

The Rapid Growth of Industrial IoT Strains the Aging IPv4 Protocol

The swift expansion of the Industrial Internet of Things emphasizes the need for IPv6 adoption, but challenges such as technical complexities and costs persist.

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/EINPresswire.com/ -- The Industrial Internet of Things (IIoT) has ushered in a new era of innovation, transforming industries by seamlessly connecting devices and machines, amplifying operational efficiency, and unlocking unprecedented insights.

From sensors to wearables, an array of IIoT devices collectively forms the intricate web driving operational excellence in manufacturing, energy, logistics, healthcare, and other sectors.

This paradigm shift, however, brings to light the pressing challenges of IP addressing, underscoring the necessity of a smooth transition to IPv6 to ensure the continued growth and success of IIoT initiatives.

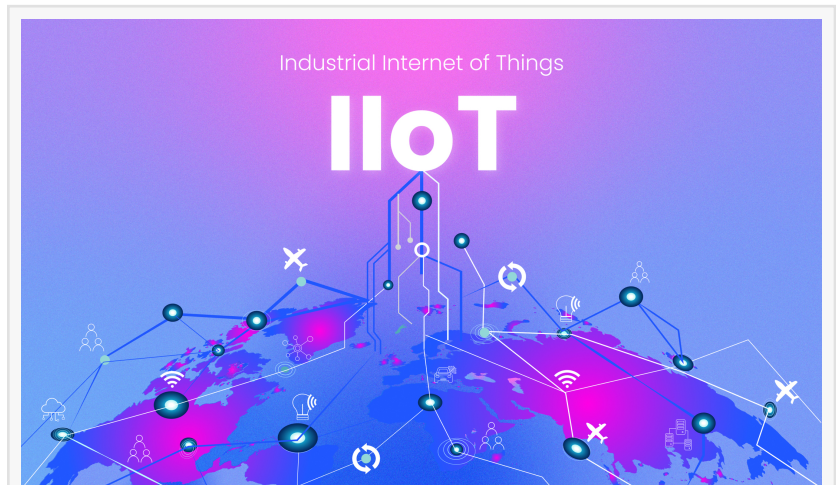


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Vincentas Grinius, CEO of IPXO

THE INTERSECTION OF CHALLENGES AND OPPORTUNITIES

"As the capabilities of IIoT continue to evolve, so do the challenges in the realm of network management", says Vincentas Grinius, CEO of IPXO, the next-gen IP address management platform.



The Industrial Internet of Things weaves a digital thread through traditional industries, transforming them into interconnected ecosystems of smart devices and data-driven intelligence.

The transition from the now-decades-old IPv4 protocol to the more expansive and adaptive IPv6 has become a crucial undertaking for enterprises aiming to leverage IIoT's full potential. In an era where devices are projected to [exceed the 50 billion mark by 2030](#), the limitations of the legacy

IPv4 networking protocols are becoming increasingly apparent.

While projections from Statista place the worldwide Industrial IoT market size at [an estimated \\$686.46 billion in 2023](#), the rapid proliferation of internet-connected devices spotlights a critical hurdle – the constraints of IPv4 in accommodating the exponential growth of IIoT deployments.

THE PROMISE OF IPV6

IPv6, the next generation of Internet Protocol standardized in 2017, presents a solution that effectively addresses the limitations of IPv4.

“With its 128-bit identifiers, IPv6 boasts an exponentially larger address capacity that eliminates addressing constraints, providing a virtually limitless scope to accommodate the projected growth of IIoT deployments”, says Grinius.

Beyond its enhanced addressing capabilities, IPv6 brings about improvements in speed, simplified network management, and heightened security through built-in end-to-end encryption and authorization. However, the adoption requires monetary resources and is technically challenging, thus, it’s been more than a decade since the new protocol was introduced.

The road to IPv6 adoption is marred with a variety of challenges that have contributed to its slow progression. One significant challenge lies in the sheer magnitude of the transition process. Enterprises and organizations need to update their hardware, software, and networking infrastructure to support IPv6. This not only incurs substantial costs but also necessitates careful planning and coordination to minimize disruptions.

THE ROLE OF IPV4 LEASING

Amidst these challenges, IPv4 leasing has emerged as a strategic solution to bridge the gap between IPv4 and IPv6 adoption. This approach empowers organizations to secure additional IPv4 addresses as needed, without the constraints of purchasing scarce IPv4 allotments.

Esteemed entities like Amazon, Microsoft, and Google have embraced IPv4 leasing to accelerate cloud growth and facilitate a smoother path to the IPv6 transition. The IPv4 lease subscription model provides adaptable access to addresses, minimizing upfront expenses while ensuring uninterrupted connectivity.

“The journey from IPv4 to IPv6 is a gradual process, allowing both protocols to coexist during this transition. IPv4 resources can be leased to address immediate needs while IPv6 adoption takes place”, explains Grinius. “At IPXO, we provide IPv4 resources for leasing, enabling organizations to navigate this transition with flexibility and foresight, ensuring uninterrupted connectivity and a seamless journey toward the adoption of IPv6.”

NAVIGATING THE TRANSITION: STRATEGIES FOR SUCCESS

For most enterprises, a dual-stack transitional strategy that concurrently runs IPv4 and IPv6 offers a clear path forward. This approach maintains the functionality of existing systems while allowing a phased upgrade to IPv6 capability across equipment, networks, and software.

Just as Regional Internet Registries (RIRs) adeptly managed the allocation and distribution of IPv4 addresses, they have also embraced the responsibility of overseeing IPv6 resources.

As visionary industry leaders recognize the inevitability of the IPv6 transition, the symbiotic journey of IIoT and the IPv4-IPv6 transition exemplifies the convergence of networking infrastructure with business innovation. Embracing proactive measures, forward-looking organizations position themselves to harness the full potential of Industrial IoT while propelling growth in the ever-evolving digital landscape.

For a comprehensive understanding of the subject, please visit [our detailed blog post](#) or contact press@ipxo.com.

ABOUT IPXO:

IPXO is a leading IP address management platform, providing services to ISPs, telcos, hosting providers, and others. The company is at the forefront of addressing industry challenges such as IPv4 shortage, IPv6 adoption, management obstacles, IP defragmentation, and routing automation. With potential access to a vast number of 3.2M IPv4 addresses and a strong presence within the RIR community, IPXO is emerging as the business-critical infrastructure platform for enterprises worldwide.

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