



Why DDI needs to change...

Ekim Maurer <ekim.maurer@ibm.com>

Senior Product Lead @ IBM Software Networking

A hand is pointing towards a central circular interface labeled "DIGITAL TRANSFORMATION". The interface is surrounded by several icons: a brain with circuitry, a microchip with a brain inside, a code editor with a gear, and a network diagram. The background is dark blue with glowing lines and circles.

DIGITAL
TRANSFORMATION

The catalyst of a
new digital era

Transformation Engine

DNS

- Digital Transformation introduced new connectivity challenges
- DNS acts as the glue between applications
- DNS is used for load balancing and simple traffic steering

DHCP

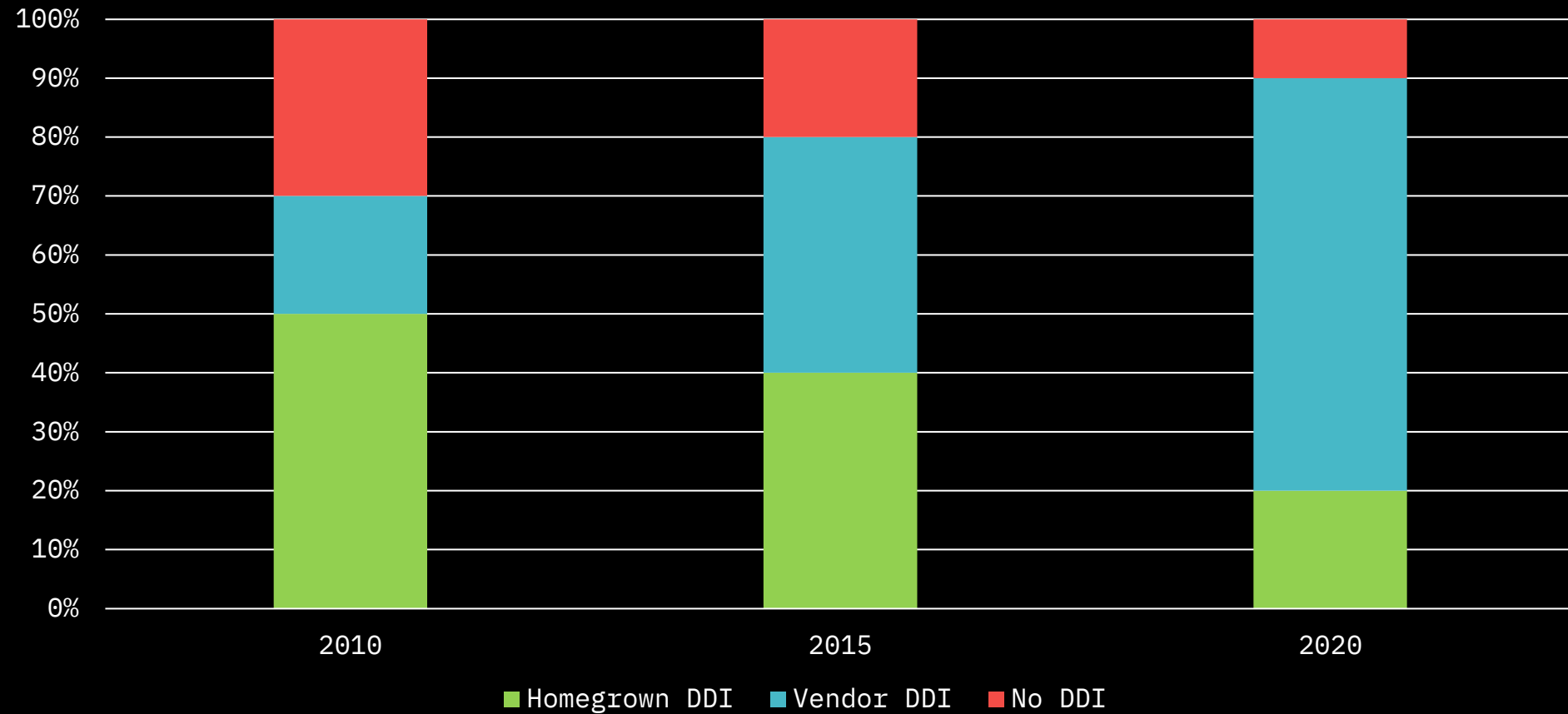
- Virtualization and client device explosion raised the need for dynamic IP assignment
- Centralized distribution of basic networking configuration became essential

IPAM

- Multi geography IP Spacing
- VLAN and VRF use evolved in Enterprise Networks
- Networking became connectivity centric
- IP inventory management is key for decision making

*If things break,
we cannot sue ourselves...*

DDI over the past decade(s)



* Data from Gartner and Forrester market research

A hand is shown pointing towards a futuristic digital interface. The interface features a central circular element with the text "DIGITAL TRANSFORMATION" and several surrounding icons: a brain with circuitry, a microchip with a brain, a code editor with a gear, and a network diagram. The background is dark blue with glowing lines and circles.

DIGITAL
TRANSFORMATION

The era of catalytic
digitalization

Transformation Breaker

DNS

- Digital Transformation introduced new connectivity challenges
- DNS acts as the glue between applications
- DoH and Identity based DNS starts change net neutrality across the intranet

DHCP

- NoIP and IaaS solutions have emerged
- Infrastructure as Code as the configuration sources became essential
- Container systems use self managed IP schemas

IPAM

- Overlapping IP spaces
- Multihomed devices
- Microservice and anonymous functions are used in workflows
- Network Sources of Truth inventories attributions of devices

*If the vendors don't support it,
we have to build it on our own...*

What changes impact DDI?



Automation for everyone

No matter your role, or what your automation goals are, Ansible can help you demonstrate value, connect teams, and deliver efficiencies for your organization. Built on open source, Red Hat® Ansible® Automation Platform is a hardened, tested subscription product that offers full life cycle support for organizations. Explore how Ansible can help you automate today—and scale for the future.

[See how Ansible works](#)

The Ansible logo is a white 'A' inside a black circle. To its right is a 3D illustration of server racks with various colored components (red, blue, purple, orange) and small figures representing people working at the racks.

Terraform Deliver infrastructure as code

Terraform codifies cloud APIs into declarative configuration files.

Adopt
Compose infrastructure as code in a Terraform file using HCL, to provision resources from any infrastructure provider.

Build
Infrastructure automation workflow used to compose, collaborate, reuse, and provision infrastructure as code across IT operations and teams of developers.

Standardize
Establish guardrails for security, compliance, and cost management through role-based access controls, policy enforcement, and audit.

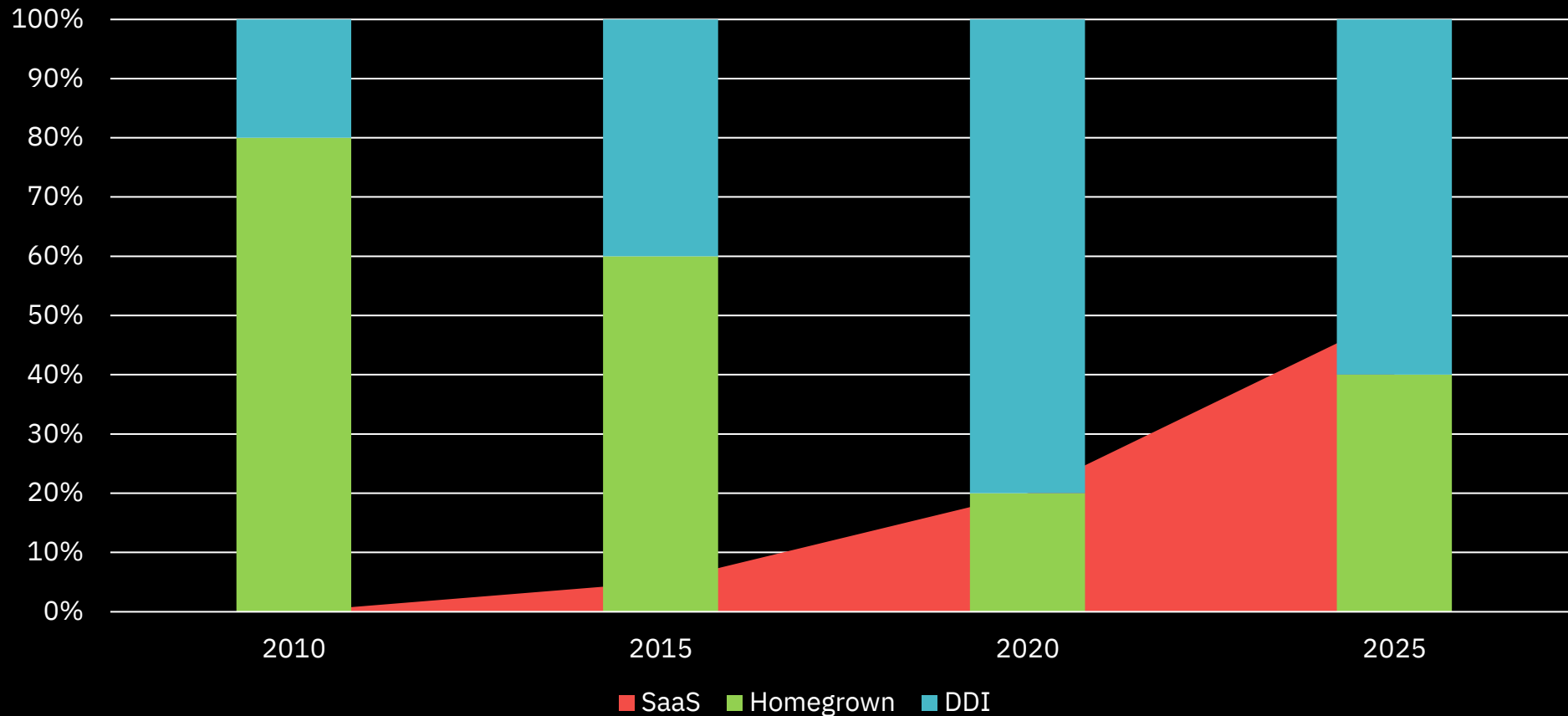
Scale
Extend workflow automation to all teams in the organization with self-service infrastructure as code and integrates with VCS, ITSM, and CI/CD.

netbox Organization Racks Devices IPAM Virtualization Circuits Log in

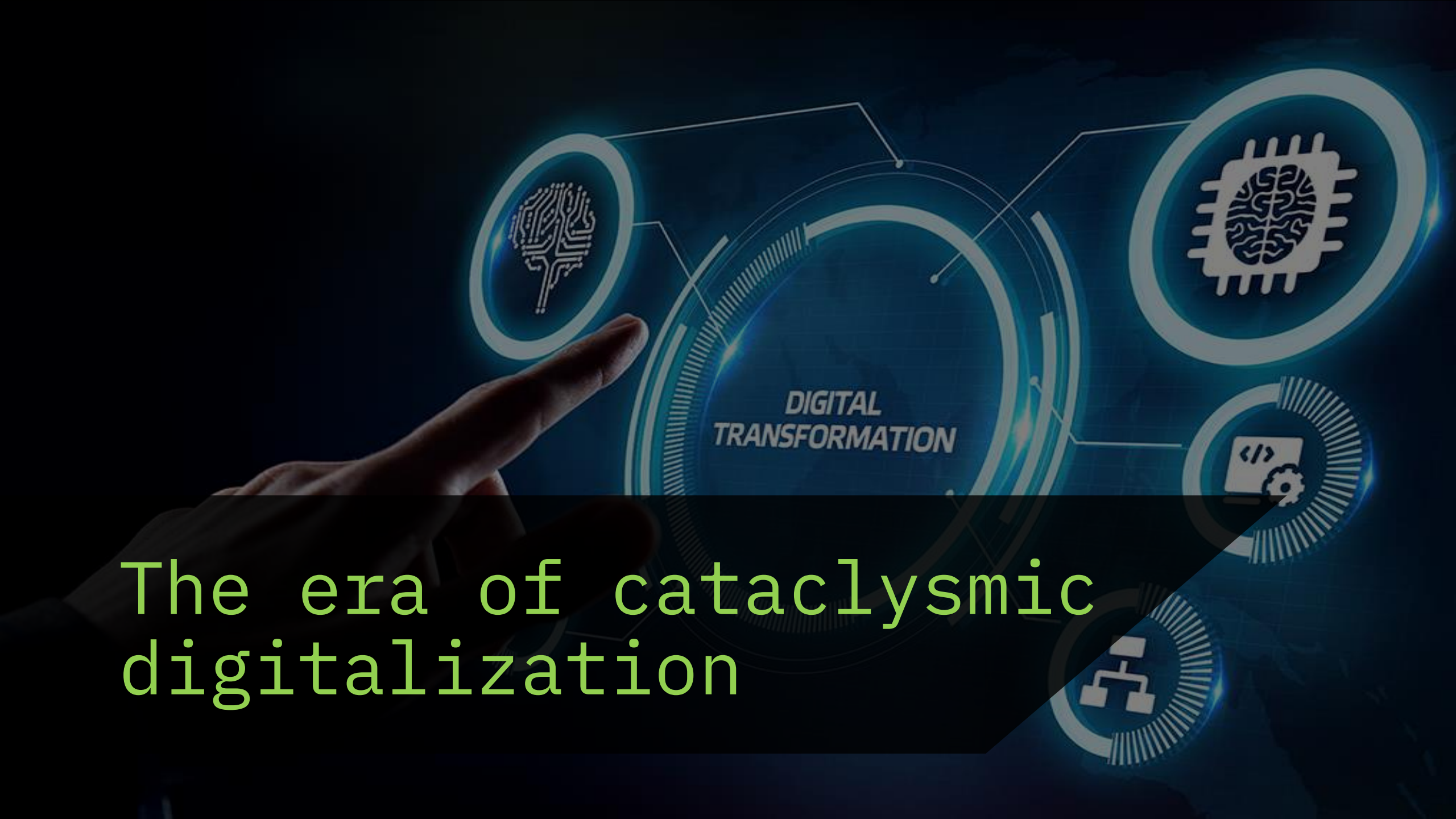
Search All Objects Search

Organization	IPAM	Global Topology Maps
Sites Geographic locations 2	VRFs Virtual routing and forwarding tables 0	None
Tenants Customers or departments 0	Aggregates Top-level IP allocations 0	Recent Activity
DCIM	Prefixes IPv4 and IPv6 network assignments 1	Deleted device server-9 admin - 2018-04-16 14:39
Racks Equipment racks, optionally organized by group 0	IP Addresses Individual IPv4 and IPv6 addresses 0	Modified site site-a admin - 2018-04-12 14:50
Devices Rack-mounted network equipment, servers, and other devices 10	VLANs Layer two domains, identified by VLAN ID 0	Created device server-8 admin - 2018-04-12 14:48

DDI over the past decade(s) and tomorrow



* Data from Gartner and Forrester market research



The era of cataclysmic digitalization

A brave new world...

IPAM struggles in a world where IP inventory becomes meaningless

IPAM is being superseded by DCIM and Network Source of Truth solutions

"The device is the new center of the network"

Cloud and Mesh deployments make DHCP obsolete

DHCP is making way for stateless IP and Infrastructure as Code solutions

"Automation is driving the decline of banal and repetitive tasks"

Enterprise DNS fights and prevails against DoH and serverless name resolution

Natural language becomes common when describing technical structures

"Our common denominator when connecting applications with audiences is DNS"