

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