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IP Resource Management in the Age of AI Factories and Edge Computing

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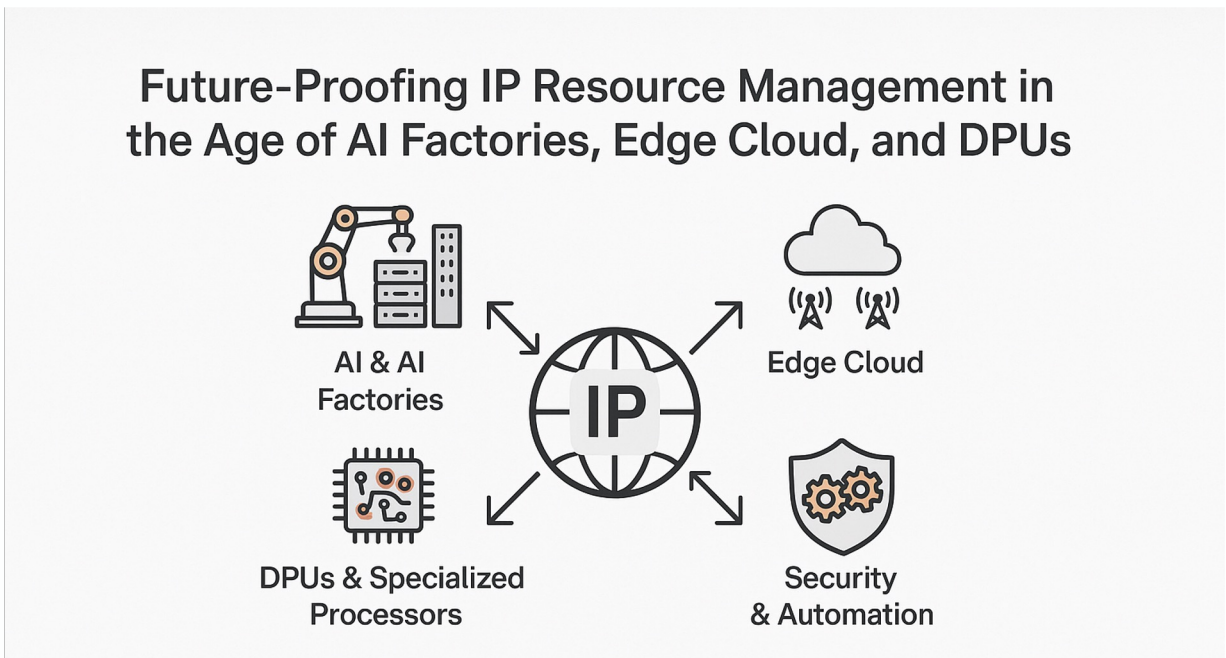
The Dawn of Intent-Based Networking

- AI Factories and edge cloud pave the way for ubiquitous computing
- Users' intent will be interpreted and brought to live by AI agents
- Existing tools with AI-enhancements won't do – we need new thinking.

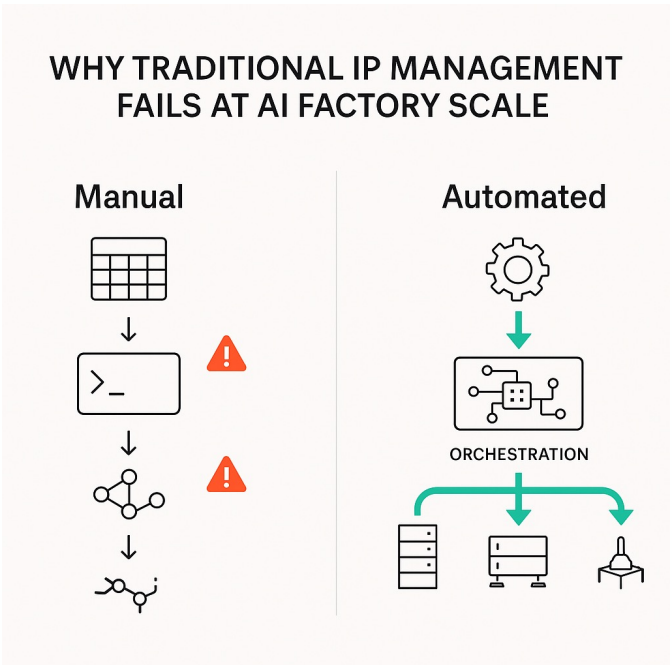
The Connected World is Changing with AI

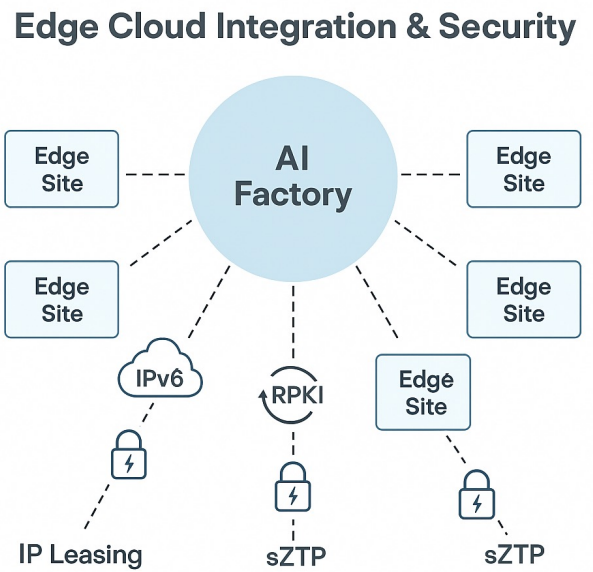


AI Factories Emerging at the Edges

- Say hello to NVIDIA GB200 NVL72
  - More power than a pre-covid super computing DC
  - NVLink spine moving more packets than the Internet
  - Utilizes 36 BlueField DPUs for IP networking and infra
- AI factories can have hundreds of these racks. Sold to majority of customers as dynamic capacity services.
- Connected to the world over IP networks.

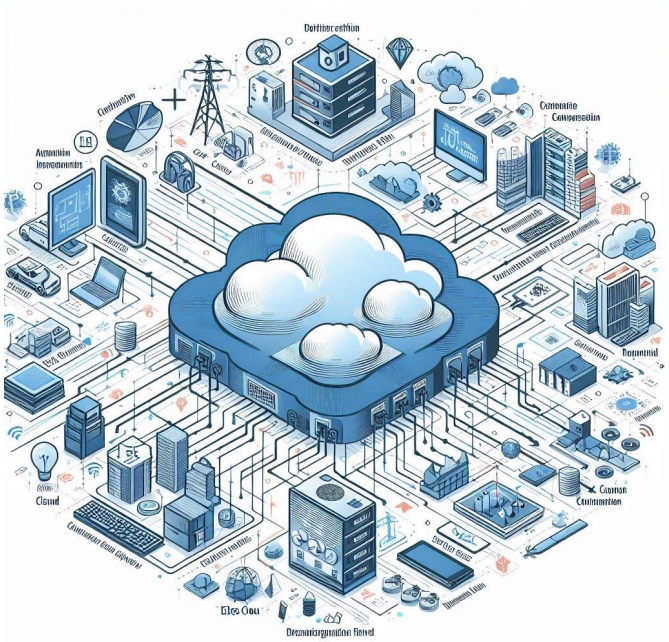
IP Resource Management in the New Era





Automating IP resource management is a great start… …but Intent-Based Networking doesn't stop there.

Automated Infrastructure Management



- Based on patent-pending research for managing edge cloud infrastructure and DPUs in AI factories:

  - Secure zero-touch onboarding for new devices
  - Drag-and-drop service deployment in minutes
  - Observability, updates, and decommissioning

- Despite proprietary parts, we have built on RFC 8572 (Secure Zero Touch Provisioning or SZTP for short). This ensures interoperability.

Developments within the Linux Foundation

- The Open Programmable Infrastructure (OPI) Project under Linux Foundation is developing infrastructure best practices.
- SZTP is the standard that has been chosen for secure onboarding and assignment of IP resources among other things.
- FusionLayer has released the production-grade SZTP client under Apache 2.0. Merged into the OPI project, it is freely available to anyone:

https://github.com/fl-sztp/sztp-client

THE LINUX FOUNDATION

Thank you.

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