



Doku fürs Datacenter und Netzwerk

Sebastian Neuner, Tübix, 2025-07-05

Ich

- Sebastian Neuner
- Network Engineer bei



praktisch Ehrenamtlich bei



- benutzt/betreibt mehrere NetBox Instanzen
- Achtung: persönliche Meinung

netbox

- seit 2015 als Dokusystem für DigitalOcean
- OSS seit 2016 (Apache 2 License)
- immernoch stark in Entwicklung
- versteht sich als „source of truth“
- Python, Django, PostgreSQL
- sehr sehr relational
- Fork „nautobot“ von NtC ebenfalls verbreitet

 Organization Racks Devices Connections Wireless IPAM VPN Virtualization Circuits Power Provisioning Customization Operations Plugins Admin

Organization

- Sites (Standorte)
- Kunden
- Kontakte

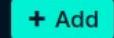
OBJECT TYPE	OBJECT	CONTACT	ROLE
Site	DM-Scranton	Dwight Schrute	Operational
Tunnel	gh	Michael Scott	Administrative
Site	DM-Scranton	Michael Scott	Administrative
Site	DM-Scranton	Pamela Halpert	Administrative

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Datacenter Inventory Management (DCIM)

- Racks
- Devices, (Types, Platforms), Interfaces, Modules, ...
- Kabel, Verbindungen (Wireless, Konsole)
- Strom (Module, Feeds, ...)

Devices

 + Add  Import  Export

Results 4

Filters 1

Site: DM-Yonkers

Save

Quick search



Configure Table



	NAME	STATUS	SITE	ROLE	TYPE	
	dmi01-yonkers-pdu01	Active	DM-Yonkers	PDU	AP7901	
	dmi01-yonkers-rtr01	Active	DM-Yonkers	Router	ISR 1111-8P	
	dmi01-yonkers-sw01	Active	DM-Yonkers	Access Switch	C9200-48P	
	Unnamed device	Active	DM-Yonkers	Патч-панель	48-Port Patch Panel	

- Organization
- Racks
- Devices
- Connections
- Wireless
- IPAM
- VPN
- Virtualization
- Circuits
- Power
- Provisioning
- Customization
- Operations
- Plugins
- Admin

dmi01-yonkers-rtr01

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Device

Interfaces 14Console Ports 2Power Ports 1

Config Context

Render Config

Contacts

Journal

Changelog

Device

Region —

Site DM-Yonkers

Location —

Rack Comms closet

Position U4 / Front

GPS Coordinates —

Tenant Customers / Dunder-Mifflin, Inc.

Device Type Cisco ISR 1111-8P (1U)

Description —

Airflow —

Serial Number —

Asset Tag —

Config Template —

Management

Status Active

Role Router

Platform Cisco IOS

Primary IPv4 —

Primary IPv6 —

Out-of-band IP —

Comms closet

Front

Rear

	Front	Rear
12	48-Port Patch Panel	12
11		11
10	dmi01-yonkers-sw01	10
9		9
8		8
7		7
6		6
5		5
4	dmi01-yonkers-rtr01	4
3		3
2		2
1	dmi01-yonkers-pdu01	1

[Organization](#)[Racks](#)[Devices](#)[Connections](#)[Wireless](#)[IPAM](#)[VPN](#)[Virtualization](#)[Circuits](#)[Power](#)[Provisioning](#)[Customization](#)[Operations](#)[Plugins](#)[Admin](#)

Devices / DM-Yonkers

dcim.device:13

dmi01-yonkers-rtr01

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Quick search

[Configure Table](#)

	NAME	LAG	IP ADDRESSES	CABLE	CONNECTION							
	GigabitEthernet0/0/1	—	#33	—		+	S	C	I	D	E	F
	GigabitEthernet0/0/99	—	#1	—		+	S	C	I	D	E	F
	GigabitEthernet0/1/0	Po1	#59	dmi01-yonkers-sw01 > GigabitEthernet1/0/1		+	S	C	I	D	E	F
	GigabitEthernet0/1/1	Po1	#60	dmi01-yonkers-sw01 > GigabitEthernet1/0/2		+	S	C	I	D	E	F
	GigabitEthernet0/1/2	—	—	—		+	S	C	I	D	E	F
	GigabitEthernet0/1/3	—	—	—		+	S	C	I	D	E	F
	GigabitEthernet0/1/4	—	—	—		+	S	C	I	D	E	F
	GigabitEthernet0/1/5	—	—	—		+	S	C	I	D	E	F
	GigabitEthernet0/1/6	—	—	—		+	S	C	I	D	E	F
	GigabitEthernet0/1/7	—	—	—		+	S	C	I	D	E	F
	GigabitEthernet0/1/8	—	—	—		+	S	C	I	D	E	F
	Wlan-GigabitEthernet0/1/8	—	—	—		+	S	C	I	D	E	F
	Cellular0/2/0	—	—	—		+	S	C	I	D	E	F

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IP Address Management (IPAM)

- IP-Addressen, Ranges
- Prefixes
- VRFs, VLANs

VID	NAME	SITE	STATUS
100	Data	DM-Akron	Active
200	Voice	DM-Akron	Active
300	Wireless	DM-Akron	Active

PREFIX	STATUS	VRF	UTILIZATION	TENANT	DESCRIPTION
10.112.0.0/15	Container	Global	<div style="width: 50.0%;">50.0%</div>	Dunder-Mifflin, Inc.	—
• 10.112.0.0/17	Container	Global	<div style="width: 0.0%;">0.0%</div>	Dunder-Mifflin, Inc.	DM HQ
• 10.112.128.0/17	Container	Global	<div style="width: 0.0%;">0.0%</div>	Dunder-Mifflin, Inc.	DM branch offices

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Connectivity

- VPN Tunnels, IKE/IPSec
- Circuits, Virtual Circuits, (-Types, -Providers)

CIRCUIT ID	PROVIDER	TYPE	STATUS
1002840283	CenturyLink	Internet Access	Active
1002840457	CenturyLink	Internet Access	Active

Termination Z

[Edit](#) [Swap](#) [Delete](#)

Termination point	FRA-DECIX
Site	
Connection	#2300 to [REDACTED] 4
	Trace Edit Disconnect
Speed	—
Cross-Connect	—
Patch Panel/Port	DE.FRA. [REDACTED] CPR.R02.ODF 18.



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Virtualization

- Cluster
- VMs
- Interfaces, Disks

Virtual Machines / DO-AMS3 virtualization.virtualmachine:36

vm1
Created 2021-04-05 00:00 · Updated 2021-04-05 21:15

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Virtual Machine Cluster

Name	vm1	Site	—
Status	Active	Cluster	EMEA / DO-AMS3
Role	Application Server	Cluster Type	DigitalOcean
Platform	Ubuntu Linux 20.04	Device	—
Description	—	Resources	
Serial Number	—	Virtual CPUs	—
Tenant	—	Memory	—
Config Template	—	Disk Space	—
Primary IPv4	—		

Organization

Racks

Devices

Connections

Wireless

IPAM

VPN

Virtualization

Circuits

Power

Provisioning

Customization

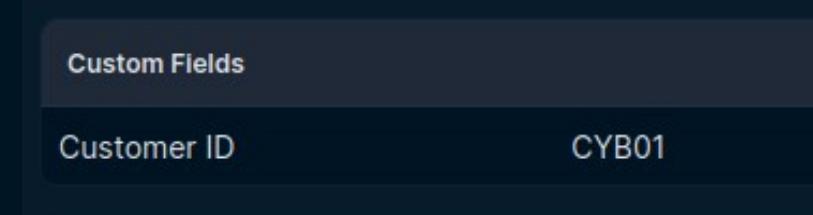
Operations

Plugins

Admin

Automation, Customization

- Config Templates/Contexts
- Custom Fields/Links + Tags
- Scripts
- Data Sources, Webhooks
- Logging
- REST, GraphQL



Start von 0

- Lerneffekte, z.B.
 - Patchpanels richtig anlegen und verkabeln
 - Was wird kaskadierend gelöscht?
 - Tags vs. Custom Fields
- initialer Aufwand, z.B.
 - Device Types anlegen
 - Doku ist sowieso Aufwand
- es gibt Hilfe
 - <https://github.com/netbox-community/devicetype-library>
 - <https://github.com/netbox-community/awesome-netbox>

Betrieb

- relativ häufige Updates
 - Breaking Changes sind gut beschrieben
 - Plugins und Custom Scripts werden ggf. inkompatibel und müssen angepasst werden
- Keine Undo-Funktion
 - Backups
 - Sensibilisierung der User
 - Branching plugin
- es gibt NetBox hosted
 - NetBox Cloud
 - auch von Firmen aus der Region

Danke