


# Modules / VMs

Module	Component	Required	Link
CNaaS-NMS	API	Yes	<a href="https://cnaas-nms.readthedocs.io/en/latest/">https://cnaas-nms.readthedocs.io/en/latest/</a>
	ZTP DHCP	Yes	
	PostgreSQL	Yes	
	Redis	Yes	
	HTTP	Yes	
CNaaS-Front	WebUI	No	<a href="https://github.com/SUNET/cnaas-front/">https://github.com/SUNET/cnaas-front/</a>
SUNET Auth	JWT auth	Yes	<a href="https://github.com/SUNET/auth-server-poc">https://github.com/SUNET/auth-server-poc</a>
CNaaS-NAC	API	No	
	Radius	No	
	Postgres	No	
	Captive Portal	No	
Monitoring	NAV	Yes	<a href="https://nav.uninett.no/">https://nav.uninett.no/</a>
	Nagios	Yes	<a href="https://www.nagios.org/">https://www.nagios.org/</a>
	Syslog	Yes	Graylog
IPAM	IPAM	No	<a href="https://spritelink.github.io/NIPAP/">https://spritelink.github.io/NIPAP/</a> <a href="https://github.com/digitalocean/netbox">https://github.com/digitalocean/netbox</a>
	Client DHCP	No	
Backup	oxidized	No	<a href="https://github.com/ytti/oxidized">https://github.com/ytti/oxidized</a>
Inventory	NI	No	<a href="https://github.com/SUNET/ni">https://github.com/SUNET/ni</a> netbox?
Security	Netflow	No	
	SIEM?	No	
	Vulnerability scanner	No	

Each module will run in a separate Virtual Machine, and each component in that module will run in a separate container.

## Virtual Machine requirements

 This sizing information is not verified/tested

Module	Limit	Requirements
CNaaS-NMS large	50-1000(?) managed devices	4 cores 16G RAM 100G disk, medium IOPS
CNaaS-NMS small	1-50 managed devices	2 cores 8G RAM 50G disk, medium IOPS
CNaaS-NAC	10 000 clients	4 cores 4G RAM 200G disk, medium IOPS

NAV large	200 managed devices	8 cores 32G RAM 100G disk, high IOPS
graylog large	200 managed devices	8 cores 16G RAM 50G disk, low IOPS
auth/front/ni	200 managed devices	1 cores 1G RAM 40G disk, low IOPS