HelpDesk, OpfraSu

User Guide

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1. Introduction

Infraknit Helpdesk is a flexible, IT Service Management (ITSM) and Configuration Management Database (CMDB) solution. It is designed to help IT teams streamline operations and maintain a comprehensive inventory of IT assets, infrastructure, and relationships. Infraknit helpdesk provides a web-based interface that facilitates collaboration among IT administrators, service desk agents, and other stakeholders.

2. Key Features

- **CMDB Functionality:** Centralized repository for storing and managing details about IT assets, configurations, and their dependencies.
- **ITIL-Compliant Processes:** Support for best practices in IT service management, including incident, problem, change, and service request management.
- **Customizable Workflows:** Ability to adapt workflows and data models to match organizational requirements.
- **Service Desk:** Tools for managing tickets, tracking service requests, and resolving incidents efficiently.
- **Multi-Tenant Support**: Features for managing assets and services across multiple organizations or departments.
- **Dashboard and Reporting:** Real-time insights into operational performance through configurable dashboards and detailed reports.

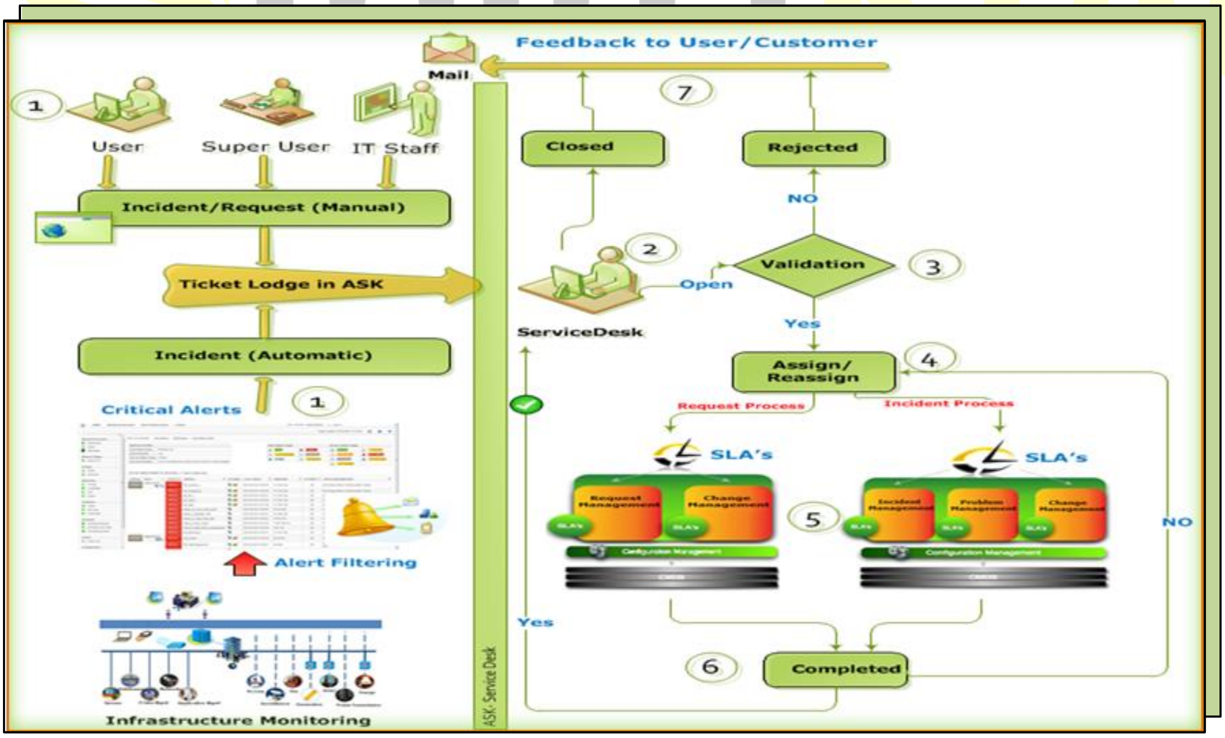


Figure 1 HelpDesk Architecture

These are the following services provided by HELPDESK

1. Asset Management
2. IP Management
3. DNS Management
4. DHCP Management
5. Request Management
6. Incident management
7. Problem Management
8. Knowledge management
9. Change Management
10. Service Management
11. Data Administration
12. Configuration

2.1 Helpdesk Supports You

- Quickly route requests to the right support.
- Increase productivity for helpdesk agents, support staff and users.
- Track performance against service level agreement to ensure that commitments are fulfilled.
- Identify root causes to eliminate recurring incidents.
- Search solutions with the help of specified keywords.
- Facilitates impact and analysis of changes with respect to Cis.
- Reduce call support duration and volumes.
- Establishes a historical record of service disruptions and resolutions for reuse and analytics.

- HELPDESK can be used by different Users :
  - Help Desk Agent
  - Support Engineers(L1support, L2 support, L3 support)
  - Service Manager
  - IT Manager

Configuration Management Structure

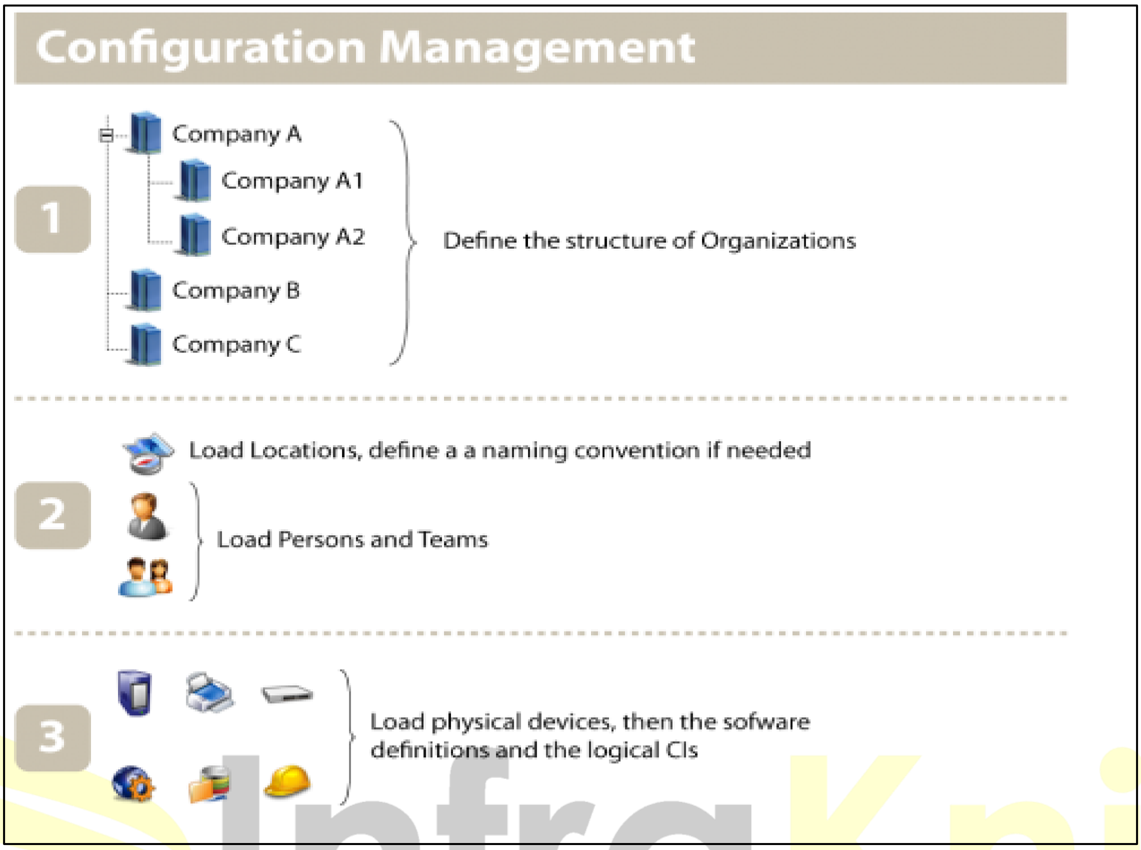


Figure 2 Features of HelpDesk

2.2 Creating organizations

When planning a deployment of Helpdesk, the first decision to be made is about the structure of Organizations. In helpdesk, Organizations are used for two main purposes: the description of customers and providers entities and the partitioning of the data, from the security point of view. Almost all the objects loaded in helpdesk have a relation with an Organization; therefore it is important to create a proper structure of Organizations before loading other objects into helpdesk.

To create a new organization use the following steps:

1. Go to “Data Administration” module.
2. Click on organization.
3. Click on new below search box and submit your detail.

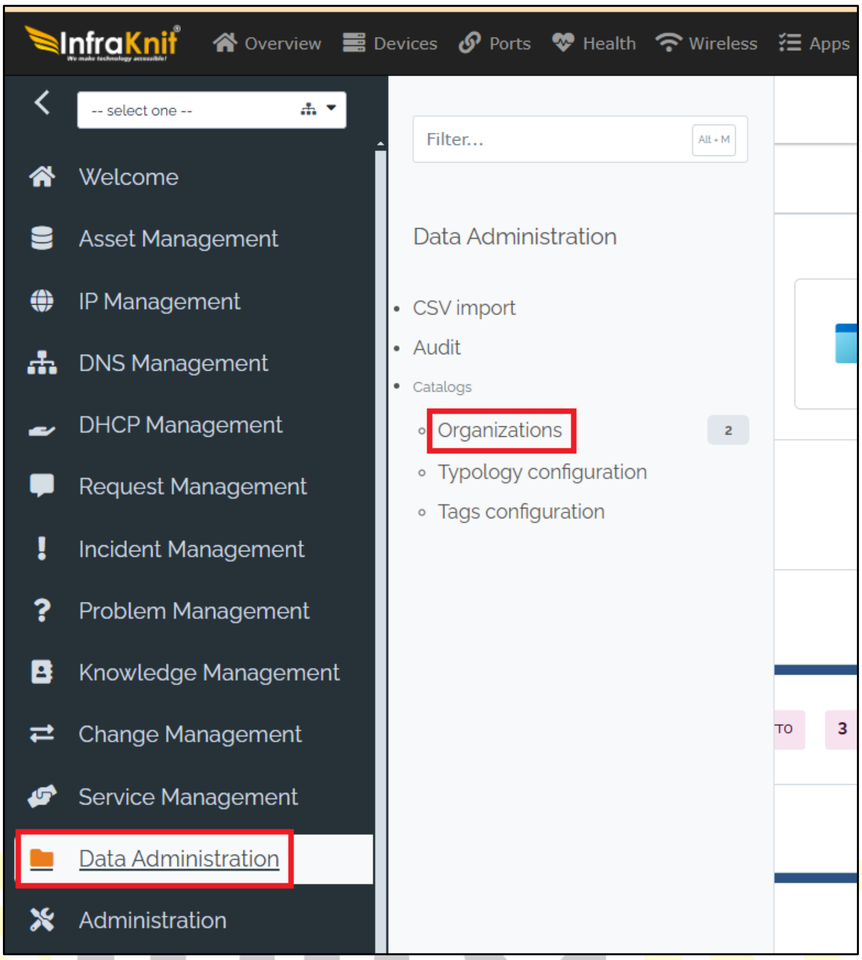


Figure 3 Create Organization

3. Asset Management

The Asset Management module is mandatory module of helpdesk. It contains the definition of all the basic building blocks of the CMDB: Organizations, Contacts (Persons and Teams) as well as the usual physical devices (Servers, Network Devices...), software elements (DB Server, Database Schemas, Licences, Patches...) and the relations between all these objects.

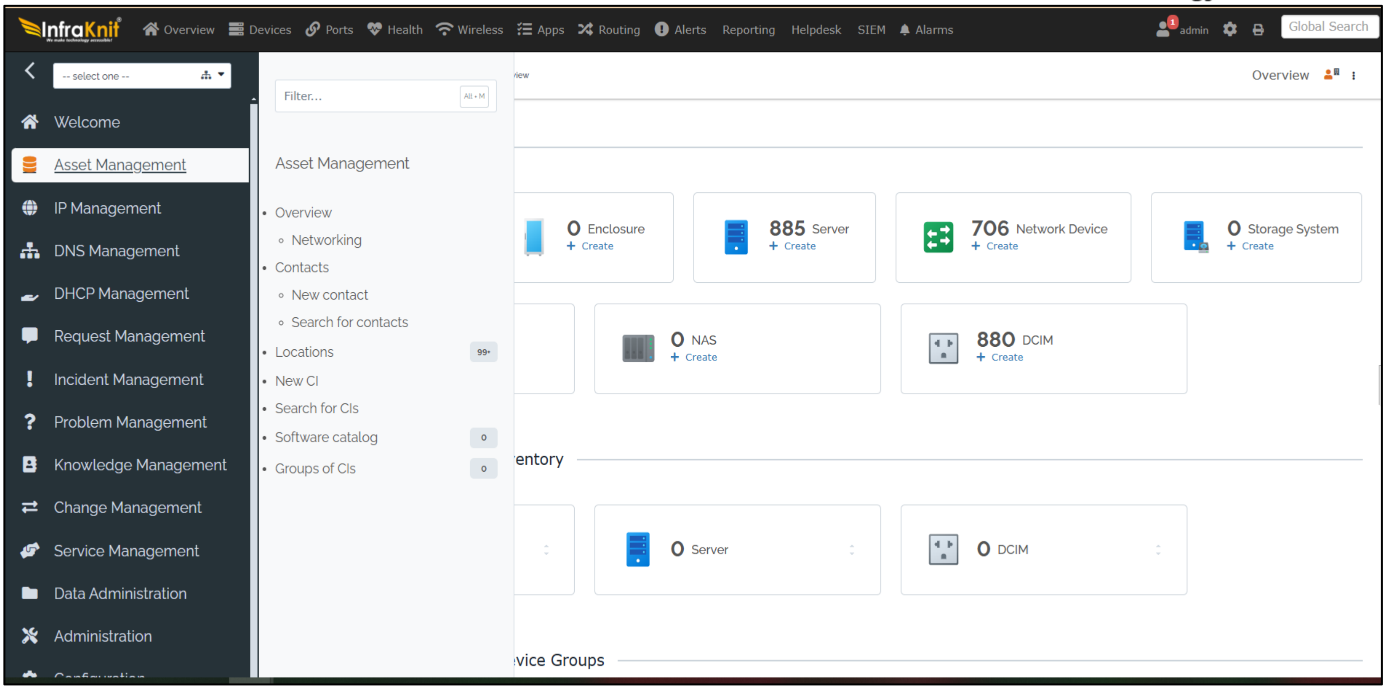


Figure 4 HelpDesk Menu

Contacts Person

The class Person is used to describe physical persons as contacts in the CMDB. Persons can be grouped into Teams. Persons can be linked to other configuration items (for example to describe who to contact in case of problem with an application). In helpdesk the caller of a User request is a Person as well as the agent assigned to resolve it.

3.1 Contact Properties

The class Person is used to describe physical persons as contacts in the CMDB. Contacts can be grouped into Teams. Contacts can be linked to other configuration items (for example to describe whom to contact in case of problem with an application). In helpdesk, the caller of a User request is a contact as well as the agent assigned to resolve it.

Name	Type	Mandatory
Last Name	Alphanumeric string	yes
First Name	Alphanumeric string	Yes
Organization	Foreign key to a(n) Organization	Yes
Status	Active or Inactive	Yes
Location	Foreign key to a(n) Location	No
Function	Alphanumeric string	No
Manager	Foreign key to a(n) Person	No
Employee Number	Alphanumeric string	No
Email	Email address	No
Notification	Yes or No	No
phone	Alphanumeric string	No

Mobile Phone	Alphanumeric string	No

Creating a new Contact

Click on **“new contact”** in Asset Management module.

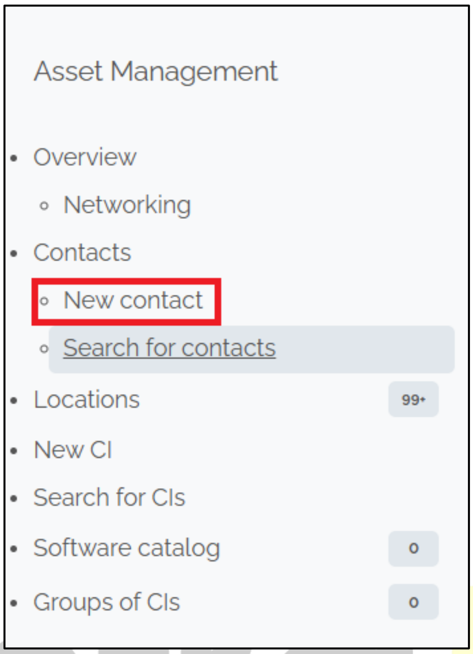


Figure 5 New Contact

Then Select “Person” From the Drop Down in displayed. Similarly, you can create new team.

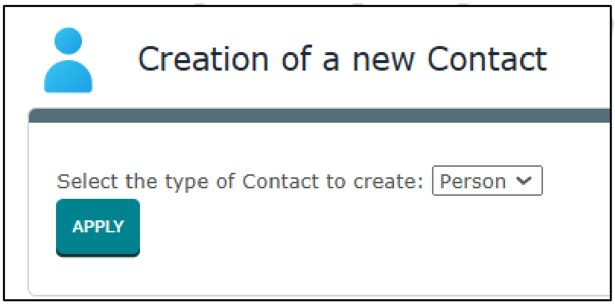


Figure 6 New Contact (2)

And click “Apply” to display the Contact creation form.

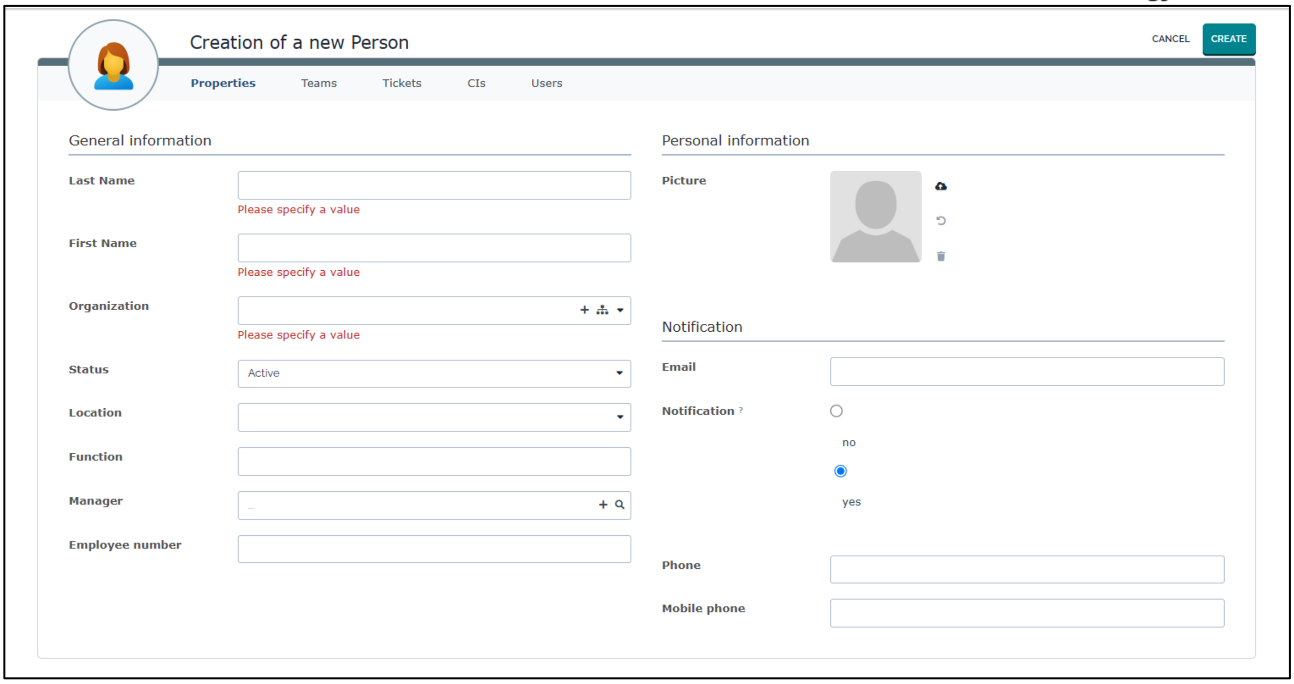


Figure 7 New Contact Form

Fill the details and click on “create” to generate new contact.

3.2 Team

A team represents a group of persons. In helpdesk Teams can be used to: associate a set of persons to a given configuration item, create a “workgroup” for assigning tickets or group persons for receiving notifications.
A Team cannot be a member of another Team.

Team can be created from new contact by same procedure as describe in creation of new person.

Click on **“new contact”** in Asset Management module.

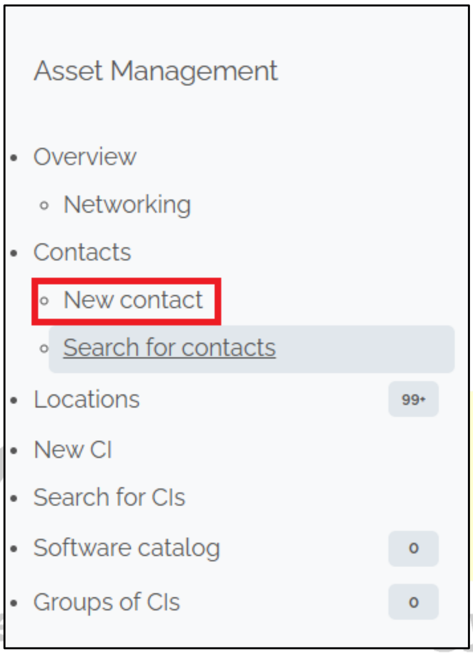


Figure 8 New Team

Then Select “Team” From the Drop Down in displayed. Similarly, you can create new team.

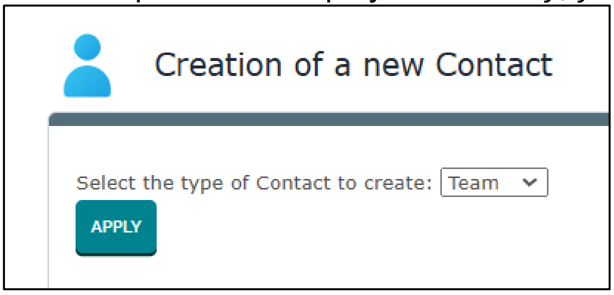


Figure 9 Assign Contact to Team

And click “Apply” to display the Team creation form.

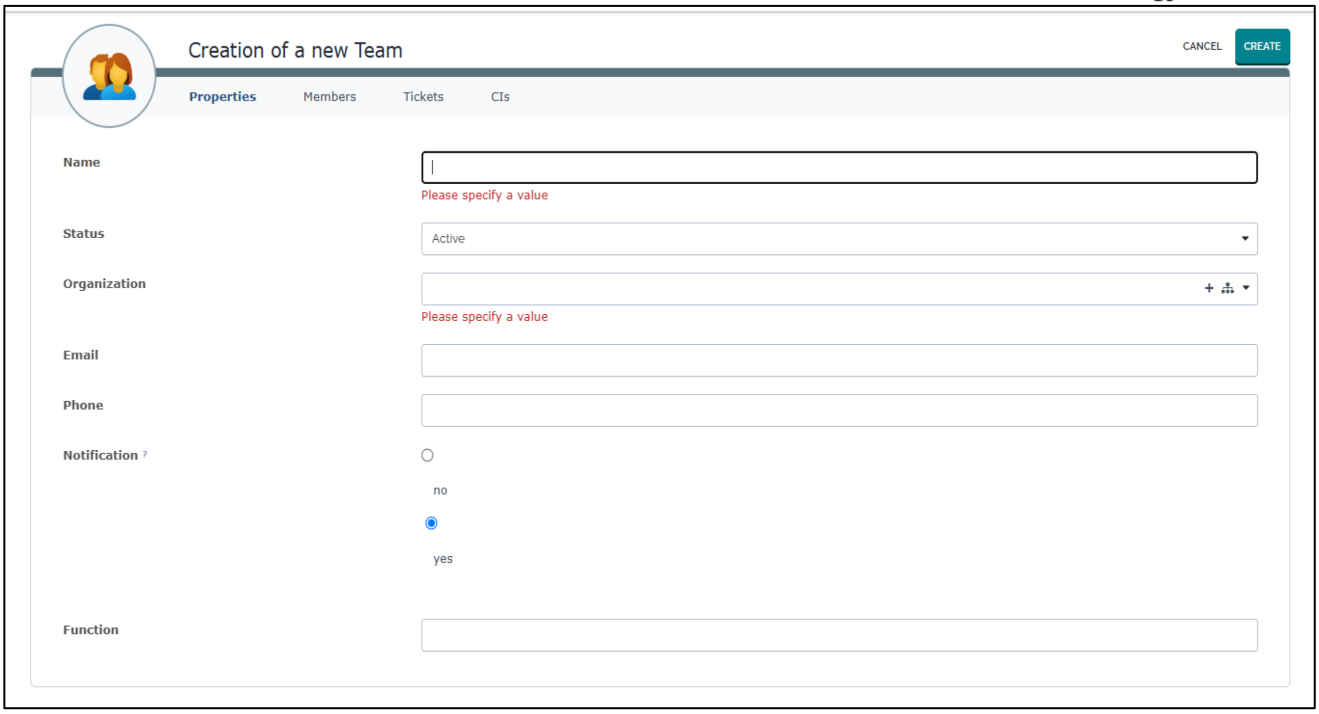


Figure 10 Creation of New Team

To add members to the Team, click on the tab “Members” and use the buttons to Add/Remove Persons from the list.
You can also specify a “Role” for each member of the Team.

3.3 New CI:-

Click on new CI in Asset Management module and choose your category from the drop down as shown below.

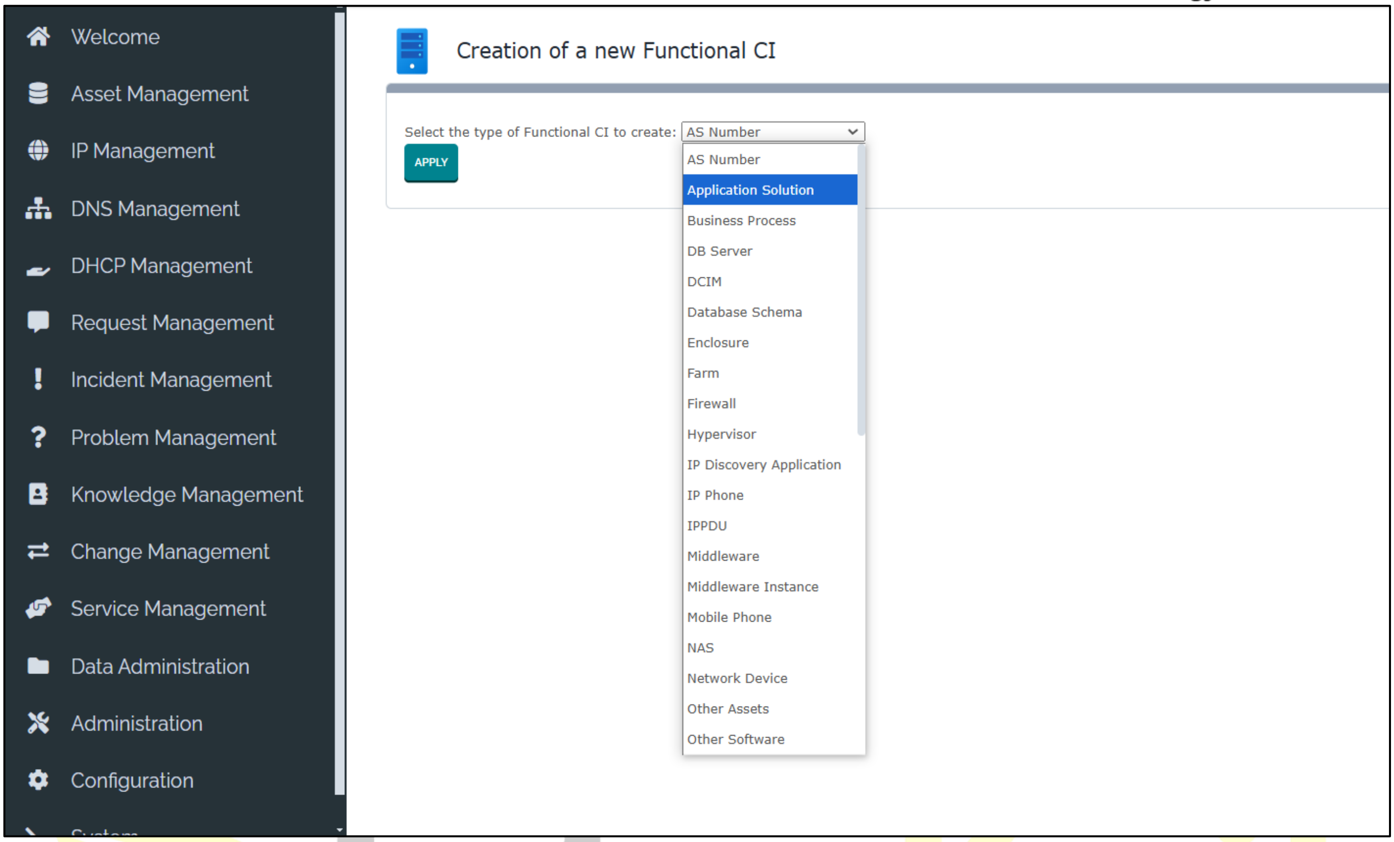


Figure 11 New CI

3.4 Application Solution

Application Solutions describe complex applications that are made of (or depend on) several basic components. They are a specialized type of “Group” for documenting large applications. The main information conveyed by an Application Solution is its list of relationships.

The application solutions are used to document application architecture. You can define all element used by this application: Servers, software, data bases …

This is really useful to analyze how applications are impacted by infrastructure elements.

“Application solution” menu displays all business processes belonging to selected organization.

Attributes for an application solution displayed in the “Properties” tab

Attributes	Description	Mandatory
Name	Name of the location	Yes
Organization	Organization to which location belongs to	yes
Status	Active/ inactive	NO
Business criticality	Criticality for this business process	NO
Move to production date	Date (year-month-day)	NO
Description	Description for this business	No

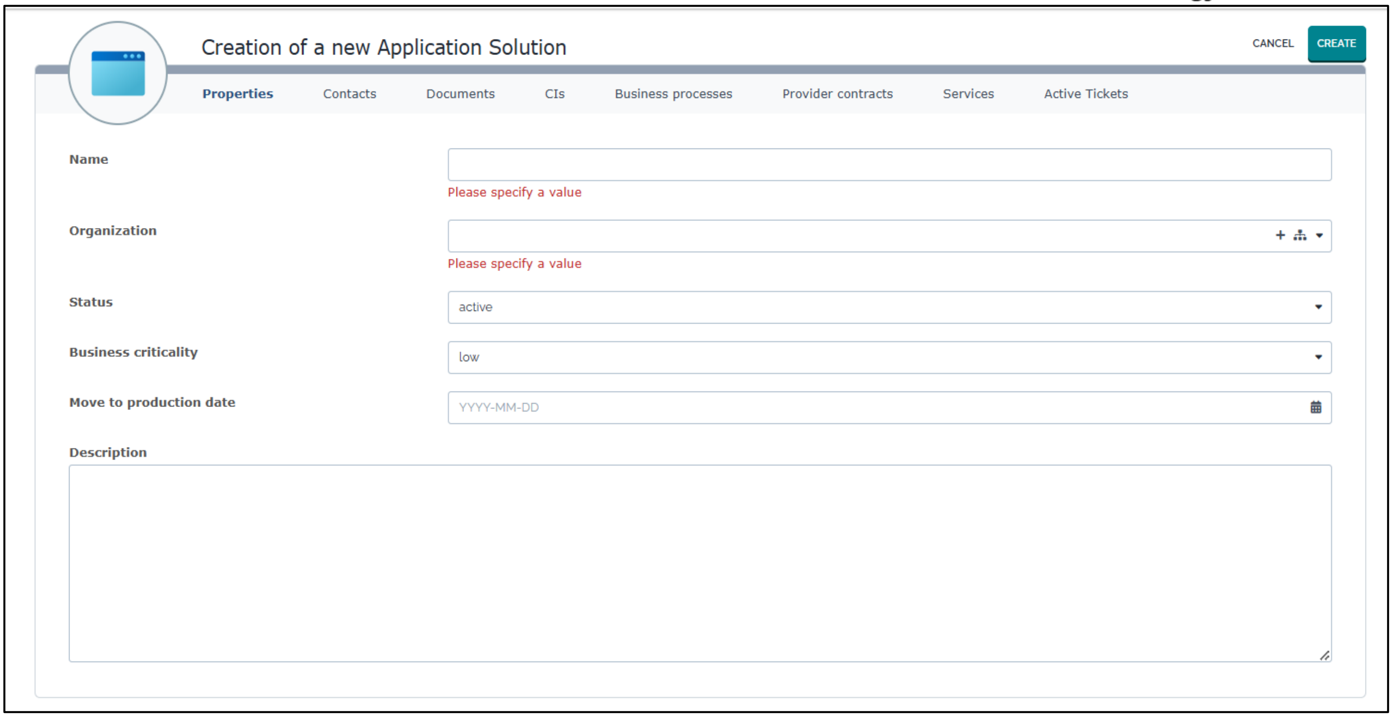


Figure 12 New Application Solution

“Contacts” tab displays all contacts for this application solution.

“Documents” tab displays all documents related to this application solution.

“Provider Contracts” tab displays all contracts covering this application solution.

“Active Tickets” tab displays all tickets (Incident, Problem and Change) impacting this application solution.

“CIs” tab displays all CIs used by this application solution.

“Business Processes” tab displays all business processes impacted by this application Solution.

3.5 DB Server

An instance of database server software (like MySQL, Oracle, SQL Server, DB2…) running on a particular system (PC, Server or Virtual Machine).

DB Server Properties:-

Attribute	Description	Mandatory
Name	Name of server	yes
Organization	Organization to which db server belongs to	yes
Status	Active/inactive	No

Business criticality	Possible values(low, high, medium)	No
System	Foreign key to a(n) Functional CI	Yes
Software	Foreign key to a(n) Software	No
Software license	Foreign key to a(n) Software License	No
Path	Alphanumeric string	No
Move to production date	Date (year- month-day)	No
Description	Multiline character string	No

3.6 Creation of a new DB Server

The following steps are used for new DB Server creation

1. Go to new CI in Asset Management module.
2. Select DB Server from drop down and click “Apply”.
3. Fill the details in display page as shown below.

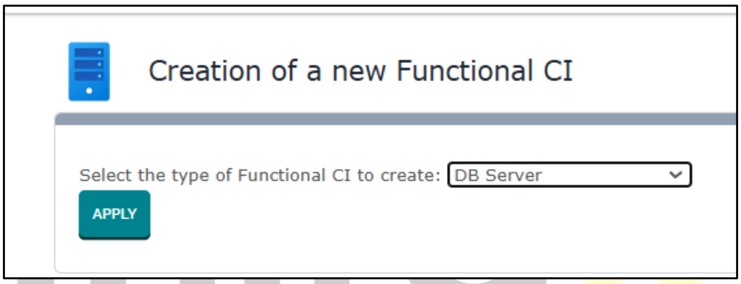


Figure 13 New Functional CI

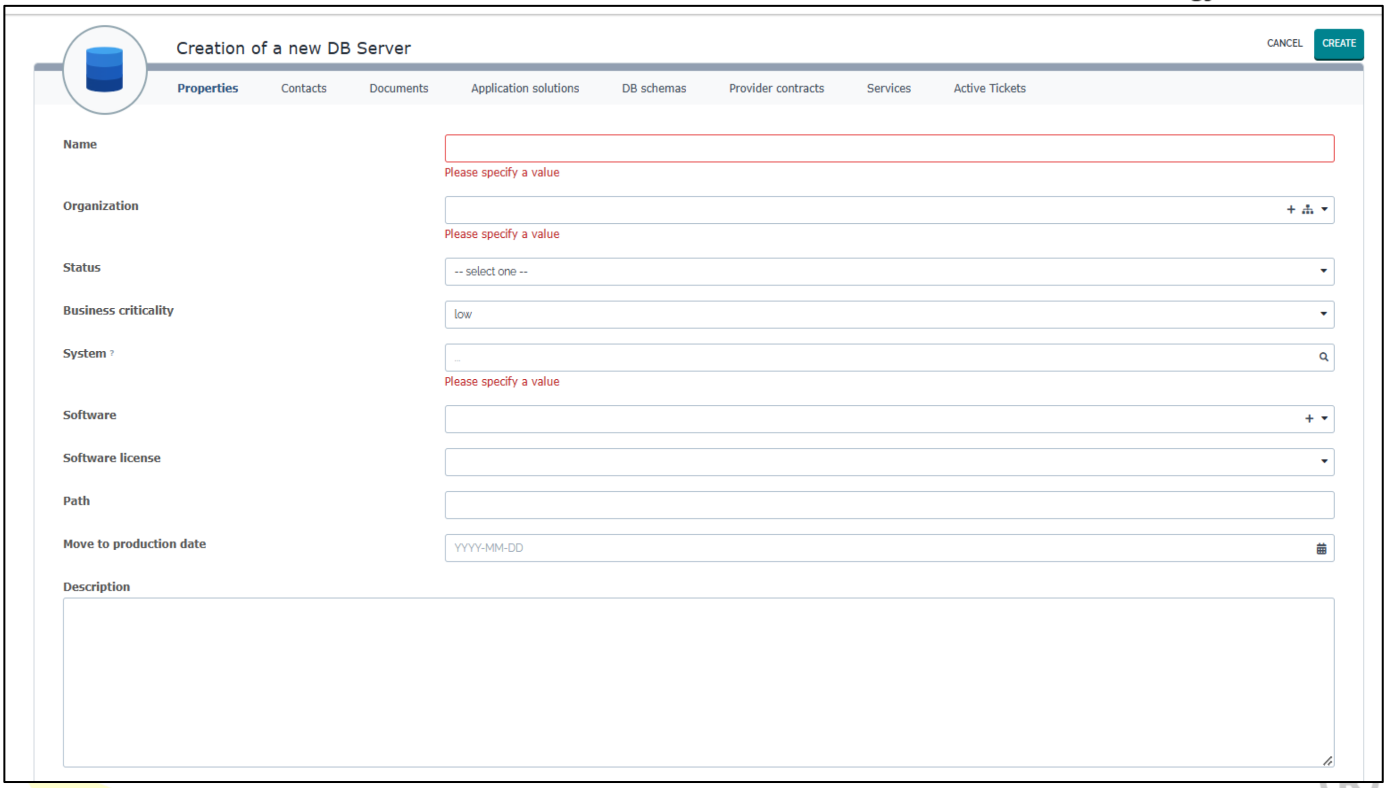


Figure 14 Creation of New DB Server

Tab	**Description**
Contacts:	All the contacts for this configuration item.
Documents:	All the documents linked to this configuration item.
Tickets:	All the tickets for this configuration item.
Application solutions: item.	All the application solutions depending on this configuration
DB schemas:	All the database schemas for this DB server.
Provider Contracts:	All the provider contracts for this configuration item.

Middleware

An instance of middleware software (software offering services to other software, or enterprise integration software) installed on a particular system (PC, Server or Virtual Machine). For example: Tomcat, J Boss, Talend, Microsoft BizTalk, IBM Websphere or Lotus Domino can be put under this category.

Name	Type	Mandatory
Name	Name of the middleware	yes
Organization	Foreign key to a(n) Organization	yes
Status	Active/inactive	No
Business criticality	Low/high/medium	No
System	Foreign key to a(n) Functional CI	yes

Software	Foreign key to a(n)	No
Software license	Foreign key to a(n) Software License	No
Path	Alphanumeric string	No

3.7 Creation of new Middleware

1. Click on new CI in Asset Management module.
2. Select Middleware from drop down and click Apply.
3. Enter details in middleware creation form.

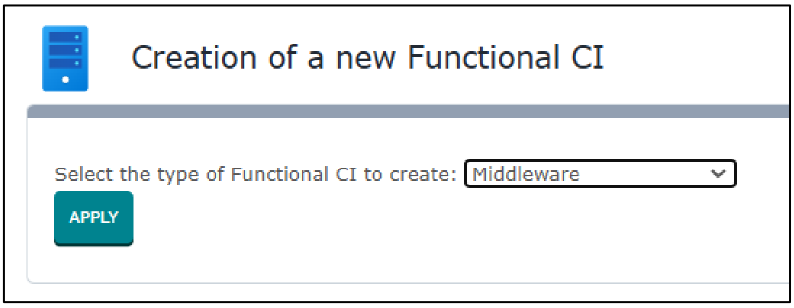


Figure 15 Creation of New Middleware

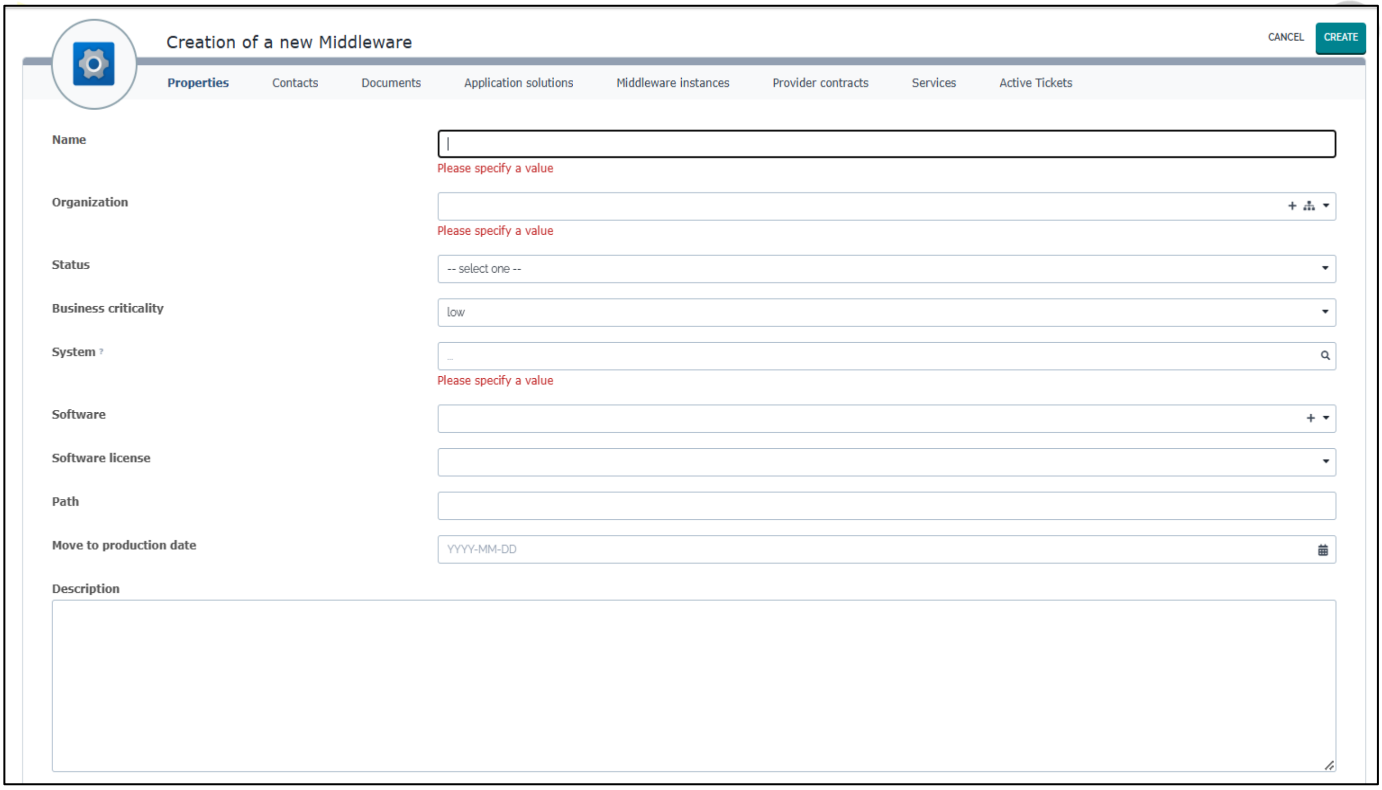


Figure 16 Creation of New Middleware(2)

3.8 Relations

- Impacts: A Middleware impacts all its Middleware Instances, as well as the Application Solutions it belongs to A Middleware also impacts the contacts (Persons or Teams) linked to it.

- Depends on: A Middleware is considered as depending on the system (PC, Server or Virtual Machine) on which it runs.

3.9 Network Device

Any type of network device: router, switch, hub, load balancer, firewall…

This type of configuration item is whatever laptop or desktop installed in you IT. “Network Device” menu displays all network devices documented for the selected organization.

Network Device Properties

Name	Type	Mandatory
Name	Name of device	Yes
Organization	Foreign key to a(n) Organization	Yes
Status	implementation, obsolete, production, stock	No
Business criticality	high, low, medium	No
Location	Foreign key to a(n) Location	No
Rack	Foreign key to a(n) Rack	No
Enclosure	Foreign key to a(n) Enclosure	No
Network type	Foreign key to a(n) Network Device Type	Yes
Brand	Foreign key to a(n) Brand	No
Model	Foreign key to a(n) Model	No
RAM	Alphanumeric string	No
Serial number	Alphanumeric string	No
Asset number	Alphanumeric string	No
Move to production date	Date (year-month-day)	No
Purchase date	Date (year-month-day)	No
End of warranty	Date (year-month-day)	No
Power A source	Foreign key to a(n) Power Connection	No
Power B source	Foreign key to a(n) Power Connection	No
Description	Multiline character string	No

3.9.1 Creating a new Network Device

1. Click on new CI in Asset Management module.
2. Select network device from drop down and click Apply.
3. Fill the device creation form.

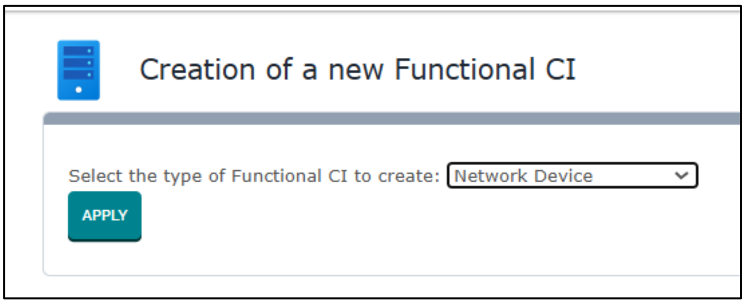


Figure 17 Creation of New Network Device

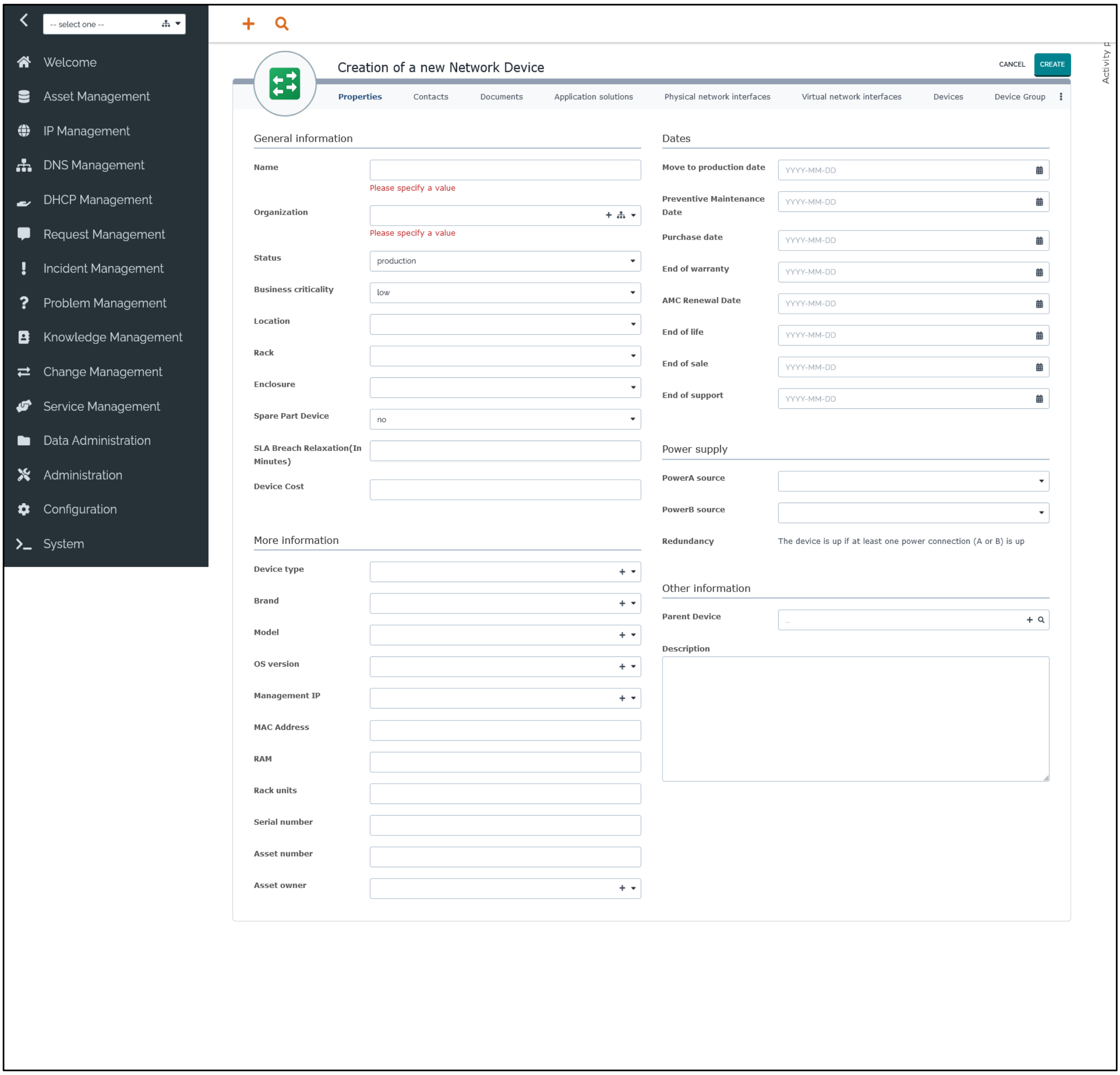


Figure 18 Creation of New Network Device

Tab	Description
Contacts	All the contracts for this configuration item
Documents	All the documents linked to this configuration item
Active Tickets	All the active tickets for this configuration item
Network interfaces	All the physical network interfaces
Devices	All the devices connected to this network device
Provider contracts	All the provider contracts for this configuration item

Software catalog

Helpdesk can manage the software installed on a server. There are two type of software: database and other software. An instance of software, installed on a server is always related to software catalog in the “Asset Management” module.

To create a new installed software, click on “Configuration Items” menu and “New Application instance” or “New database instance” depending on the type of you soft- ware. Or use the tab “Application” from a server object.

Other Software

Any type of software that do not fit in the other categories: PC Software, Middleware, DB server or Web Server.

3.9.2 Creating a new Other Software

1. Go to new CI in Asset Mangement module.
2. Select other software from drop down and click “apply”.
3. Enter your details in software creation form.

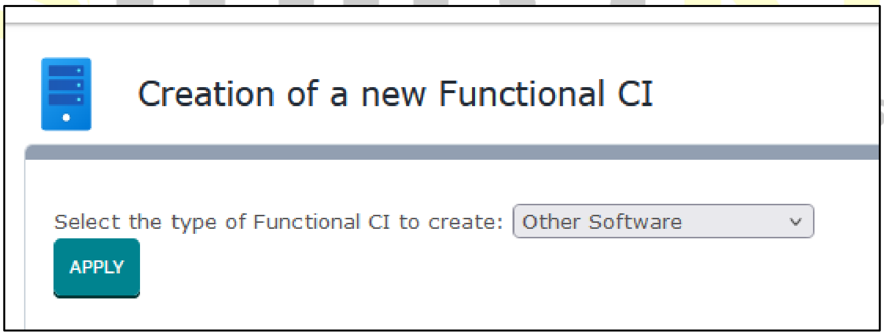


Figure 19 Creation of New (other) Software

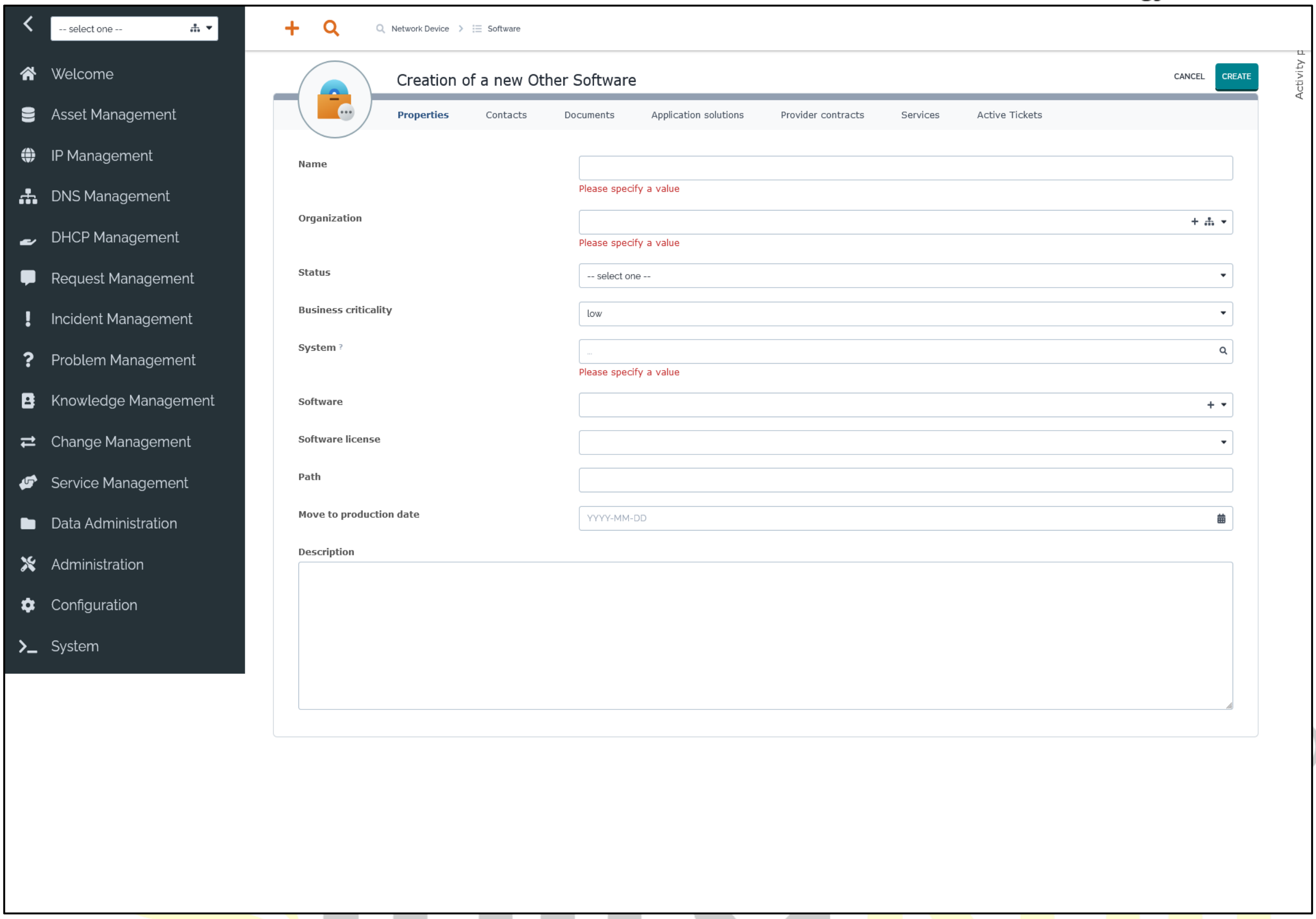


Figure 20 Creation of New (other) Software

Relations

- Impacts: an Other Software impacts all its instances, the Application Solutions it belongs to and all the contacts (Persons or Teams) directly linked to it.
- Depends on: an Other Software is considered as depending on the system (PC, Server or Virtual Machine) on which it runs.

Attributes for an application displayed in the “Properties” tab.

Attribute	Description	Mandatory
Name	Name of this software	yes
Status	Active/inactive	No
Owner organization	Organization to which this belongs to	yes
Business criticality	Possible value(high, low, medium)	No
System	Foreign key to a(n) Functional CI	Yes

Software	Foreign key to a(n) Software	No
Software license	Foreign key to a(n) Software License	No
Path	Alphanumeric string	No
Move to production date	Date (year-month-day)	No
Description	Multiline character string	No

Tag	Description
Contacts	All the contracts for this configuration item
Documents	All the documents linked to this configuration item
Tickets	All the tickets for this configuration item
Application solutions item	All the application solutions depending on this configuration
Provider contracts	All the provider contracts for this configuration item

PC Software

An instance of a software application installed on a PC. (For example: an instance of MS Office, Corel Draw, Adobe Photoshop or Filezilla).
Use following steps to create a new PC Software.

3.9.3 Creating a new PC Software

1. Go to new CI in Asset Management module.
2. Select PC Software from drop down and click “Apply”.
3. Fill details in software creation form.

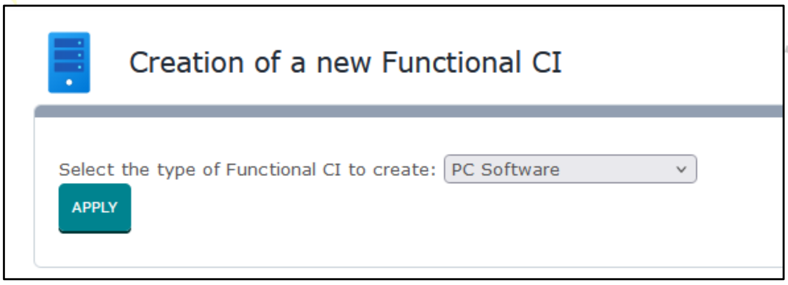


Figure 21 Creation of New PC Software

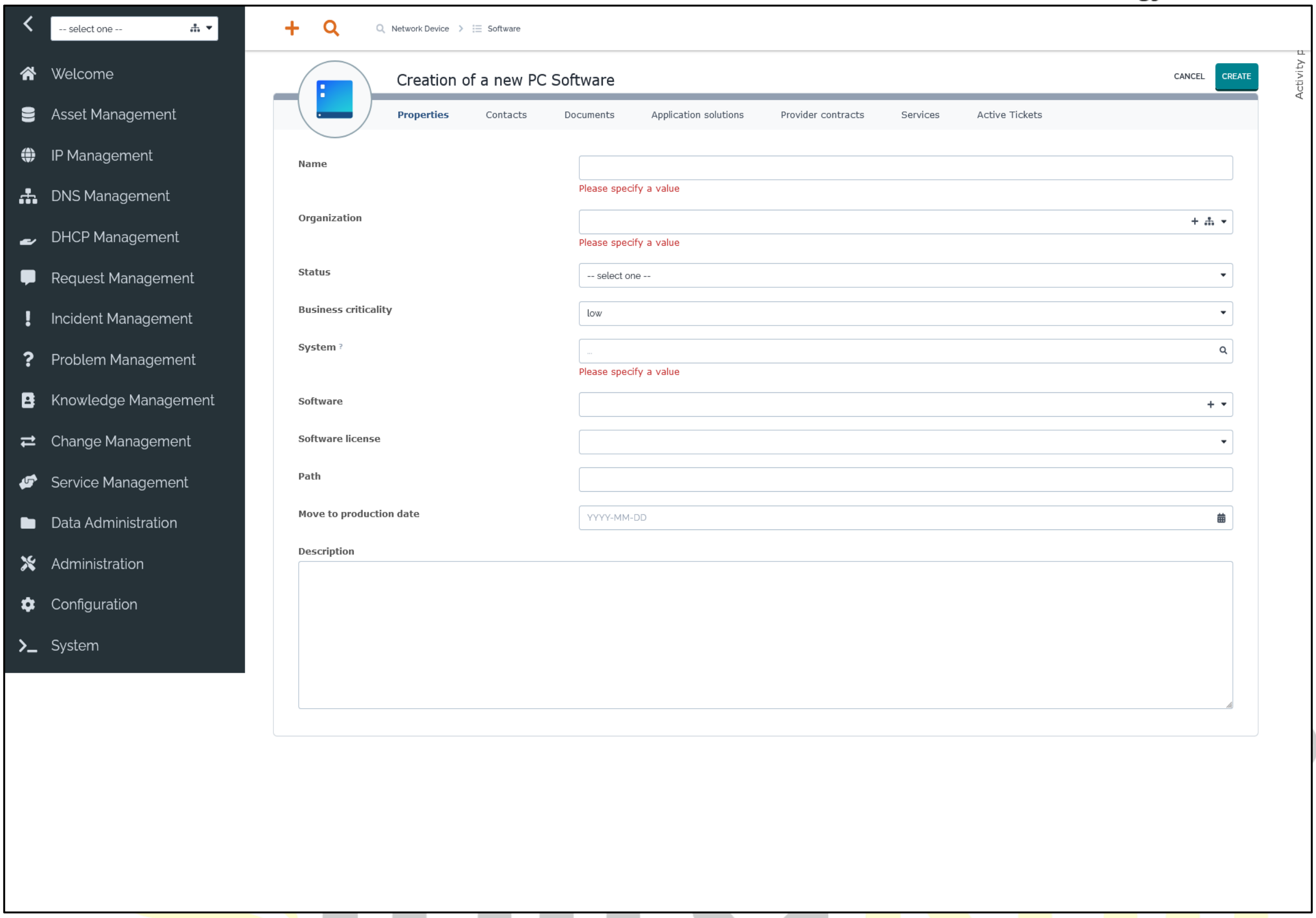


Figure 22 Creation of New PC Software(2)

Relations

- Impacts: a PC Software impacts all its instances, the Application Solutions it belongs to and all the contacts (Persons or Teams) directly linked to it.
- Depends on: a PC Software is considered as depending on the PC on which it runs.

Software Catalog

A generic item of a software in the software catalog. Software instances installed on a particular system always refer to a given Software. HELPDESK splits the software in 5 categories: DB Servers, Middleware, PC Software, Web Servers and Other Software.

Software Properties

Attribute	Type	Mandatory
Name	Name of the software	yes
Vendor	Vendor name	Yes

Version	Type of version	yes
Type	Possible values: DB Server, Middleware, Other Software, PC Software.	No

3.10 Creating a Software Catalog

1. Click on software catalog.
2. Click on new to display software creation form.

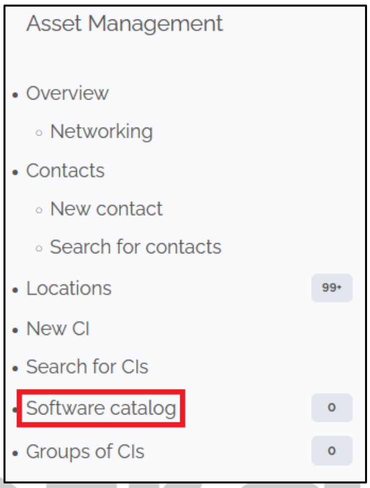


Figure 23 Creation of Software Catalog

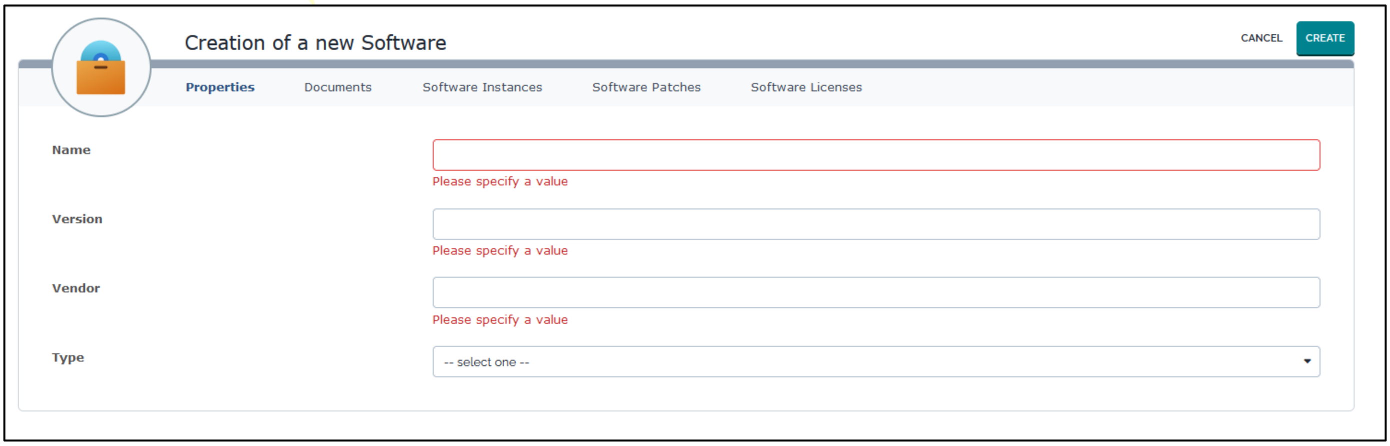


Figure 24 Creation of Software Catalog

Group of Cis

Any arbitrary group of CIs. Groups can be used to define explicit sets of configurations items for any documentation purpose. For example when doing an OS migration, it can be convenient to create a group “Servers to be migrated” and to remove the servers from the group as the migration progresses.

Using Helpdesk you can group object together. Groups can be used for modeling any operational need. For instance documenting all devices monitored by a given application. The “Group of CIs” menu displays all groups created for the selected organization.

Name	Type	Mandatory
Name	Name of group	yes
Status	Implementation, Obsolete, Production	yes
Organization	Foreign key to a(n) Organi-zation	Yes
Type	Alphanumeric string	No
Description	Multiline character string	No
Parent Group	Foreign key to a parent Group	No

3.11 Creation of New Group

1. Click on Groups of CIs.
2. Click on “create a new group”.
3. Fill your details in group creation form.

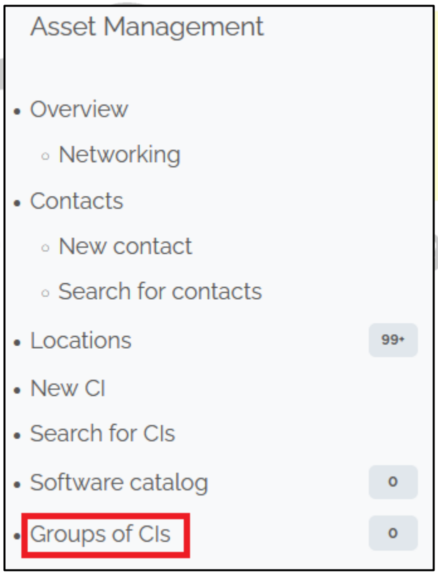


Figure 25 Group of CI

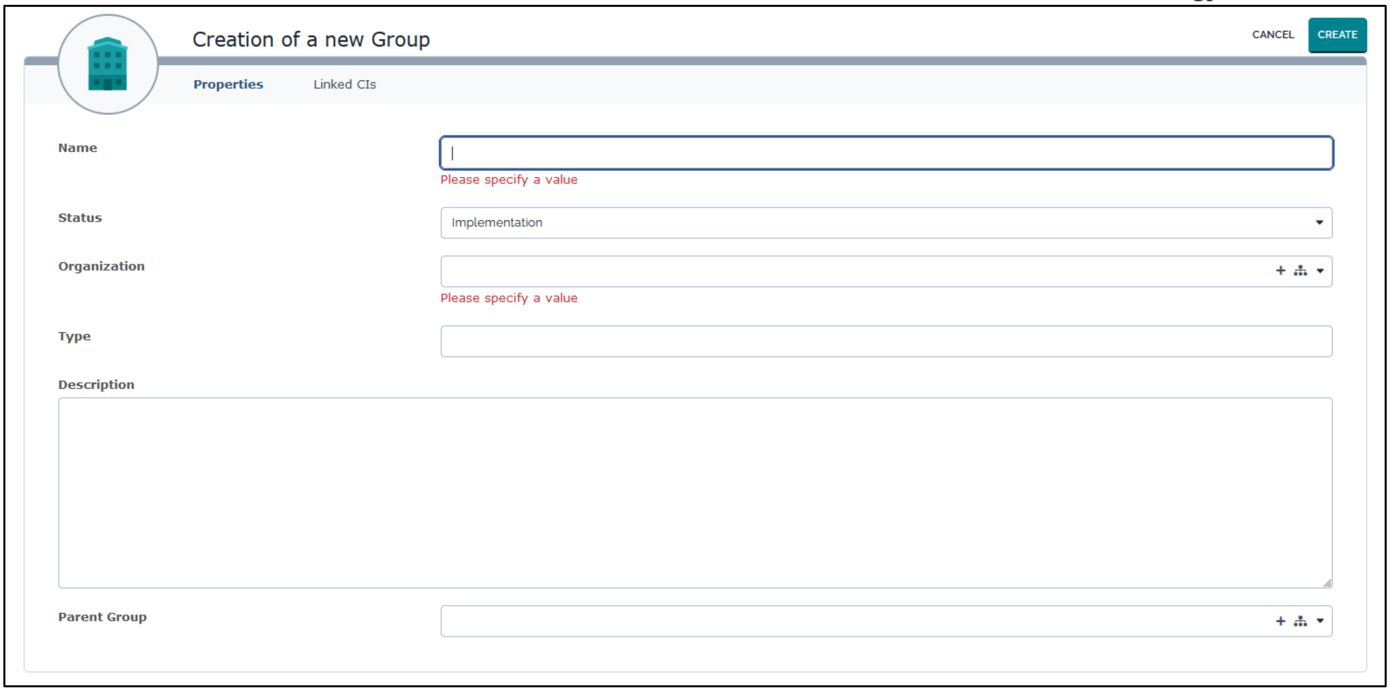


Figure 26 Creation of New Group

4. IP Management

IP Management allows you to manage user requests that are specific to IP management: IP and subnet creations, modifications or deletions. It includes a user portal where standard users can create and manage their IP requests.

Features
This allows Hostmasters to manage tickets that are specific to the IP management world: creation, modification or release of IPs, creation, modification or release of subnets.
Management of IP tickets is done following a workflow that automates the standard tasks associated to IP tickets: selection of an IP within a subnet, selection of a subnet within a subnet block, for instance. Such workflow insures that tickets are managed according to a defined process. Only authorized users can manage an IP request and change its status.

IP Request
IP requests in Helpdesk are focusing on IP management. A catalogue of 6 types of IP requests have been defined, each of them focusing on a specific request:
IP address V4 creation
IP address V6 creation
IP address update
IP address release
Subnet V4 creation
Subnet V6 creation
Subnet update
Subnet release

Specific information for IP address V4 creation

Name	Type	Mandatory?
IP Informations		
Subnet Block	Foreign key to a(n) IPv4 Subnet Block	No
Subnet	Foreign key to a(n) IPv4 Subnet	No
Range	Foreign key to a(n) IPv4 Range	No
Location	Foreign key to a(n) Location	No
IP Status	Possible values: allocated, reserved	No
Short Name	Alphanumeric string	No
DNS Domain	Foreign key to a(n) Domain	No
Usage	Foreign key to a(n) IP Address Usage	No
Device Information		
Target class	Instantiated class of object that the IP should be linked to	No
Functional CI	CI of class “Target class” which the IP address should be allocated to	No
CI's IP attribute	IP attribute of the CI that the IP should be allocate to	No

4.1 Specific information for IP address V6 creation

Name	Type	Mandatory?
IP Informations		
Subnet Block	Foreign key to a(n) IPv6 Subnet Block	No
Subnet	Foreign key to a(n) IPv6 Subnet	No
Range	Foreign key to a(n) IPv6 Range	No
Location	Foreign key to a(n) Location	No
IP Status	Possible values: allocated, reserved	No
Short Name	Alphanumeric string	No
DNS Domain	Foreign key to a(n) Domain	No
Usage	Foreign key to a(n) IP Address Usage	No
Device Information		
Target class	Instantiated class of object that the IP should be linked to	No
Functional CI	CI of class “Target class” which the IP address should be allocated to	No
CI's IP attribute	IP attribute of the CI that the IP should be allocate to	No

4.2 Specific information for IP update

Name	Type	Mandatory?
IP Informations		
IP Address	Foreign key to a(n) IPv4 or IPv6 address	Yes
New IP Status	Possible values: allocated, reserved	No
New Short Name	Alphanumeric string	No
New Domain	Foreign key to a(n) Domain	No
New Usage	Foreign key to a(n) IP Address Usage	No

4.3 Specific information for IP release

Name	Type	Mandatory?
IP Informations		
IP Address	Foreign key to a(n) IPv4 or IPv6 address	Yes

4.4 Specific information for Subnet V4 creation

Name	Type	Mandatory?
IP Informations		
Subnet Block	Foreign key to a(n) IPv4 Subnet Block	Yes
Mask	Possible values: from /16 down to /32	Yes
Name	Alphanumeric string	No
Subnet Status	Possible values: allocated, reserved	Yes
Type	Alphanumeric string	No
Location	Foreign key to a(n) Location	No

4.5 Specific information for Subnet V6 creation

Name	Type	Mandatory?
IP Informations		
Subnet Block	Foreign key to a(n) IPv6 Subnet Block	Yes
Mask	Possible values: /64 down to /128	Yes
Name	Alphanumeric string	No
Subnet Status	Possible values: allocated, reserved	Yes
Type	Alphanumeric string	No
Location	Foreign key to a(n) Location	No

4.6 Specific information for Subnet update

Name	Type	Mandatory?
IP Informations		
Subnet to update	Foreign key to a(n) IPv4 or IPv6 Subnet	Yes
New Name	Alphanumeric string	No
New Subnet Status	Possible values: allocated, reserved	No
New Type	Alphanumeric string	No
Old Location	Foreign key to a(n) Location	No
New Location	Foreign key to a(n) Location	No

4.7 Specific information for Subnet release

Name	Type	Mandatory?
IP Informations		
Subnet	Foreign key to a(n) IPv4 or IPv6 Subnet	Yes

Tab	Description
Contacts	All the contacts linked to this ticket
Attachements	Documents attached to the ticket

5. DNS Management

EMS provides robust **DNS Management** capabilities as part of its IP Address Management (IPAM) functionality. This feature allows organizations to manage DNS zones and records directly within the helpdesk module, ensuring seamless integration with IP and subnet management.

5.1 Features

The DNS Management extension allows Host masters to manage DNS zones within Helpdesk:

- Document Views and manage DNS zones, including classless in-addr.arpa ones, within their respective views,
- Document authoritative DNS servers,
- Register DNS Resource Records (A, AAAA, CNAME, MX, NS, PTR, SRV, TXT, CAA, DS, OPENPGPKEY, SSHFP and TLSA) in relation with IP addresses or CIs stored in Helpdesk CMDB,
- Document any other type of records through a generic container,
- Automatically or manually create, update or delete Resource Records when an IP is created, updated or deleted.
- Force creation, update or deletion of Resources Records at subnet level
- According to configuration parameters, records associated to obsolete IPs may be automatically removed
- Export zone data or retrieve them through WEB services from DNS master servers.

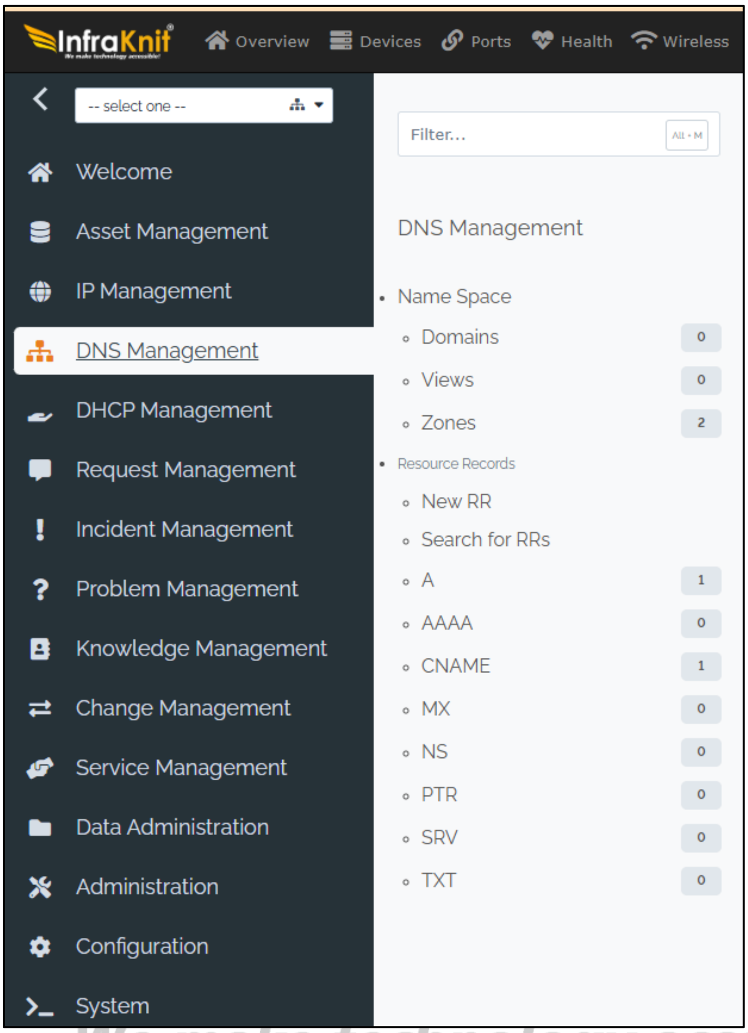


Figure 27 DNS Management

The DNS Space menu provides some information on the DNS structural objects and summarizes the different DNS records under 8 badges:

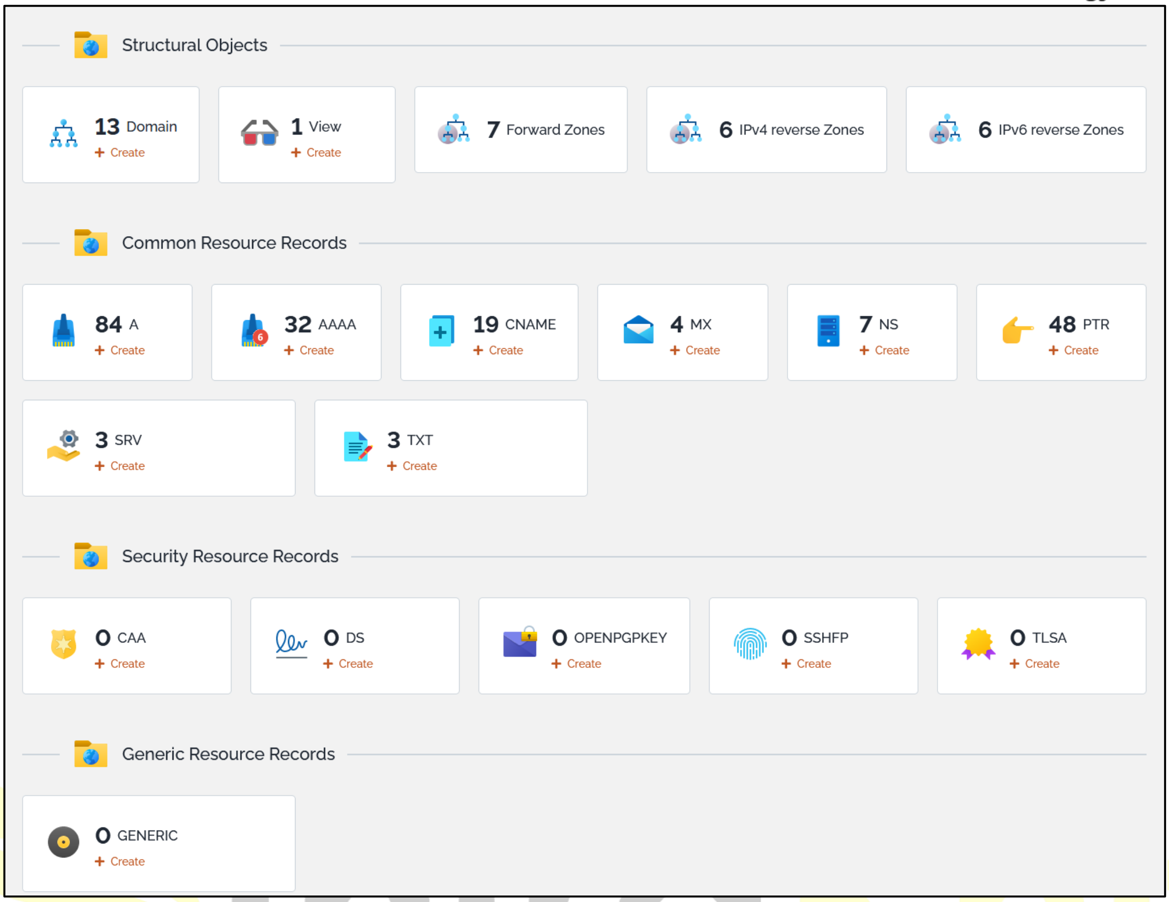


Figure 28 Structural Objects

5.2 Domains

These objects shows the well-known domains from the Domain Name Service.

The DNS Management alter them with a new tab that lists the related zones, ie the zones which name includes the domain name.

5.2.1 Tabs

Tab	Description
Related zones	All the zones related to the domain

5.2.2 Details

Details of a Domain can be accessed from the specific shortcut available under the DNS Management menu.

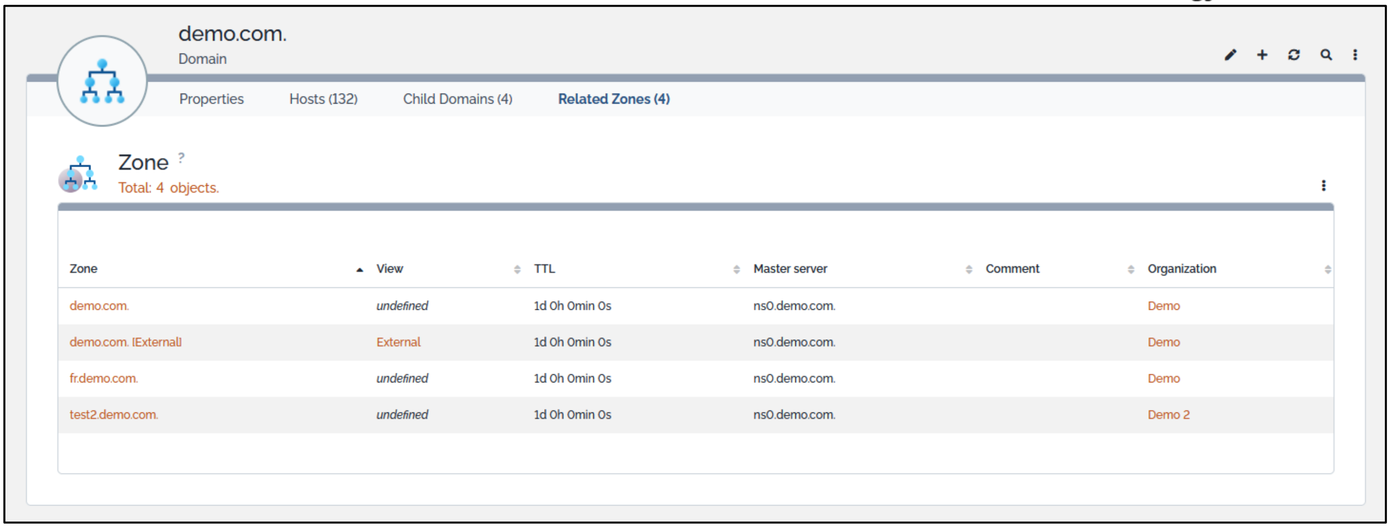


Figure 29 Domain

5.3 Views

Helpdesk handles DNS views, the solution offered by DNS to handle different communities of hosts that may require specific DNS answers according to the network where their resolution is requested from.

5.3.1 Properties

Name	Type	Mandatory?
Organization	Foreign key to a(n) Organization	Yes
Name	Alphanumeric string	Yes
Description	Multiline character string	No

5.3.2 Details

Details of a view can be accessed from the specific shortcut available under the DNS Management menu.

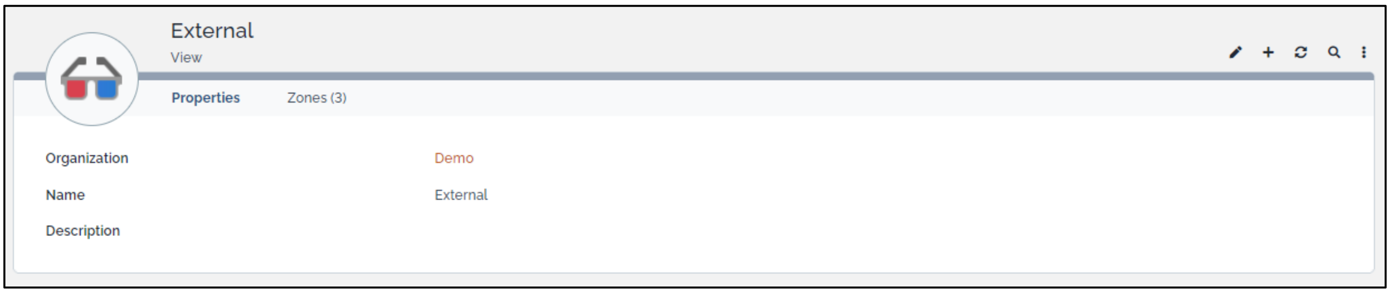


Figure 30 Details of View

5.3.2 Link with IP Addresses

A given hostname may be resolved into different IPs according to the view it belongs to. This is modelized in Helpdesk by making the View an attribute of IP addresses.

IP Address Properties

Name	Type	Mandatory?
DNS Information		
DNS View	Foreign key to a(n) View	No

This changes the properties tab of an IP address as follows:

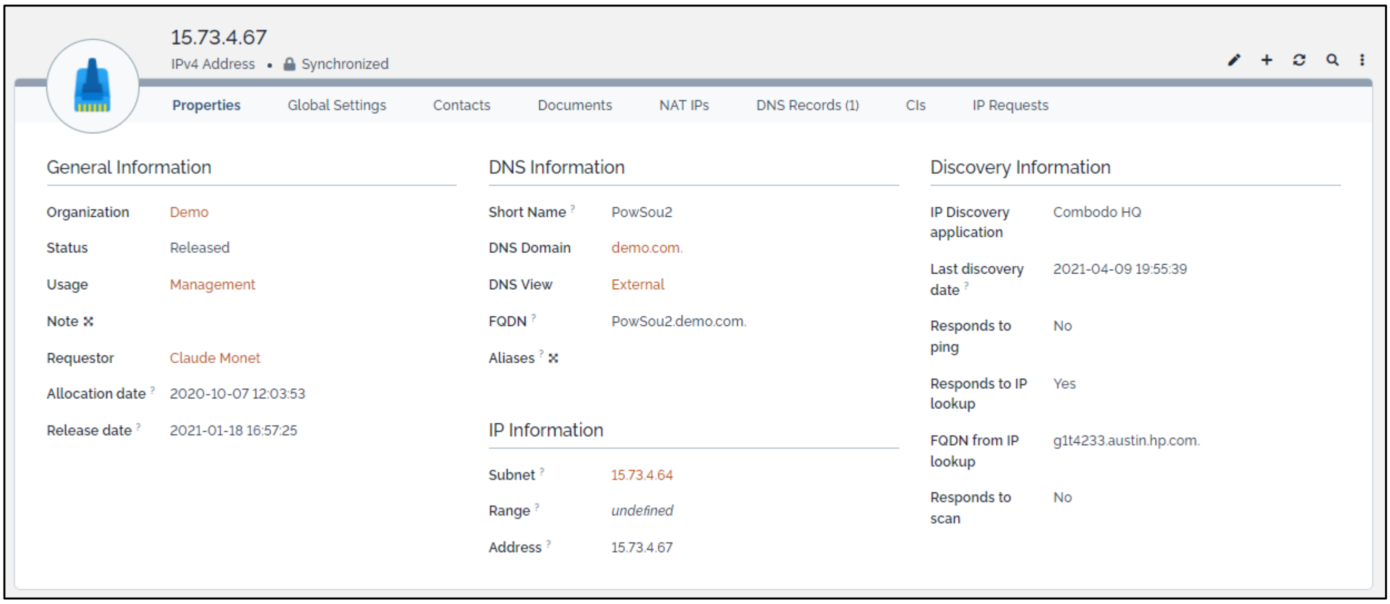


Figure 31 Linking of IP Address

5.4 Zones

This is the key object of the DNS world around which everything is built. By definition, the zone is the domain minus what has been delegated from it.

5.4.1 Zone Properties

Name	Type	Mandatory?
General Information		
Organization	Foreign key to a(n) Organization	Yes
View	Foreign key to a(n) View	No
Mapping type	Possible values: Forward, IPv4 Reverse, IPv6 Reverse	Yes
Zone Name	Alphanumeric string	Yes
TTL	Duration (days / hours / minutes /seconds)	Yes

Name	Type	Mandatory?
Comment	Alphanumeric string	No
Requestor	Foreign key to a(n) Person	No
Start Of Authority		
Master server	Alphanumeric string	Yes
Hostmaster mailbox	Email address (both formats claude@demo.com or claude.monet@demo.com are supported)	Yes
Serial	Number	Yes
Refresh	Duration (days / hours / minutes /seconds)	Yes
Rettry	Duration (days / hours / minutes /seconds)	Yes
Expire	Duration (days / hours / minutes /seconds)	Yes
Minimum	Duration (days / hours / minutes /seconds)	Yes

5.4.2 Tabs

Tab	Description
Authoritative servers	All servers (class Application Solution, Network Device, Network Cluster, Server or VirtualMachine) from the CMDB that are authoritative for the zone These can be flagged as Master, Slave, Hidden Master or Hidden Slave
NS records	All the NS records of the zone
A Records	All the A records of the zone
AAAA Records	All the AAAA records of the zone
CNAME Records	All the CNAME records of the zone
Other Records	All the Other records of the zone

5.4.3 Creating a new Zone

Under the DNS management module, clicking on the “Create a new Zone” button available under the Name Space menu or clicking on the “New” button available with Zones lists will display the Zone creation form:

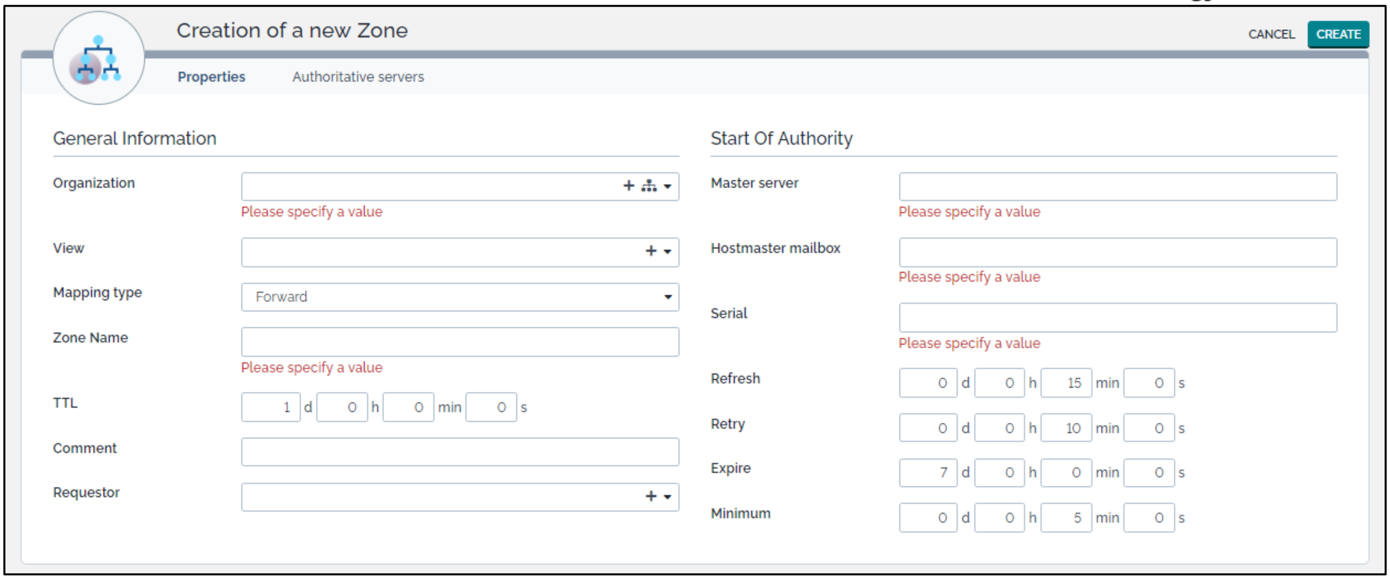


Figure 32 Creation of New Zone

5.5 Classless Reverse Delegation

The Zone Management extension handles classless delegations for IPv4 reverse zones. It implements a method that is widely described in the DNS literature. The following lines explain you how to handle it.

As the owner of a standard class C reverse zone (like for instance the zone 54.205.3.in-addr.arpa.), you may decide to delegate the management of a subset of if, ie let a third party manage the PTR records of a contiguous subset of IP Addresses contained in the class C (say, 3.205.54.0 to 3.205.54.127).

- First of all, you need to set the delegation of the classless zone in its parent class C reverse zone. This is a standard delegation :

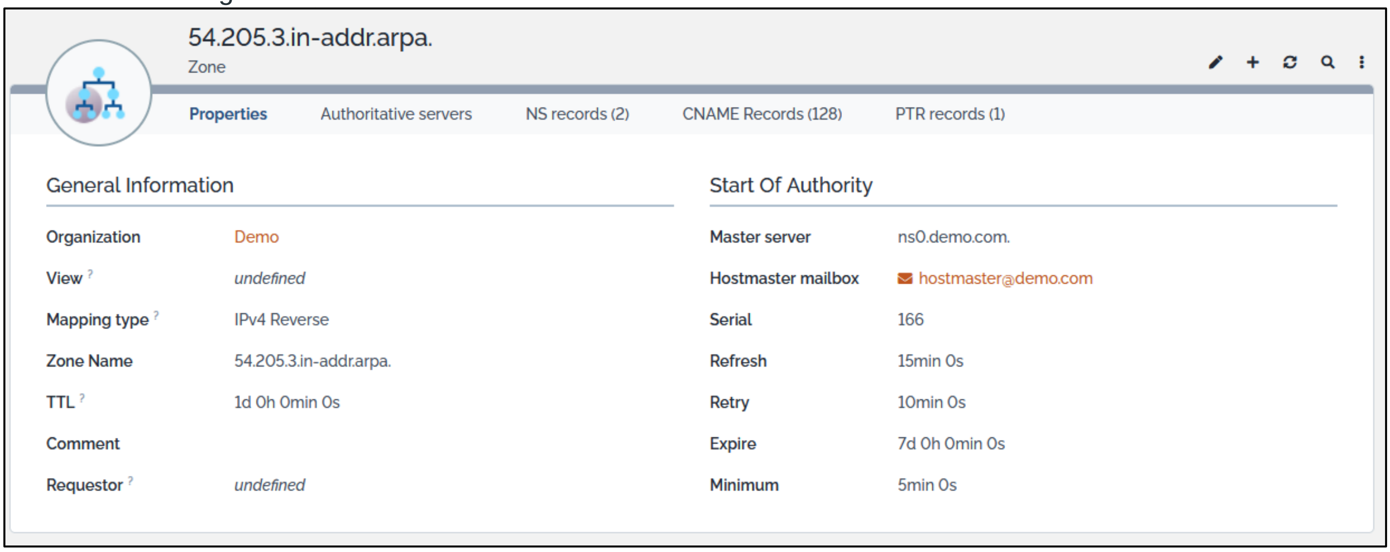


Figure 33 Classless Reverse Delegation

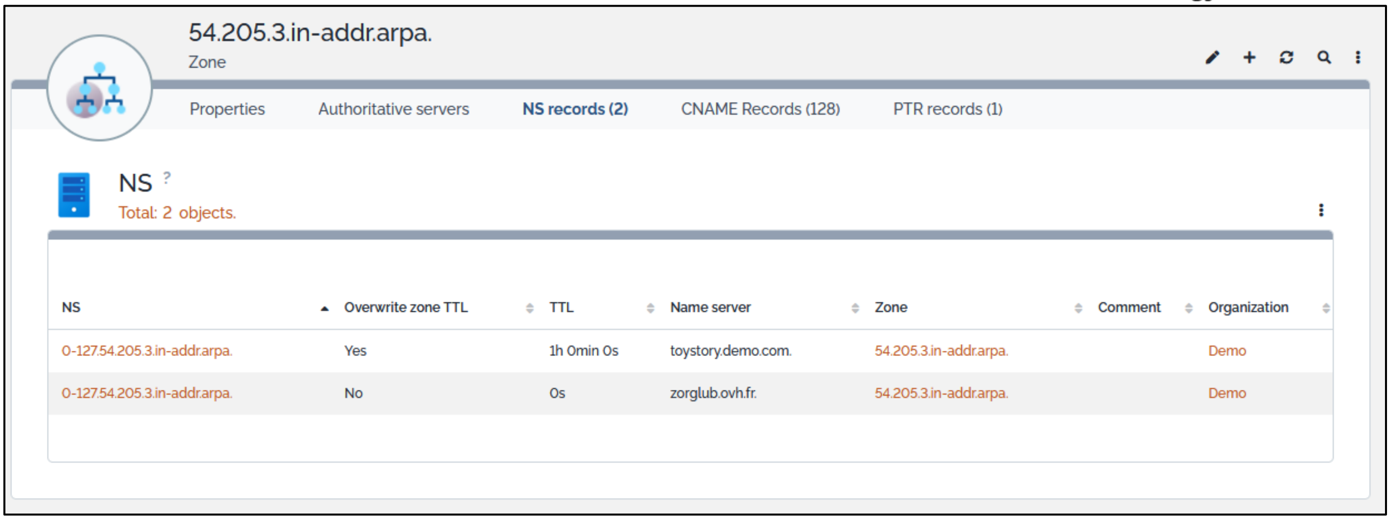


Figure 34 Zones

- Within the class C reverse zone, a CNAME record has to be created for every PTR that should be handled by the classless zone, like:

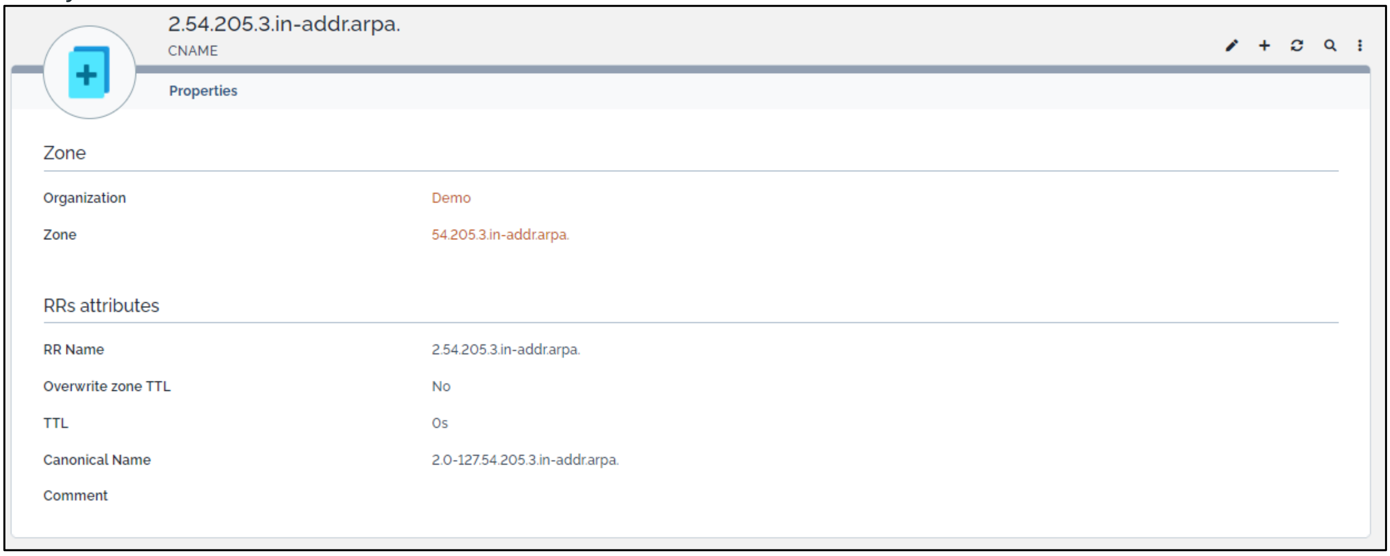


Figure 35 CNAME record

- Create the classless zone :

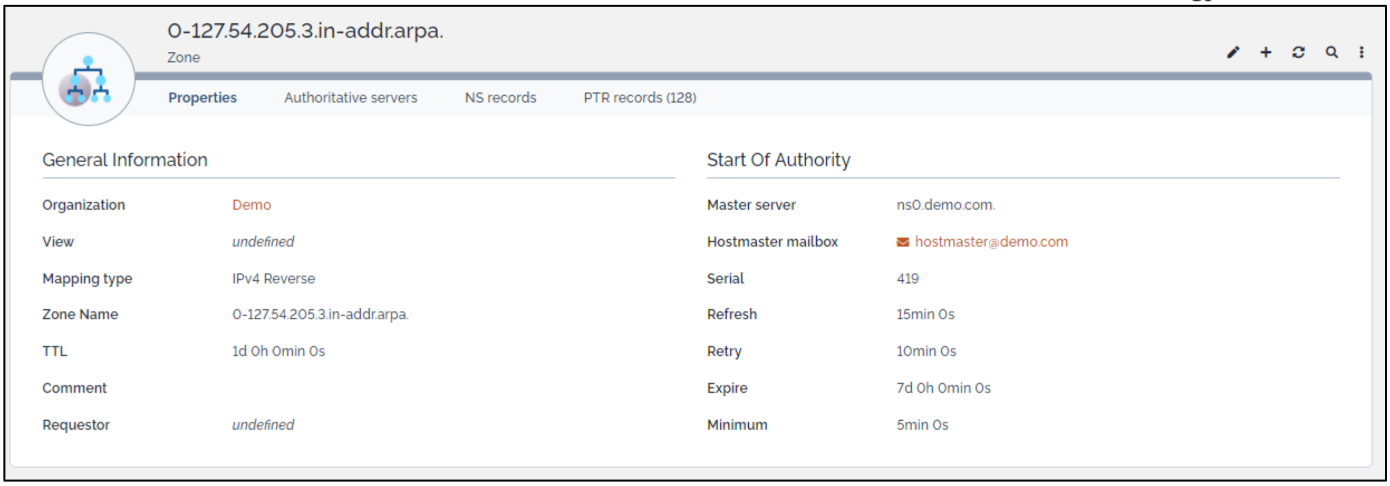


Figure 36 Classless zone

- And finally, create a PTR record for each of the IP addresses that the classless zone should handle:

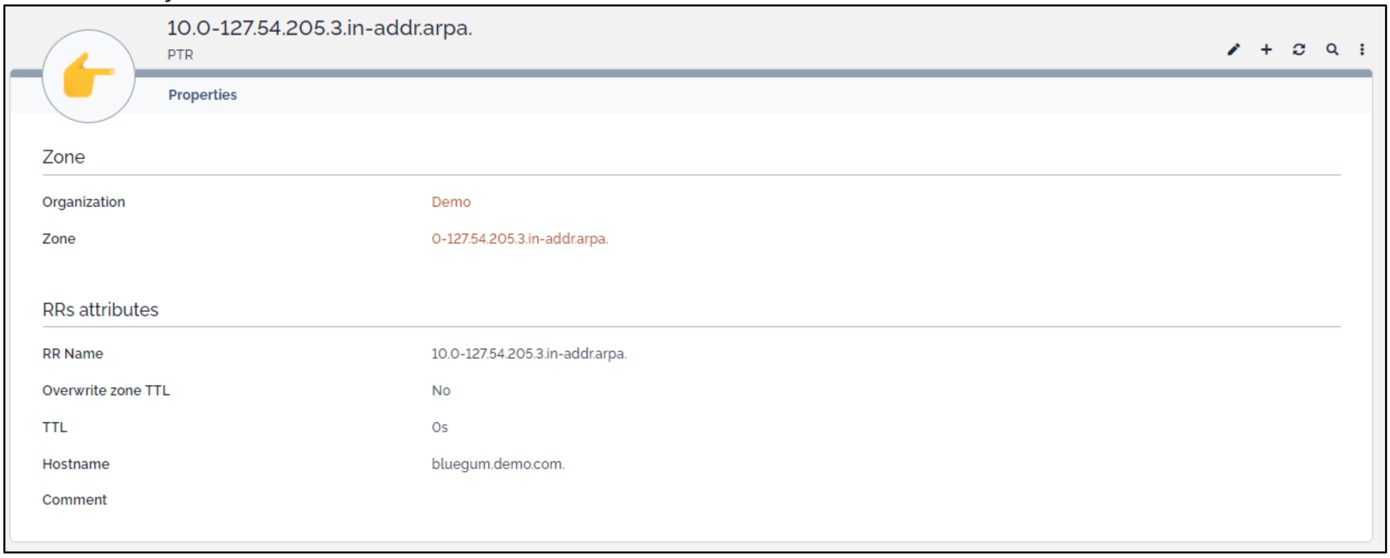


Figure 37 PTR record

5.6 DNS Resource Records

Helpdesk handles the most commonly used DNS Resource Records: A, AAAA, CNAME, MX, NS, PTR, SRV and TXT, plus a set of security dedicated Records: CAA, DS, SSHFP and TLSA as well as a generic record container to register any other type of Record. These are implemented through standard objects and belong to the data model. They all share the same following attributes:

Name	Type	Mandatory?
Organization	Foreign key to a(n) Organization	Yes
Zone	Foreign key to a(n) Zone	Yes
RR Name	Alphanumeric string	Yes
Overwrite zone TTL	Yes or No	No

Name	Type	Mandatory?
TTL	d/h/m/s	N/A

- The “zone” attribute points to a forward or reverse zone, according to the record type, filtered by the organization that the zone belongs to.
- The “RR Name” is just the name of the record, known as the owner in the specialized literature.
- The default TTL of the zone that the record belongs to, may be overwritten by a specific value specified at the record level. This behaviour is driven by the “Overwrite zone TTL” boolean and the TTL duration.

5.6.1 A Records

This object is used to document the IPv4 Address record.

Properties

Name	Type	Mandatory?
Organization	Foreign key to a(n) Organization	Yes
Zone	Foreign key to a(n) Zone	Yes
RR Name	Alphanumeric string (@ and *.<domain> accepted)	Yes
Overwrite zone TTL	Yes or No	No
TTL	d/h/m/s	N/A
IPv4 Address	Foreign key to a(n) IPv4 Address	Yes
Comment	Alphanumeric string	No

Details

Details of a Record can be accessed from the specific “A” shortcut menu of the DNS Management module.

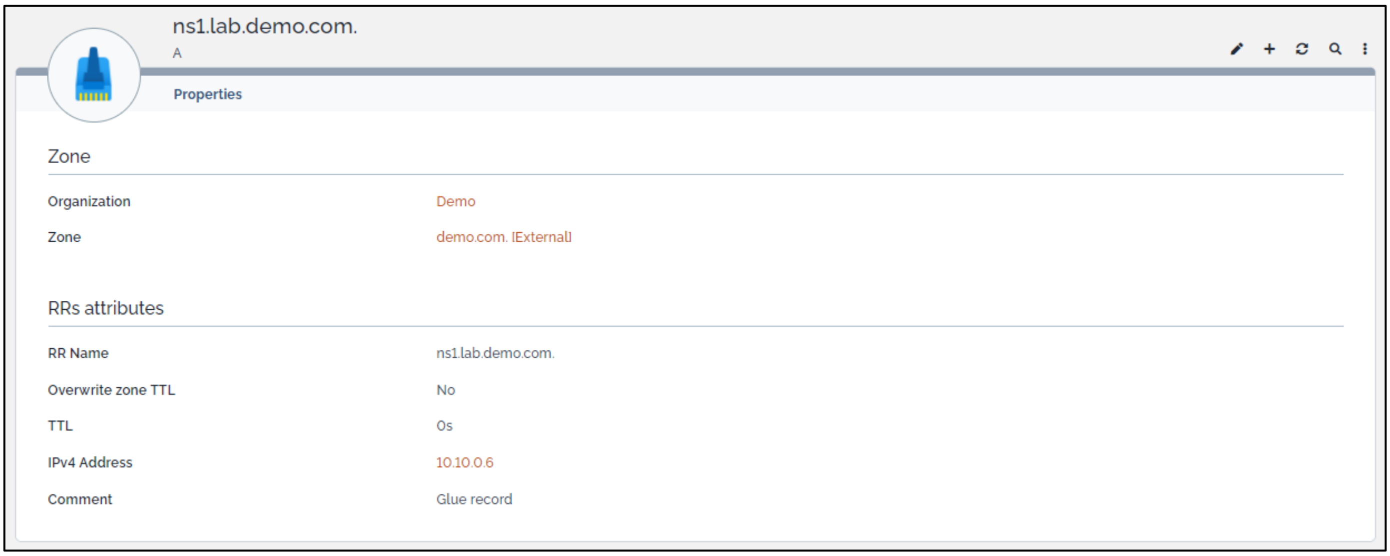


Figure 38 DNS resource record

5.6.2 AAAA Records

This object is used to document the IPv6 Address record.

Properties

Name	Type	Mandatory?
Organization	Foreign key to a(n) Organization	Yes
Zone	Foreign key to a(n) Zone	Yes
RR Name	Alphanumeric string (@ and *.<domain> accepted)	Yes
Overwrite zone TTL	Yes or No	No
TTL	d/h/m/s	N/A
IPv6 Address	Foreign key to a(n) IPv6 Address	Yes
Comment	Alphanumeric string	No

Update

An AAAA record can be updated from the detailed view of the object.

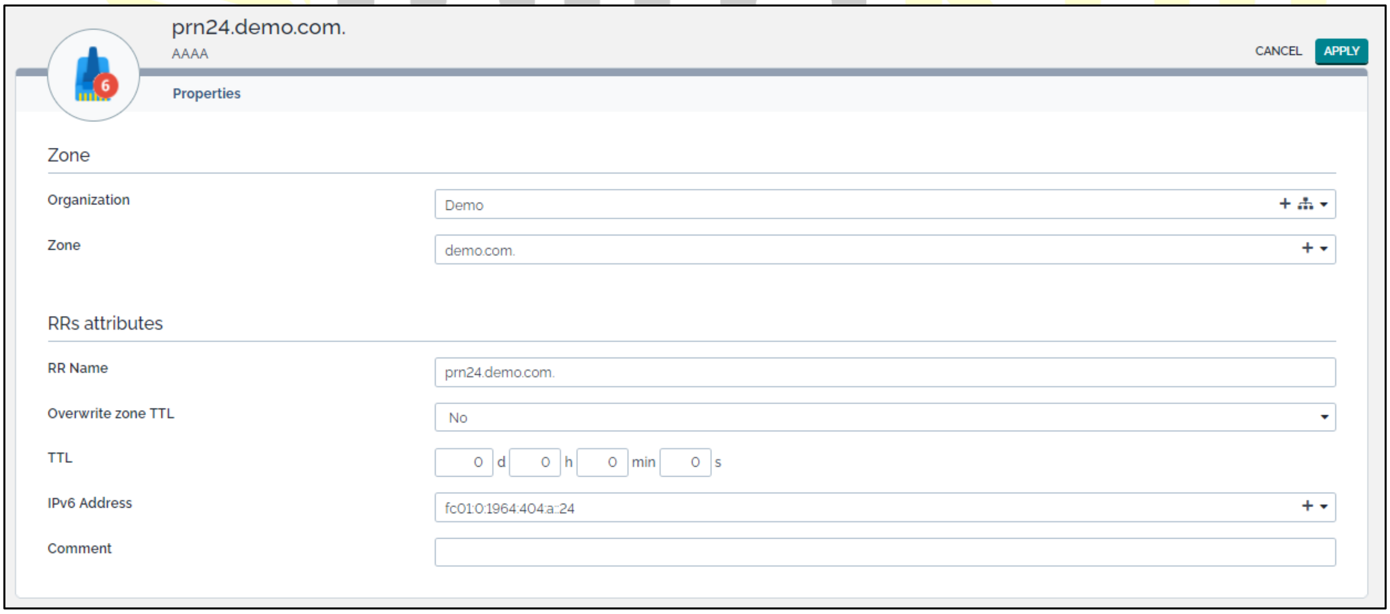


Figure 39 AAAA record

5.6.3 CAA Records

This object is used to specify which Certificate Authorities (CAs) are allowed to issue certificates for the domain defined by the RR name.

Properties

Name	Type	Mandatory?
Organization	Foreign key to a(n) Organization	Yes
Zone	Foreign key to a(n) Zone	Yes
RR Name	Alphanumeric string (@ and *.<domain> accepted)	Yes
Overwrite zone TTL	Yes or No	No
TTL	d/h/m/s	N/A
Flag	Integer	Yes
Tag	Possible values: Iodef, Issue, Issue Wild	
Value	Strings associated with tags	
Comment	Alphanumeric string	No

Creation

A new CAA record may be created from the specific “CAA” shortcut menu of the DNS Management module.

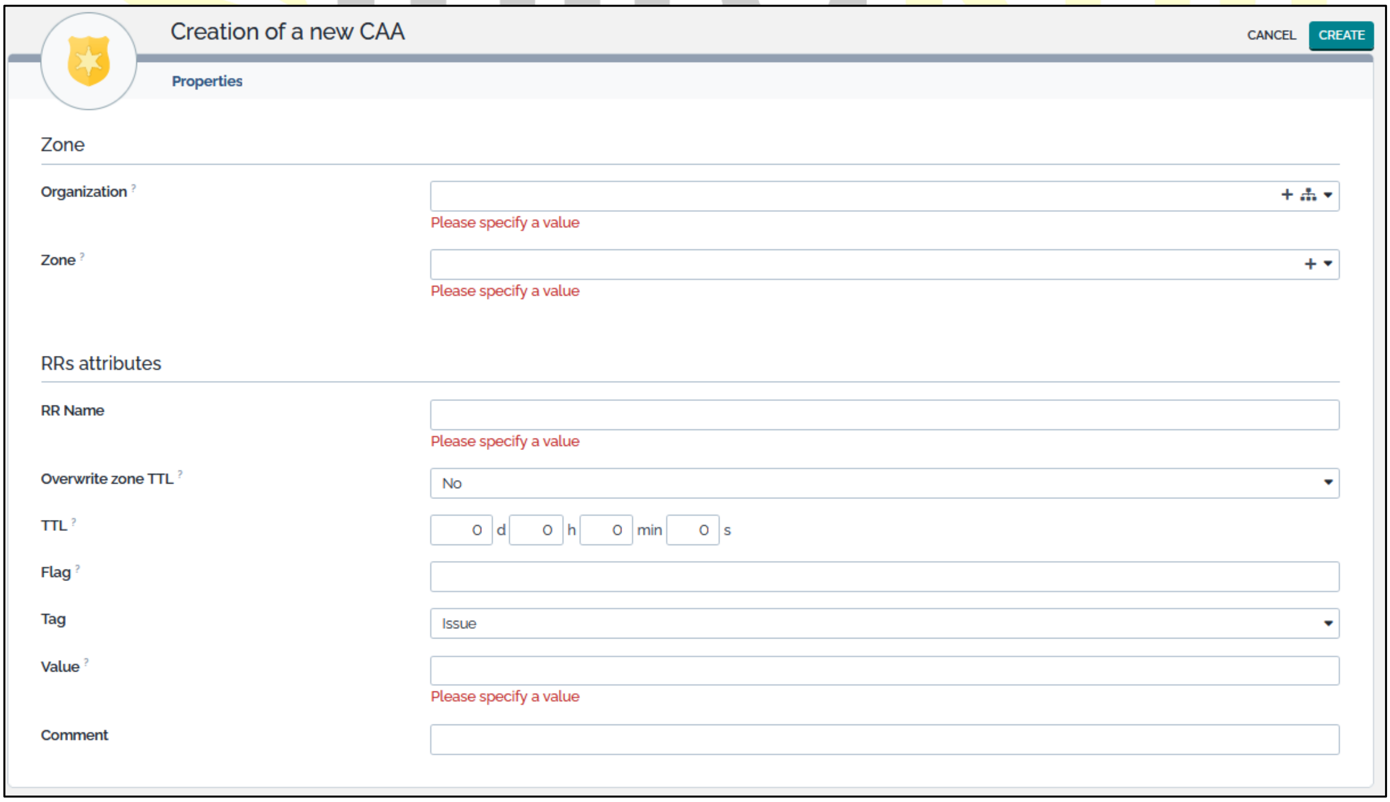


Figure 40 CAA record

5.6.4 CNAME Records

This object is used to document the Canonical Name record.

Properties

Name	Type	Mandatory?
Organization	Foreign key to a(n) Organization	Yes
Zone	Foreign key to a(n) Zone	Yes
RR Name	Alphanumeric string (@ and *.<domain> accepted)	Yes
Overwrite zone TTL	Yes or No	No
TTL	d/h/m/s	N/A
CNAME	Alphanumeric string	Yes
Comment	Alphanumeric string	No

Creation

A new CNAME record may be created from the specific “CNAME” shortcut menu of the DNS Management module.

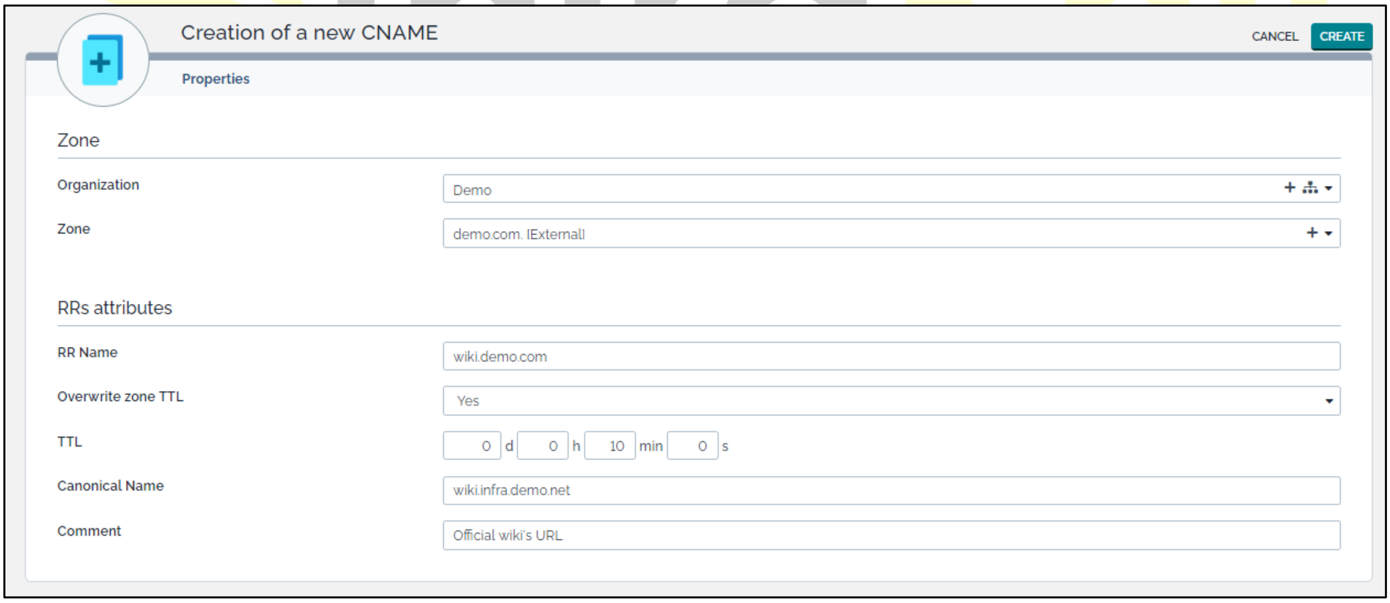


Figure 41 CNAME records

5.6.5 DS Records

This object is used to document Delegation Signer (DS) records required by DNSSEC to allow the transfer of trust from a parent zone to a child zone.

Properties

Name	Type	Mandatory?
Organization	Foreign key to a(n) Organization	Yes
Zone	Foreign key to a(n) Zone	Yes
RR Name	Alphanumeric string (@ and *.<domain> accepted)	Yes
Overwrite zone TTL	Yes or No	No
TTL	d/h/m/s	N/A
Key tag	A short numeric value which can help quickly identify the referenced DNSKEY-record	No
Algorithm	The algorithm of the referenced DNSKEY-record	No
Digest Type	Cryptographic hash algorithm used to create the Digest value	No
Digest	A cryptographic hash value of the referenced DNSKEY-record	Yes
Comment	Alphanumeric string	No

Details

Details of a DS Record can be accessed from the specific “DS” shortcut menu of the DNS Management module.

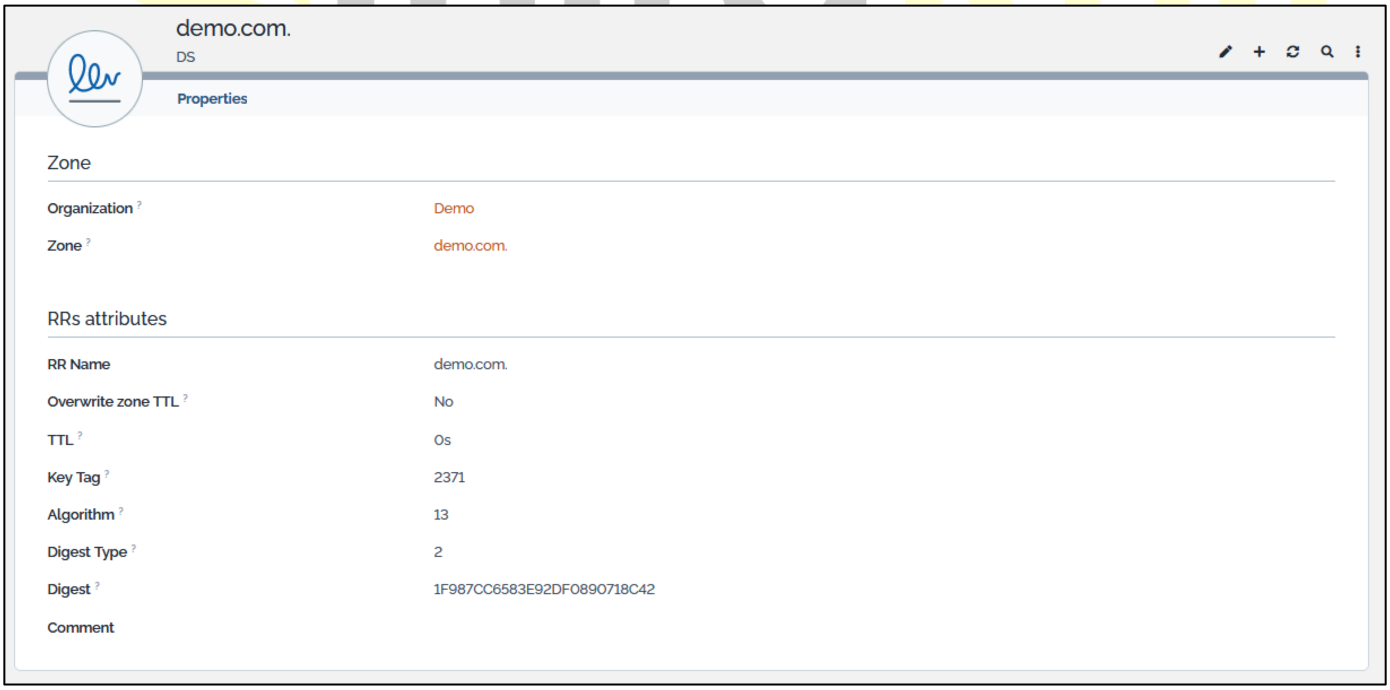


Figure 42 DS records

5.6.6 MX Records

This object is used to document the Mail Exchanger record.

Properties

Name	Type	Mandatory?
Organization	Foreign key to a(n) Organization	Yes
Zone	Foreign key to a(n) Zone	Yes
RR Name	Alphanumeric string (@ and *.<domain> accepted)	Yes
Overwrite zone TTL	Yes or No	No
TTL	d/h/m/s	N/A
Preference	Integer	No
Exchange Server	Alphanumeric string	Yes
Comment	Alphanumeric string	No

Details

Details of a MX Record can be accessed from the specific “MX” shortcut menu of the DNS Management module.

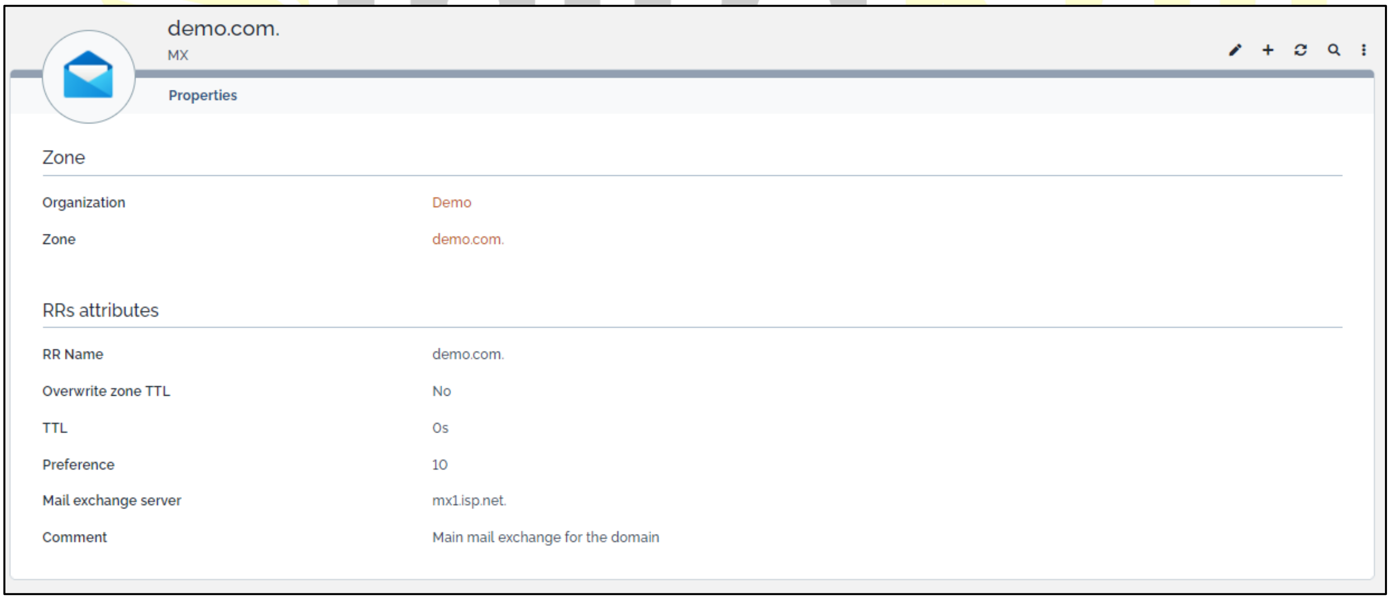


Figure 43 MX records

5.6.7 NS Records

This object is used to document the Name Server record.

Properties

Name	Type	Mandatory?
Organization	Foreign key to a(n) Organization	Yes
Zone	Foreign key to a(n) Zone	Yes
RR Name	Alphanumeric string (@ and *.<domain> accepted)	Yes
Overwrite zone TTL	Yes or No	No
TTL	d/h/m/s	N/A
Name Server	Alphanumeric string	Yes
Comment	Alphanumeric string	No

Details

Details of a NS Record can be accessed from the specific "NS" shortcut menu of the DNS Management module.

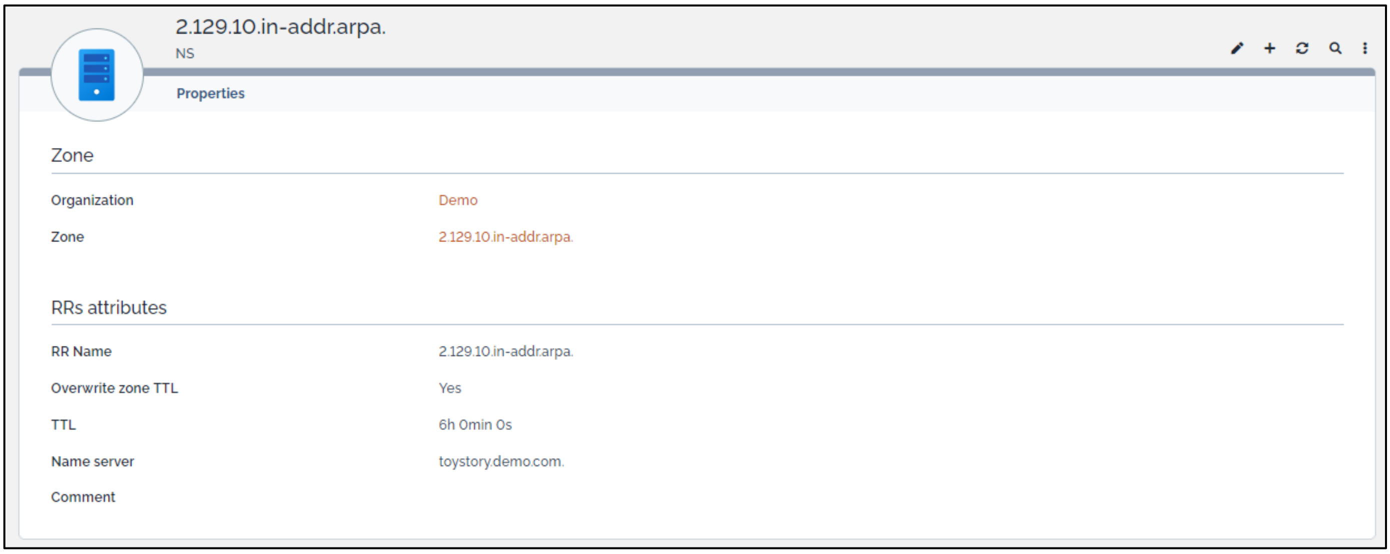


Figure 44 NS records

5.6.8 PTR Records

This object is used to document the Pointer record.

Properties

Name	Type	Mandatory?
Organization	Foreign key to a(n) Organization	Yes

Name	Type	Mandatory?
Zone	Foreign key to a(n) Zone	Yes
RR Name	Alphanumeric string (compliant with IPv4 or IPv6 reverse format)	Yes
Overwrite zone TTL	Yes or No	No
TTL	d/h/m/s	N/A
Hostname	Alphanumeric string	Yes
Comment	Alphanumeric string	No

Details

Details of a NS Record can be accessed from the specific “NS” shortcut menu of the DNS Management module.

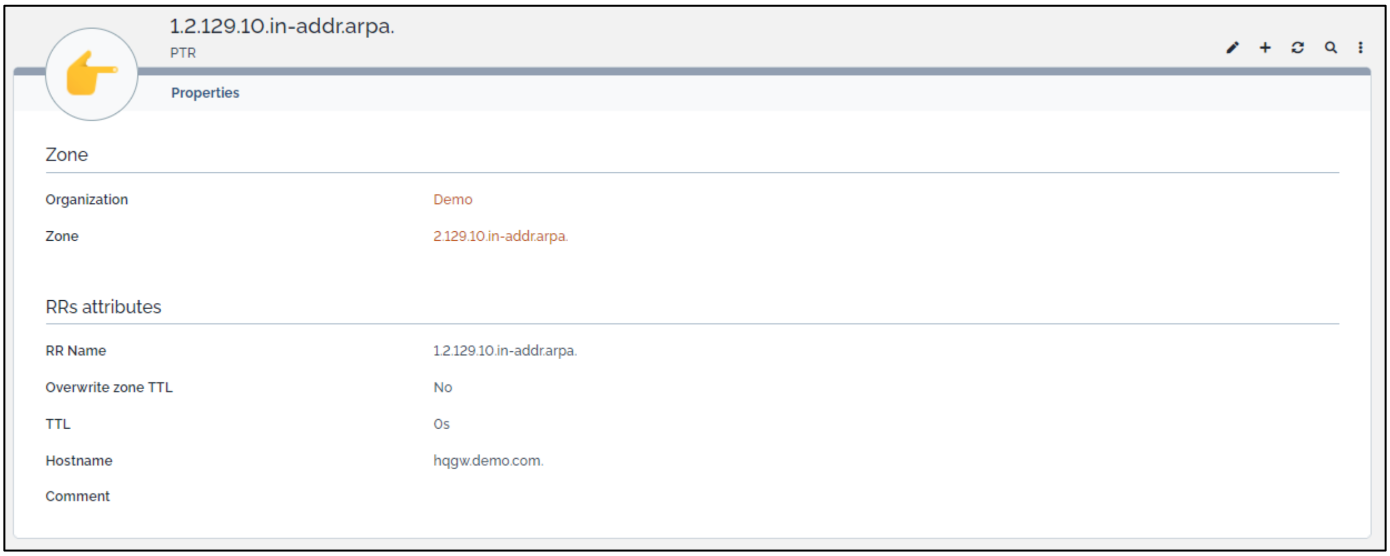


Figure 45 PTR record

5.6.9 SSHFP Records

This object is used to document the Secure Shell fingerprint records, a type of resource record which identifies SSH keys associated with a host name.

Properties

Name	Type	Mandatory?
Organization	Foreign key to a(n) Organization	Yes
Zone	Foreign key to a(n) Zone	Yes
RR Name	Alphanumeric string	Yes
Overwrite zone TTL	Yes or No	No
TTL	d/h/m/s	N/A

Name	Type	Mandatory?
Algorithm	Integer	No
Digest Type	Integer	No
Fingerprint	Alphanumeric string	Yes
Comment	Alphanumeric string	No

Details

Details of a SSHFP record can be accessed from the specific “SSHFP” shortcut menu of the DNS Management module.

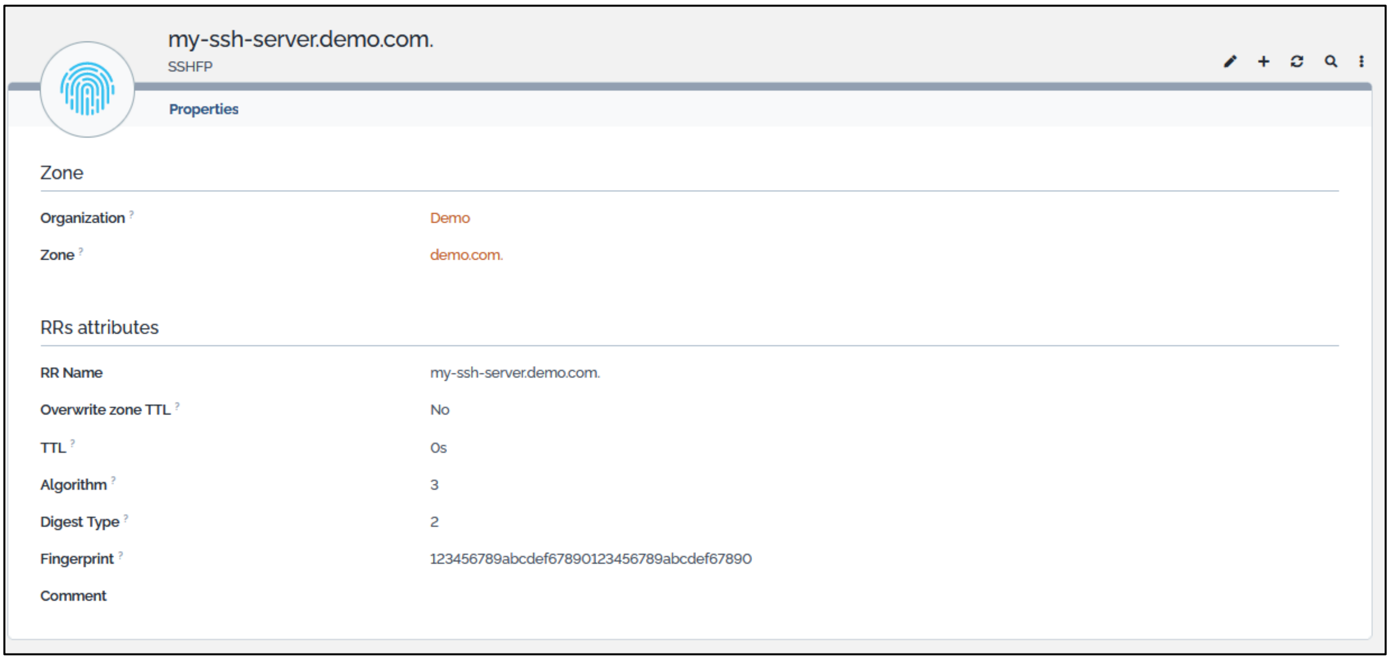


Figure 46 SSHFP record

5.6.10 SRV Records

This object is used to document the Locate Services record.

Properties

Name	Type	Mandatory?
Organization	Foreign key to a(n) Organization	Yes
Zone	Foreign key to a(n) Zone	Yes
RR Name	Alphanumeric string	Yes
Overwrite zone TTL	Yes or No	No

Name	Type	Mandatory?
TTL	d/h/m/s	N/A
Priority	Integer	No
Weight	Integer	No
Port	Integer	No
Target	Alphanumeric string	Yes
Comment	Alphanumeric string	No

Creation

A new SRV record may be created from the specific “SRV” shortcut menu of the DNS Management module.

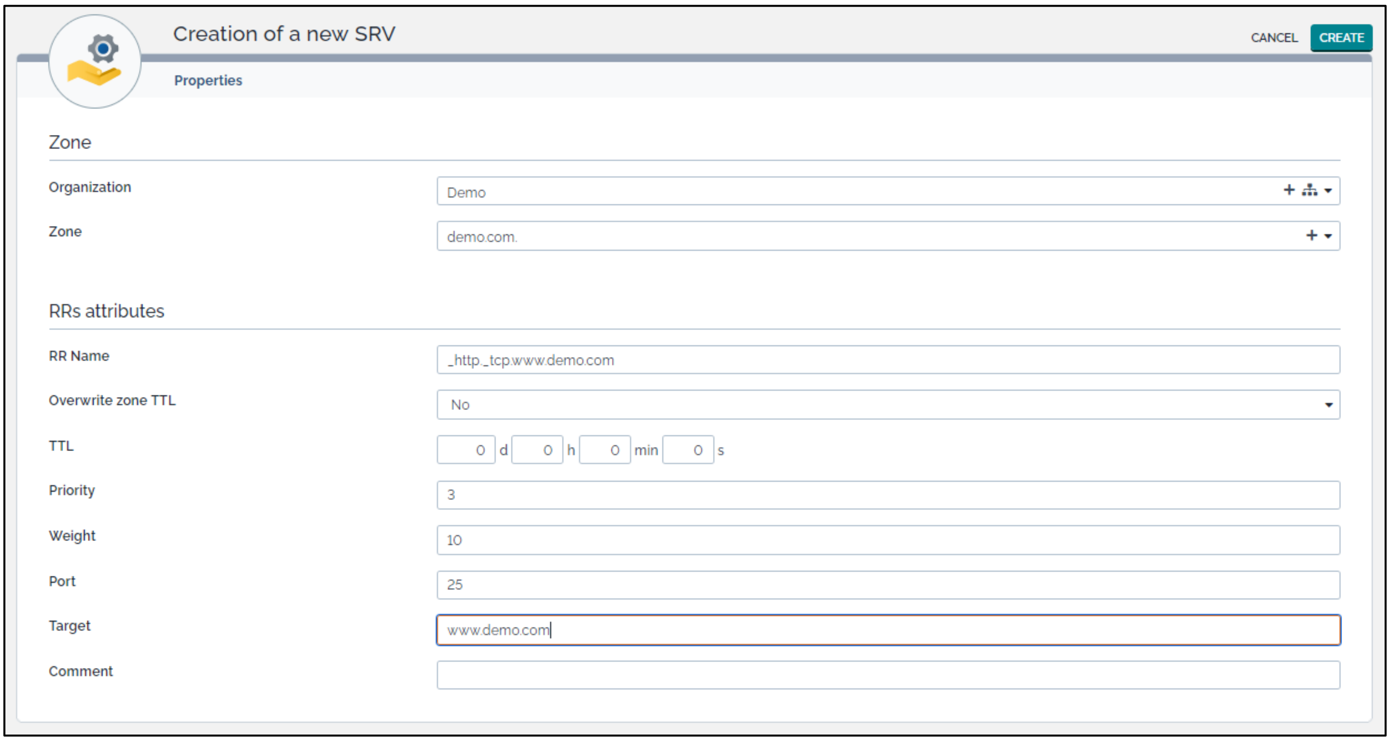


Figure 47 SRV records

6. DHCP Management

DHCP Management extends its IP Address Management (IPAM) capabilities by integrating with Dynamic Host Configuration Protocol (DHCP) services. This functionality allows administrators to efficiently manage and automate the allocation of IP addresses to devices in their networks.

6.1 Features

Dynamic Host Configuration Protocol allows the client to receive **options** from the DHCP server describing the network configuration and various services that are available on the network. In order to structure its configuration file, the DHCP server groups client options into **scopes** that cover different segments of the network, from a global coverage down to a unique host: Global, Shared-network, Subnet, Pool, Class, Sub-class and Host.

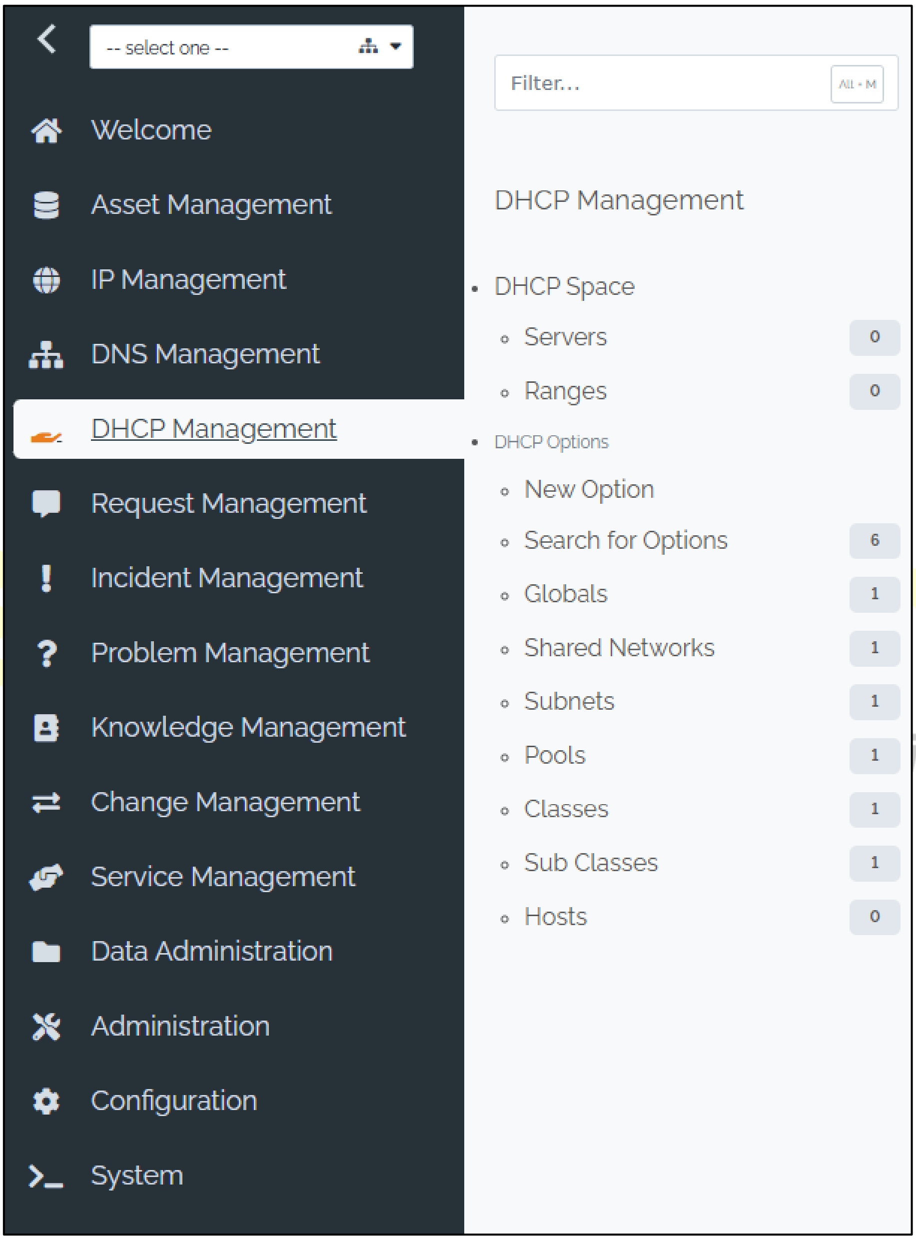


Figure 48 DHCP menu

The DHCP Space menu provides some information on the DHCP infrastucture and summarizes the different registered options under 7 badges:

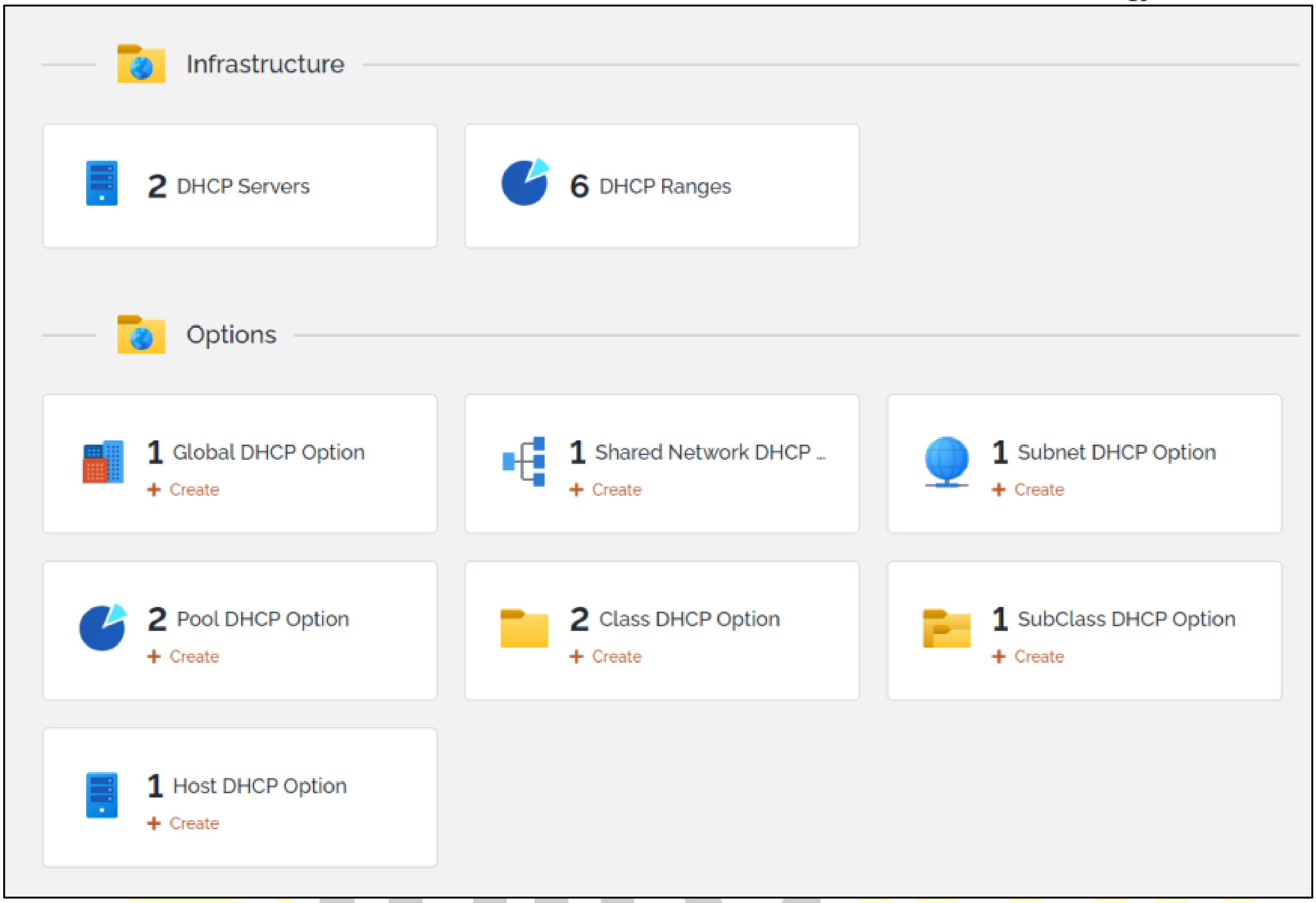


Figure 49 DHCP infrastructure

6.2 Global Options

This object is used to document the Global DHCP Options. It has no other attributes than the ones listed above.

Details

Details of a DHCP Global Option can be accessed from the specific “Global Options” shortcut menu of the DHCP Management module.

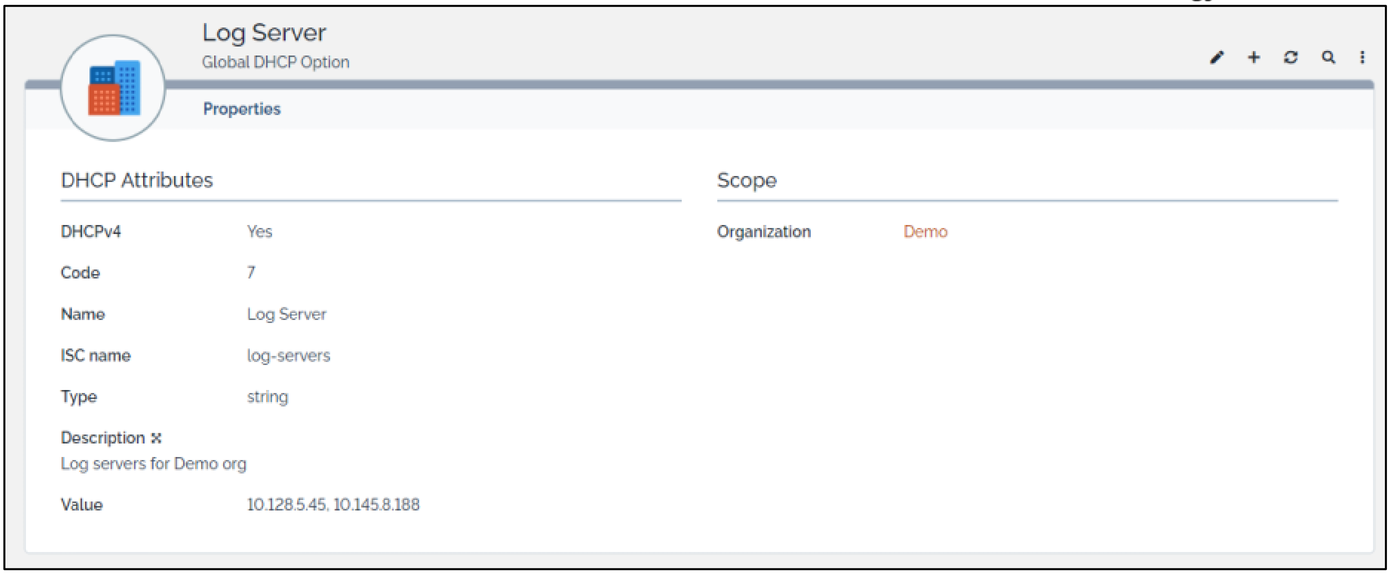


Figure 50 DHCP attributes

Shared Network Options

This object is used to document the Shared Network DHCP Options. Shared networks in Helpdesk are implemented through the VLAN object.

Properties

Name	Type	Mandatory?
VLAN	Foreign key to a(n) VLAN	Yes

Details

A new DHCP Shared Network Option may be created from the specific “Shared Network Options” shortcut menu of the DHCP Management module. It refers to an organization and to a VLAN within that organization.

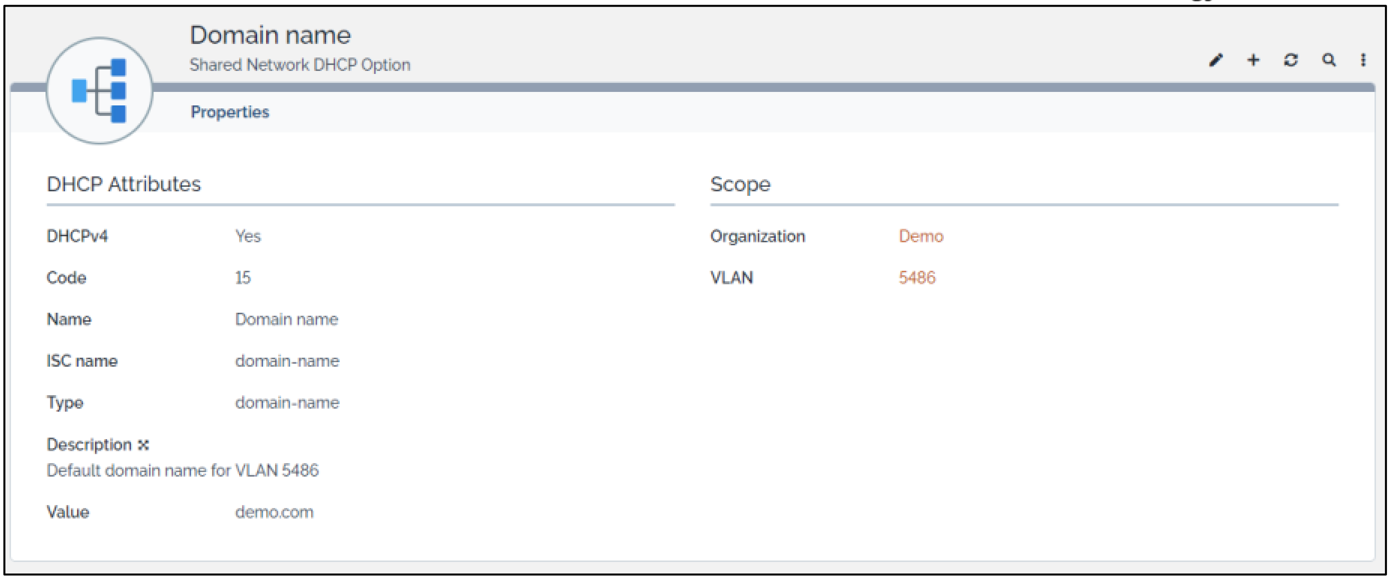


Figure 51 Domain for DHCP

Subnet Options

This object is used to document the Subnet DHCP Options. The Subnet scope in Helpdesk is implemented through the IP Subnet object.

Properties

Name	Type	Mandatory?
Subnet	Foreign key to a(n) IP Subnet	Yes

Details

Details of a DHCP Subnet Option can be accessed from the specific “Subnet Options” shortcut menu of the DHCP Management module. It refers to an organization and to an IP Subnet within that organization.

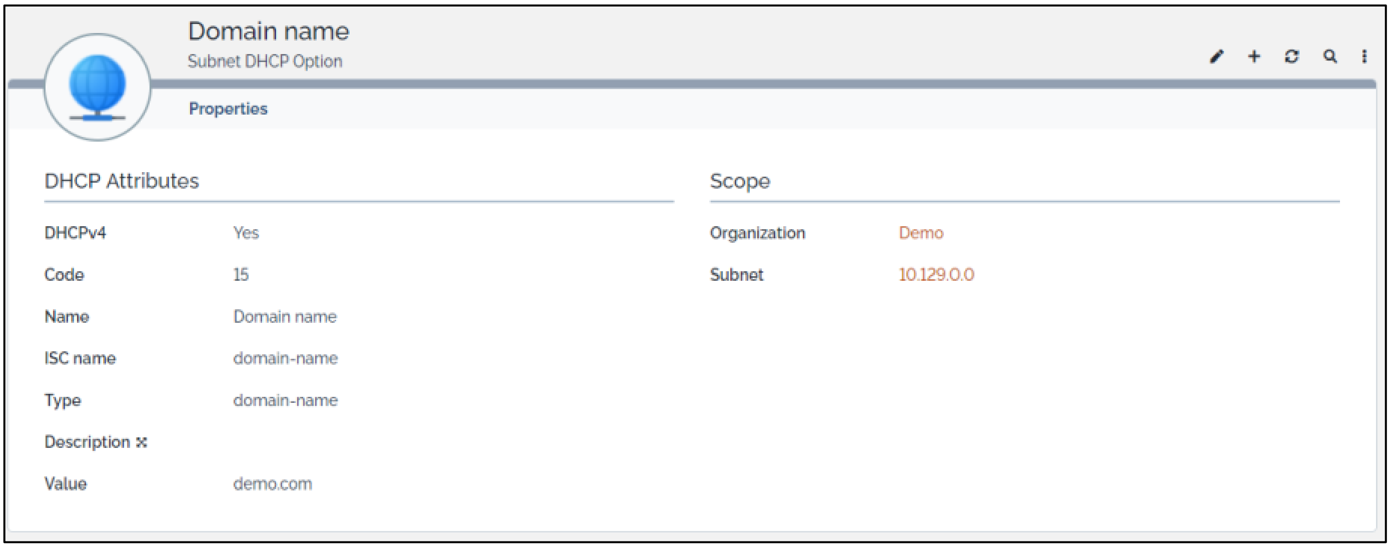


Figure 52 DHCP properties

Pool Options

This object is used to document the Pool DHCP Options. The Pool scope in Helpdesk is implemented through the IP Range object.

Properties

Name	Type	Mandatory?
IP Range	Foreign key to a(n) IP Range	Yes

Details

Details of a DHCP Pool Option can be accessed from the specific “Pool Options” shortcut menu of the DHCP Management module. It refers to an organization and to an IP Range within that organization.

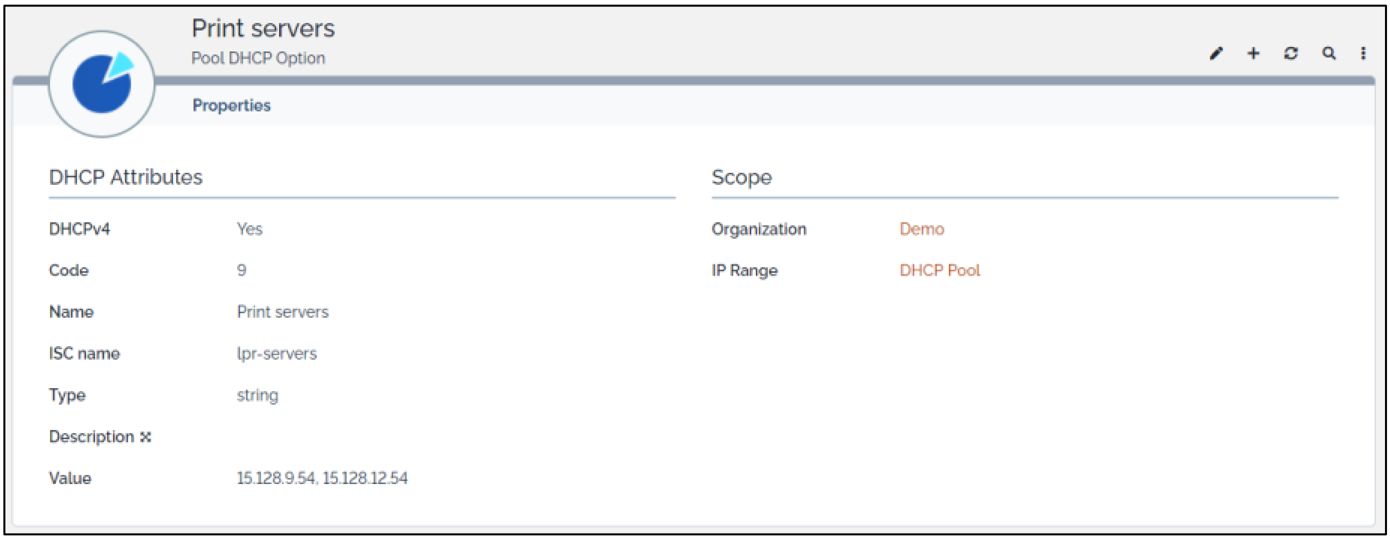


Figure 53 DHCP attributes

Class Options

This object is used to document the Class DHCP Options. It refers to a new typological Helpdesk object that models DHCP classes.

DHCP Class object

This is a typological object defined through the Typology configuration menu in the Data administration chapter.

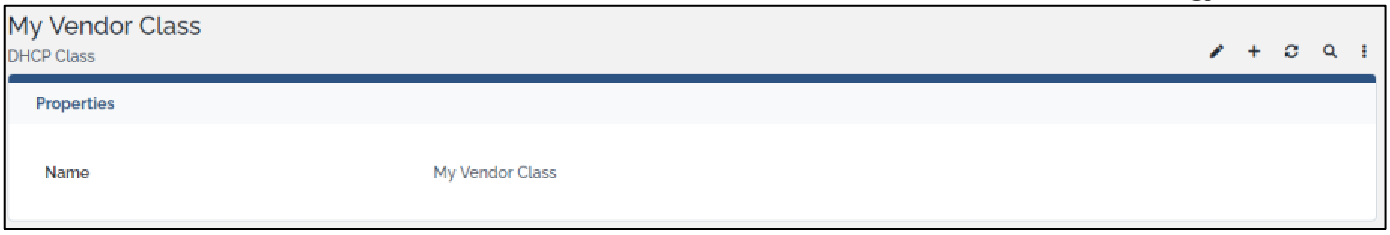


Figure 54 Vendor class

Properties

Name	Type	Mandatory?
Class	Foreign key to a(n) DHCP Class	Yes

Details

A new DHCP Class Option may be created from the specific “Class Options” shortcut menu of the DHCP Management module. It refers to an organization and to a DHCP Class.

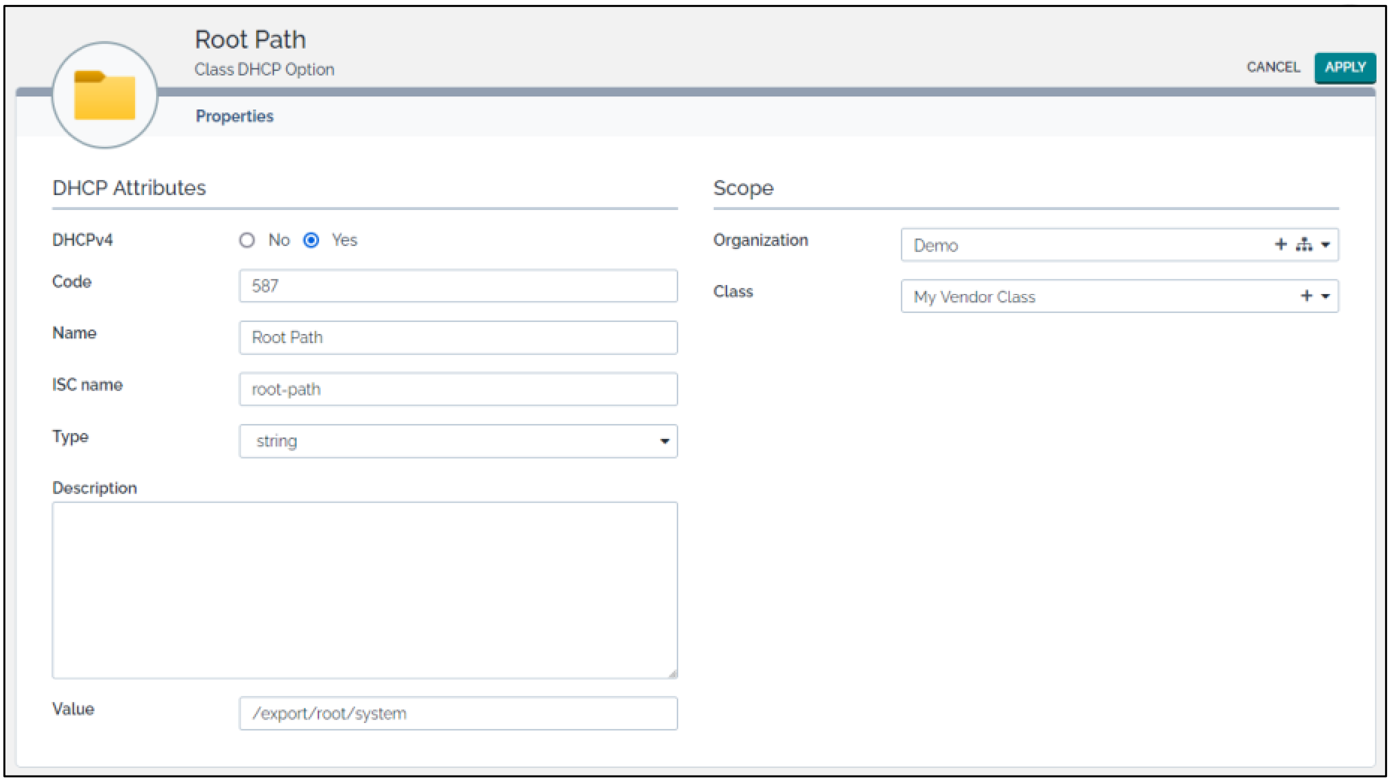


Figure 55 DHCP Class

Sub Class Options

This object is used to document the SubClass DHCP Options. It refers to a new typological TeemIp object that models DHCP sub-classes.

DHCP SubClass object

This is another typological object defined through the Typology configuration menu of the Data administration chapter.

Figure 56 DHCP Subclass

Properties

Name	Type	Mandatory?
Class	Foreign key to a(n) DHCP Class	Yes
SubClass	Foreign key to a(n) DHCP SubClass	Yes

Details

Details of a DHCP SubClass Option can be accessed from the specific “SubClass Options” shortcut menu of the DHCP Management module. It refers to an organization and to a DHCP SubClass.

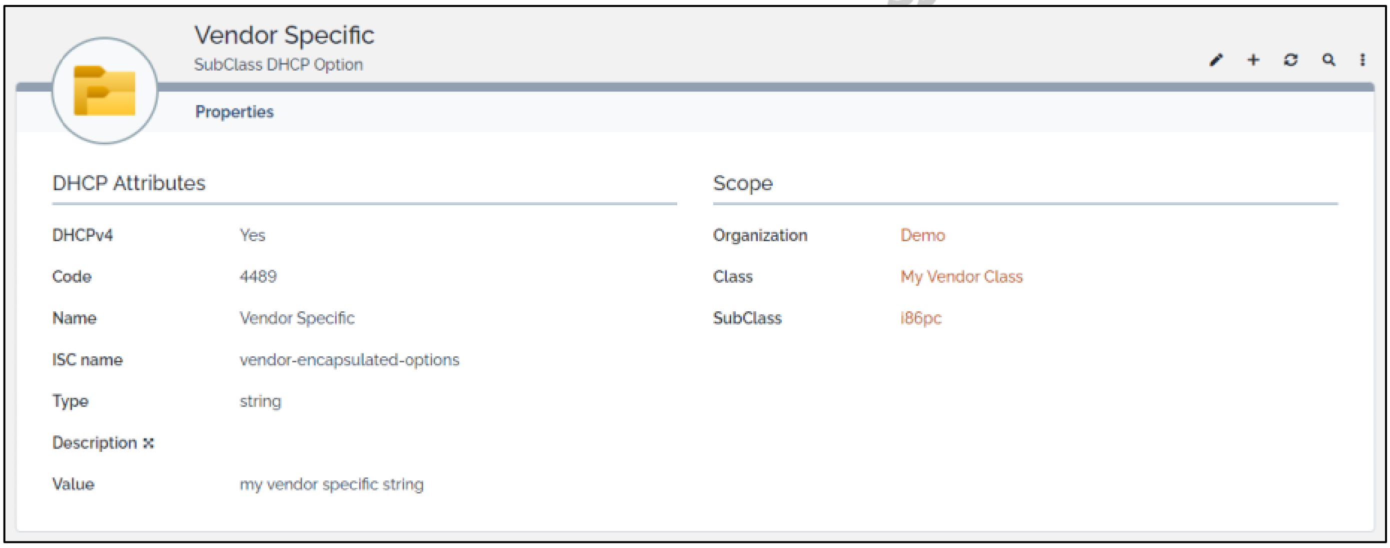


Figure 57Attributes of DHCP SubClass

Host Options

This object is used to document the Host DHCP Options. The Host scope in TeemIp is implemented through the Physical Device object.

Properties

Name	Type	Mandatory?
Host	Foreign key to a(n) Physical Device	Yes

Details

Details of a DHCP Hosts Option can be accessed from the specific “Host Options” shortcut menu of the DHCP Management module. It refers to an organization and to a Physical Device within that organization.

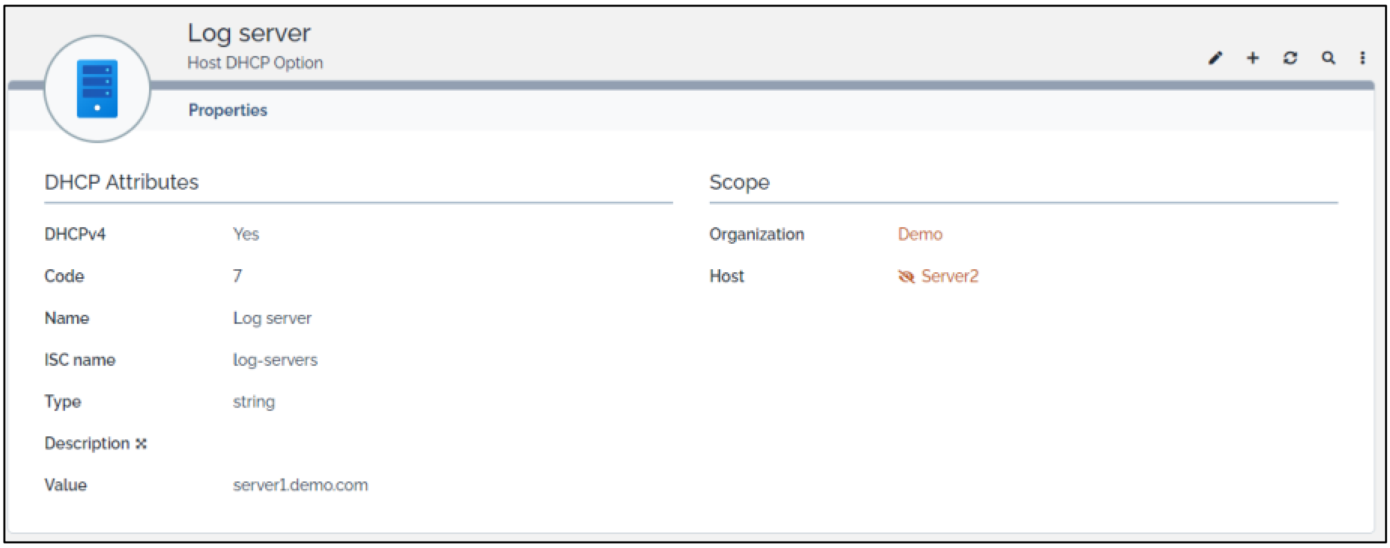


Figure 58 DHCP Log Server

7. Request Management

The Request Management module enables you to document all the requests coming from end users.
User request tickets can by assign to workgroup that would be responsible for making sure request is handled.
This module is as well integrated with the HELPDESK notification system, in order to inform the contacts that need to be notified during the life of the user request.
An end user portal is available to enable them to create the service requests by themselves and follow their status.

There are two alternatives for managing user requests in Helpdesk. You can choose to install one of the two following modules:

- Simple Ticket Management
- User request Management ITIL V3

The Simple Ticket Management module provides a simplified ticketing system. It is used to keep track of end-users requests. There are two types of request:

- Incidents are used to track unexpected issues that have an impact on the delivered services
- Service requests are used to request new services or features like installing a new PC, creating a new email address.

This module manages both types of requests in a single type of ticket. **INCIDENTS** and **SERVICE REQUESTs** will follow the same workflow. This allows agent to easily manage any kind of ticket and reclassify a request without having to create a new one.
The Request management module focuses on SERVICE REQUESTS.

The support agent can then modify and communicate with the customer via a journal called "Public log." He can also communicate with internal teams within his company through a journal called "Private log".

A user request is controlled by a workflow in order to make sure it is managed according to a defined process. Only authorized users can manage a user request and change its status.
A user request can be linked to a parent problem, or a parent change. In case you have installed the User
Request Management module, your request can be linked to a parent incident.

It is also possible to regroup user requests under a single user request.

7.1 Overview

The overview dashboard allows agents and managers to monitor the helpdesk activity

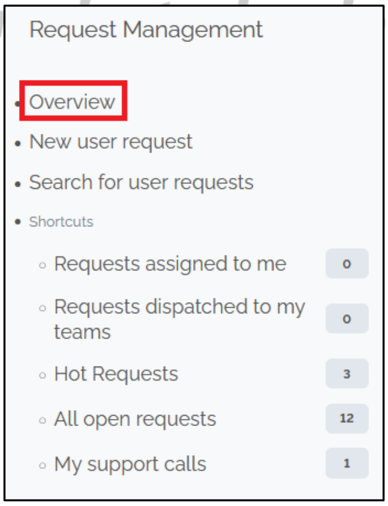


Figure 59 Request Management

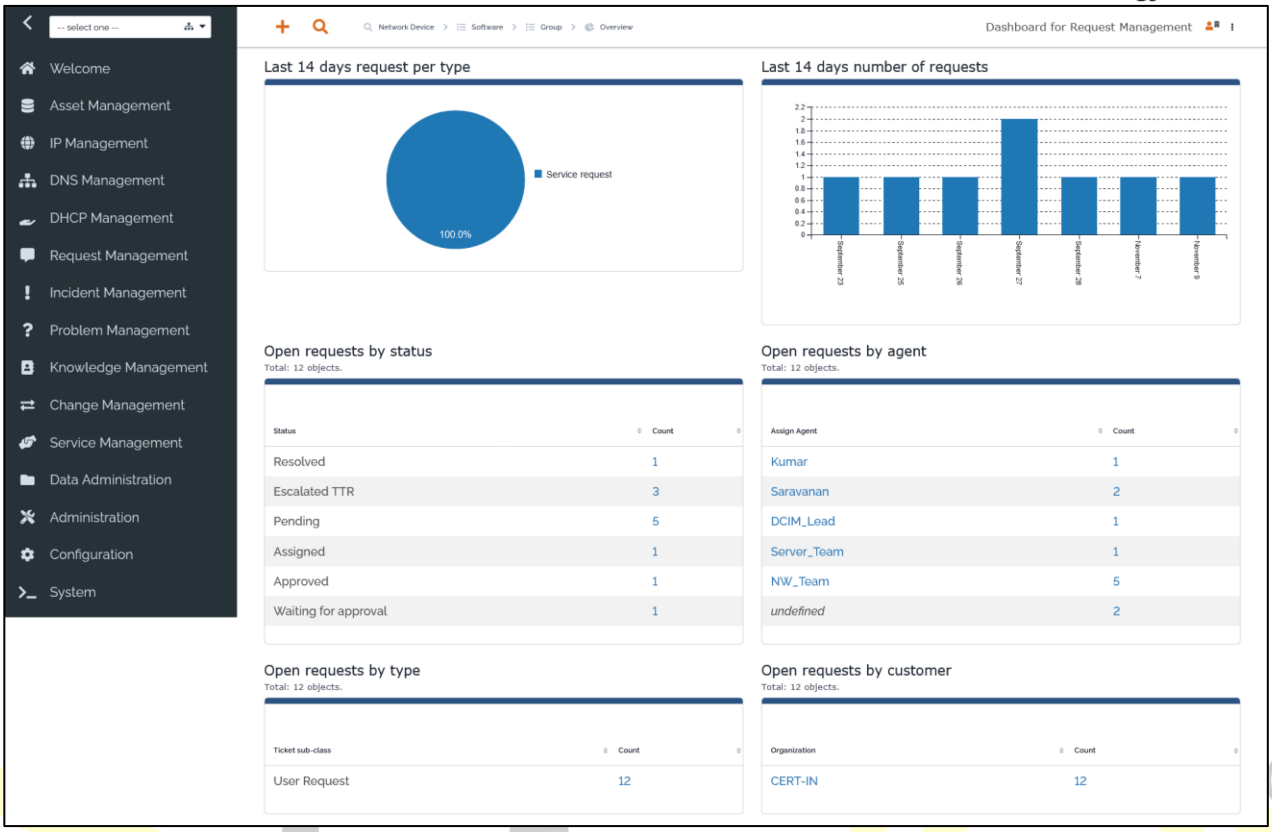


Figure 60 Dashboard of Requests

7.2 User Request

User request are used to document all request submitted by users.

User Request Properties

Name	Type	Mandatory?
Organization	Foreign key to a(n) Organization	Yes
Caller	Foreign key to a(n) Person	Yes
Status	Possible values: Approved, Assigned, Closed, Escalated TTO, Escalated TTR, New, Pending, Rejected, Resolved, Waiting for approval	Yes
Origin	Possible values: mail, monitoring, phone, portal	No
Title	Alphanumeric string	Yes
Description	Multiline character string	Yes
Service	Foreign key to a(n) Service	No
Service subcategory	Foreign key to a(n) Service Subcategory	No
Hot Flag	Possible values: No, Yes	No

Hot reason	Alphanumeric string	No
Pending reason	Multiline character string	No
Request Type	Possible values: Incident, Service request	No
Impact	Possible values: A department, A service, A person	Yes
Urgency	Possible values: critical, high, medium, low	Yes
Priority	Possible values: critical, high, medium, low	Yes
Team	Foreign key to a(n) Team	No
Agent	Foreign key to a(n) Person	No
Approver	Foreign key to a(n) Person	No
Start date	Date and time (year-month-day hh:mm:ss)	No
Last update	Date and time (year-month-day hh:mm:ss)	No
Assignment date	Date and time (year-month-day hh:mm:ss)	No
TTO Deadline	Core:AttributeStopWatch+ (100_deadline)	No
TTR Deadline	Core:AttributeStopWatch+ (100_deadline)	No
Last pending date	Date and time (year-month-day hh:mm:ss)	No
Resolution date	Date and time (year-month-day hh:mm:ss)	No
Close date	Date and time (year-month-day hh:mm:ss)	No
Parent request	Foreign key to a(n) User Request	No
Parent problem	Foreign key to a(n) Problem	No
Parent change	Foreign key to a(n) Change	No
Resolution code	Possible values: assistance, bug fixed, hardware repair, other, software patch, system update, training	No
Solution	Multiline character string	No
Resolution delay	Core:AttributeDuration+	No
User satisfaction	Possible values: Very satisfied, Fairly statisfied, Rather Dissatified, Very Dissatisfied	No
User comment	Multiline character string	No
SLA tto passed	Core:AttributeStopWatch+ (100_passed)	No
SLA tto over	Core:AttributeStopWatch+ (100_overrun)	No
SLA ttr passed	Core:AttributeStopWatch+ (100_passed)	No
SLA ttr over	Core:AttributeStopWatch+ (100_overrun)	No

7.3 Creating a User Request

Click on new user request in helpdesk module.

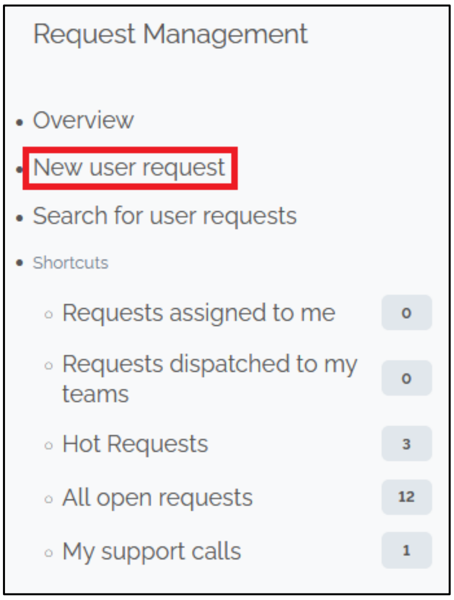


Figure 61 New User Request

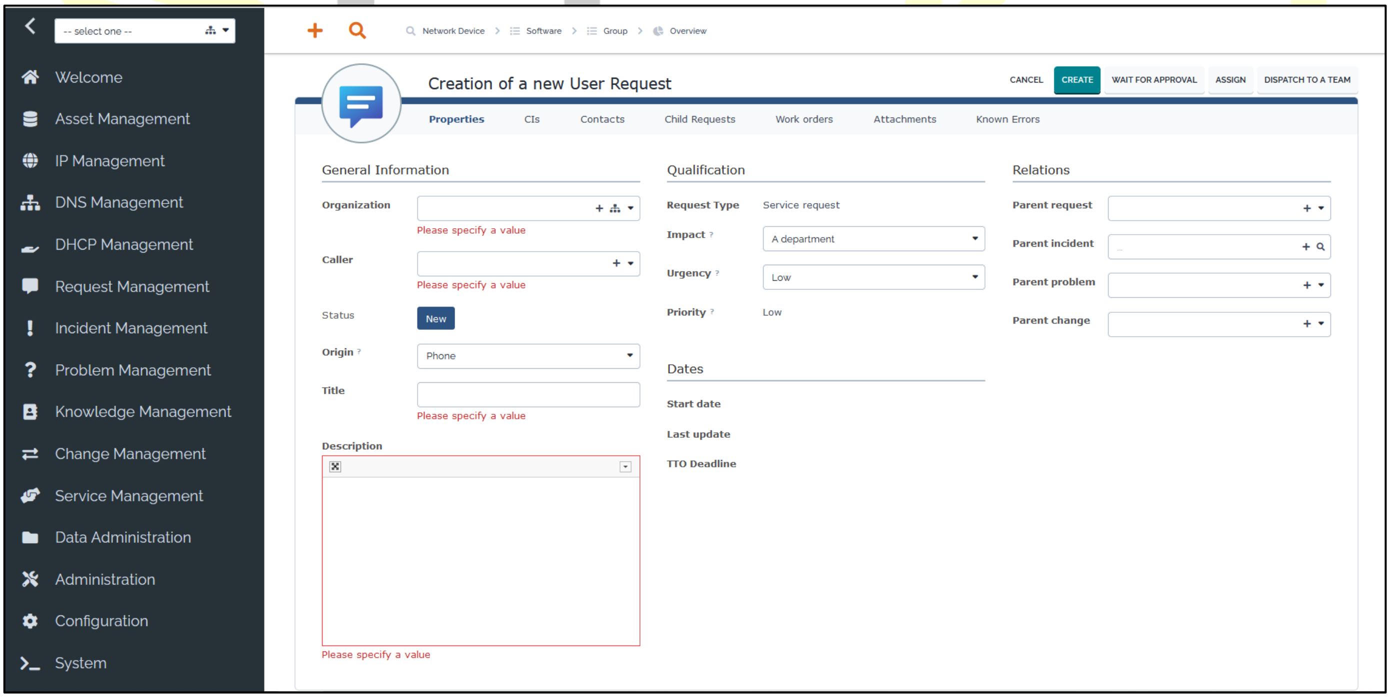


Figure 62 New User Request Entry

The following form is displayed. Fill the form as per your requirement.

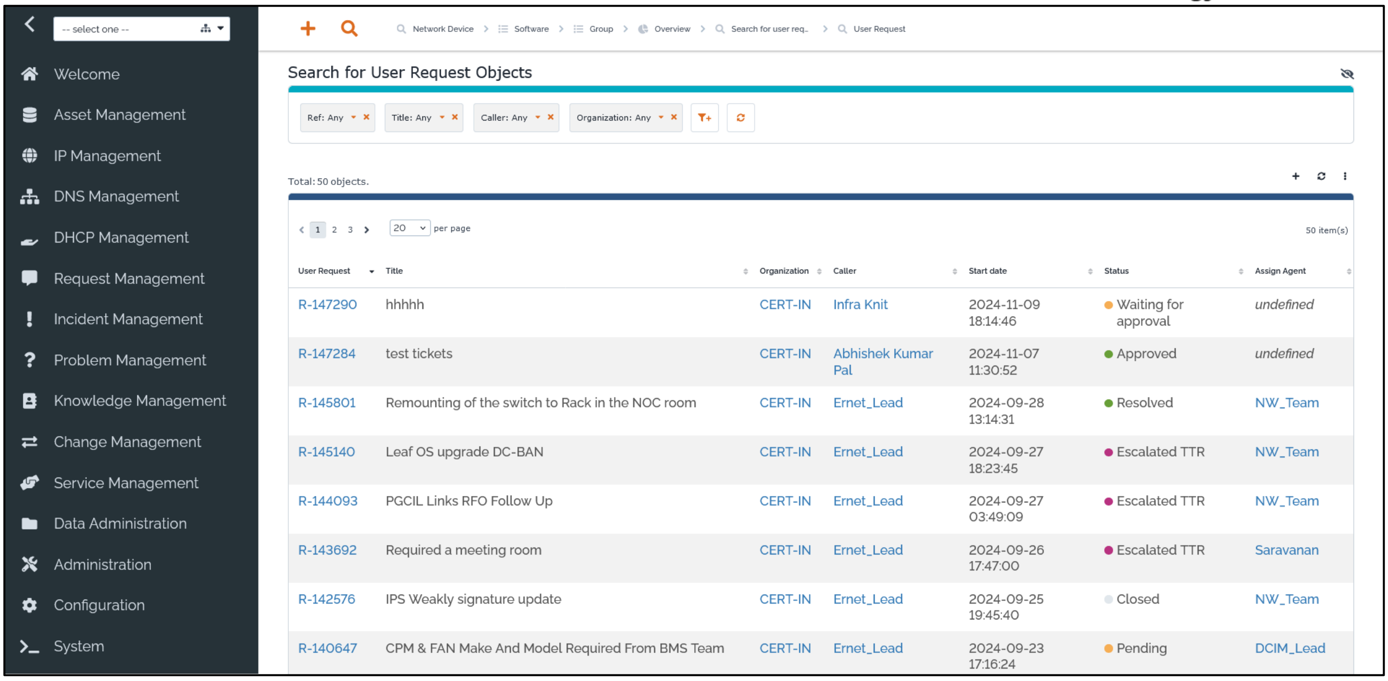


Figure 63 Search User Requests

7.4 Managing Public & Private Log

The public and the private log are used to keep track of all communications and activities related to a user request.

The **public log** is aimed at exchanging information with the requestor.

The **private log** is the preferred way for keeping track of the investigations or operations: copy/paste of command line results, summary of communications with a provider, etc.

Figure 64 Public & Private Logs

7.5 Managing impacted CIs and Contacts

When a user request is created, the agent can specify which configuration items (CIs) are related to this request via the tab “CIs”. The impact analysis engine automatically adds to this list all the other CIs that are potentially impacted by the selected items. It also adds all the contacts that are potentially impacted.

7.6. Assigning a user request to a team and agent

The list of teams to which you can assign a user request is defined by the *delivery model* of the corresponding customer. When creating a user request, the agent has to select the customer organization, then the list of teams is strictly limited to the teams defined for this customer. If a team is missing, the delivery model of the customer must be updated to reflect this need.

The following picture describes the relationships between the delivery model and user requests.

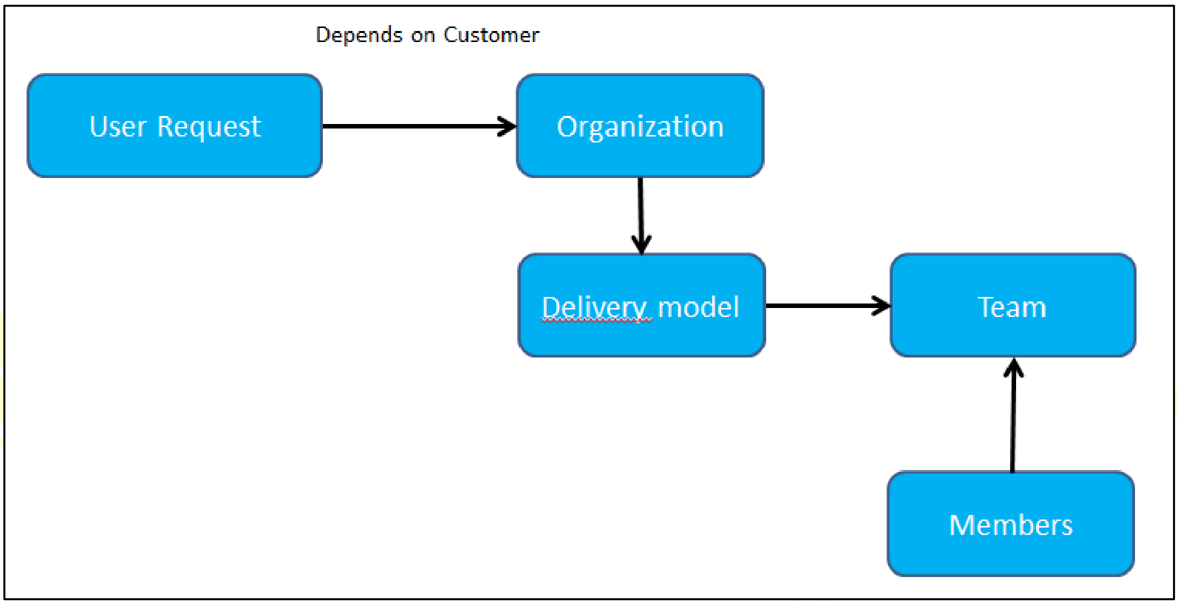


Figure 65 Flowchart for assigning a team to user Request

7.7 Automated priority computation

The priority is computed automatically. This computation depends on the impact and the urgency of the user request. The following matrix describes how the priority is computed:

		Impact		
		A departement	A service	A person
Urgency	critical	critical	critical	high
	high	critical	high	medium
	medium	high	medium	low
	low	medium	medium	low

Figure 66 Priorities

7.8 Deadline computation

To meet service agreements with customers, iTop automatically computes time to own (TTO) and time to resolve (TTR) deadlines. These deadlines depend on the *service level agreements* defined in the customer contracts.

The measured TTO is the time cumulated while the user request is not assigned. When the TTO deadline is passed, the ticket status is automatically changed to “Escalated TTO”.

The measured TTR is the time cumulated while the user request is neither pending nor resolved. When the TTR deadline is passed, the ticket status is automatically changed to “Escalated TTR”.

The computation of the deadlines depends on:

- The service level agreement defined in the customer contract for the selected service
- The priority of the user request
- The type of request

These are defined in the service level targets (SLT) corresponding to the service level agreement (SLA).

The deadlines computation is performed each time a modification is made on the user request.

Once the user request is resolved, deadlines and measures are kept within the user request. This can be used both for analyzing process issues and for reporting purposes.

The following information are recorded:

- TTO deadline (date and time)
- TTO passed (yes / no)
- TTR deadline (date and time)
- TTR passed (yes / no)

7.9 User Request Life Cycle

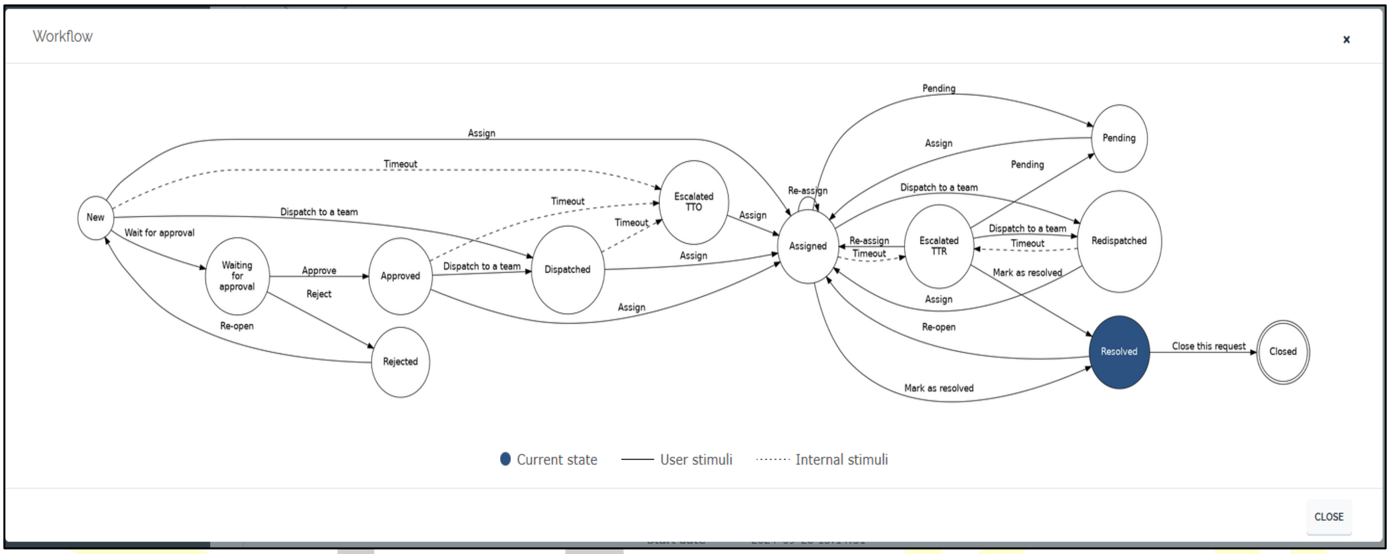


Figure 67 User Request Life Cycle

8. Incident Management

The incident management module allows you to manage any incident ticket occurring in your environment as describe by ITIL best practices.
It allows support agent to create incidents. In order to focus on most critical issues, they can use different level of severity. They can also easily document infrastructures impacted and contact to be notified.
This module is linked to service management module in order to link incidents with the service catalog, and by this way manages automatically SLA.
Using this module you can improve efficiency of your support teams and make sure incident are handled according to defined SLAs.

This module is as well integrated with the Helpdesk, in order to inform the contacts that need to be notified during the life of the user request.

8.1 Overview

It shows the overview of incident management module.

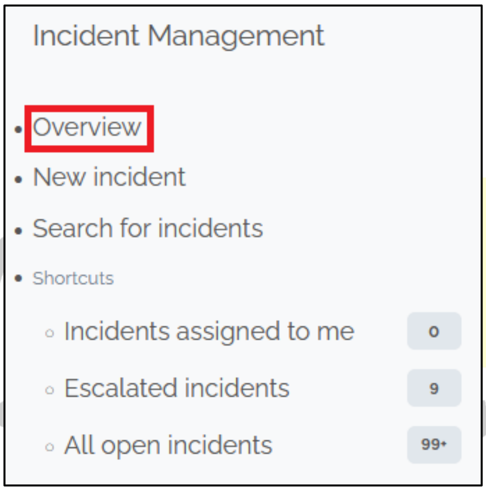


Figure 68 Incident Management

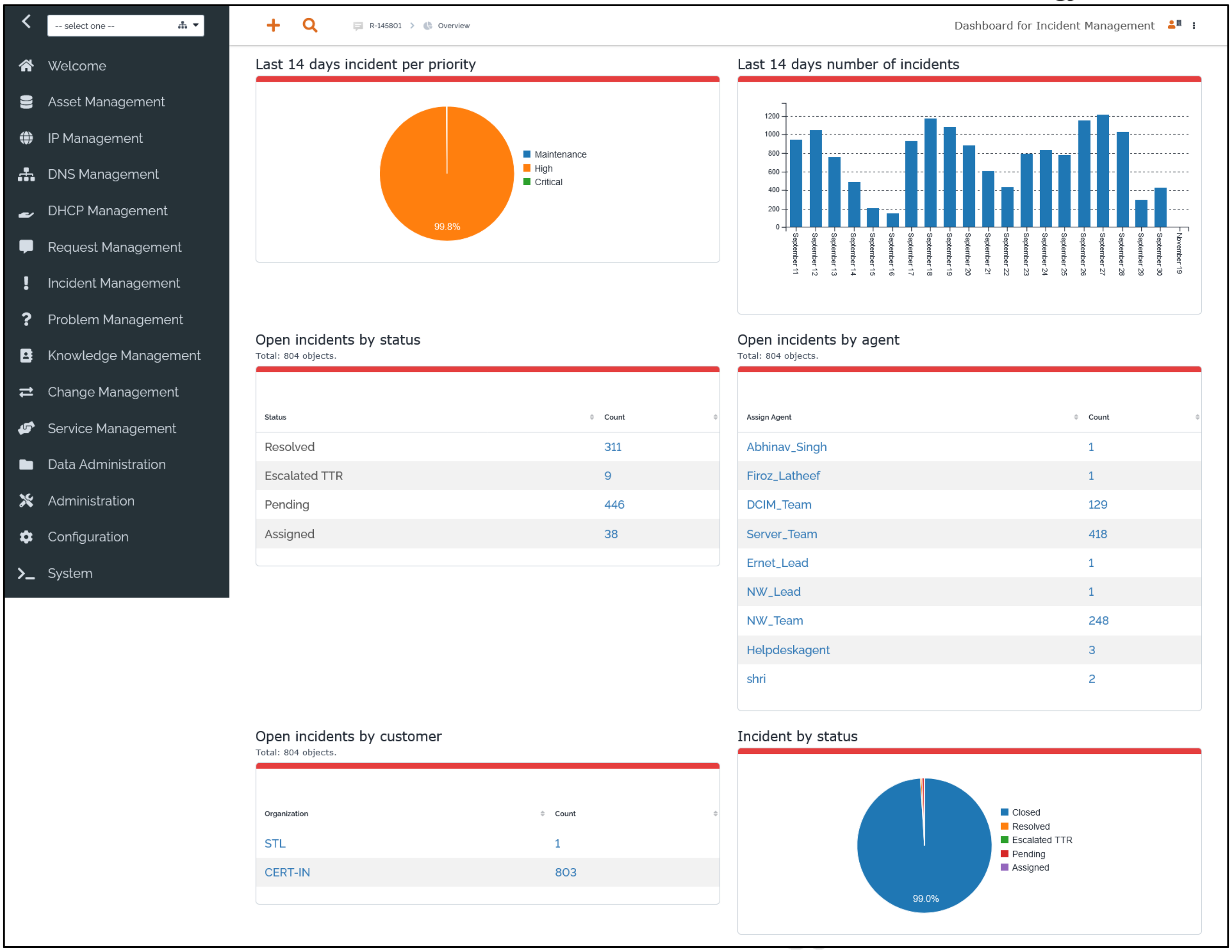


Figure 69 Incident Management Dashboard

8.2 Incident Properties

Name	Type	Mandatory?
Organization	Foreign key to a(n) Organization	Yes
Caller	Foreign key to a(n) Person	Yes
Status	Possible values: Assigned, Closed, Escalated TTO, Escalated TTR, New, Pending, Resolved	Yes
Origin	Possible values: mail, monitoring, phone, portal	No
Title	Alphanumeric string	Yes
Description	Multiline character string	Yes
Service	Foreign key to a(n) Service	No
Service subcategory	Foreign key to a(n) Service Subcategory	No
Hot Flag	Possible values: No, Yes	No

Hot reason	Alphanumeric string	No
Pending reason	Multiline character string	No
Impact	Possible values: A department, A service, A person	Yes
Urgency	Possible values: critical, high, medium, low	Yes
Priority	Possible values: critical, high, medium, low	Yes
Team	Foreign key to a(n) Team	No
Agent	Foreign key to a(n) Person	No
Start date	Date and time (year-month-day hh:mm:ss)	No
Last update	Date and time (year-month-day hh:mm:ss)	No
Assignment date	Date and time (year-month-day hh:mm:ss)	No
TTO Deadline	Core:AttributeStopWatch+ (100_deadline)	No
TTR Deadline	Core:AttributeStopWatch+ (100_deadline)	No
Last pending date	Date and time (year-month-day hh:mm:ss)	No
Resolution date	Date and time (year-month-day hh:mm:ss)	No
Close date	Date and time (year-month-day hh:mm:ss)	No
Parent incident	Foreign key to a(n) Incident	No
parent problem id	Foreign key to a(n) Problem	No
Parent change	Foreign key to a(n) Change	No
Resolution code	Possible values: assistance, bug fixed, hardware repair, other, software patch, system update, training	No
Solution	Multiline character string	No
Resolution delay	Core:AttributeDuration+	No
User satisfaction	Possible values: Very satisfied, Fairly statisfied, Rather Dissatified, Very Dissatisfied	No
User comment	Multiline character string	No
SLA tto passed	Core:AttributeStopWatch+ (100_passed)	No
SLA tto over	Core:AttributeStopWatch+ (100_overrun)	No
SLA ttr passed	Core:AttributeStopWatch+ (100_passed)	No
SLA ttr over	Core:AttributeStopWatch+ (100_overrun)	No

8.3 Tabs

Tab	Description

CIs	All the configuration items impacted for this ticket
Contacts	All the contacts linked to this ticket
Child incidents	All the child incidents related to this incident
related request list	
Work orders	All the work orders for this ticket

8.4 Creating an Incident

Click on the “New incident” menu:

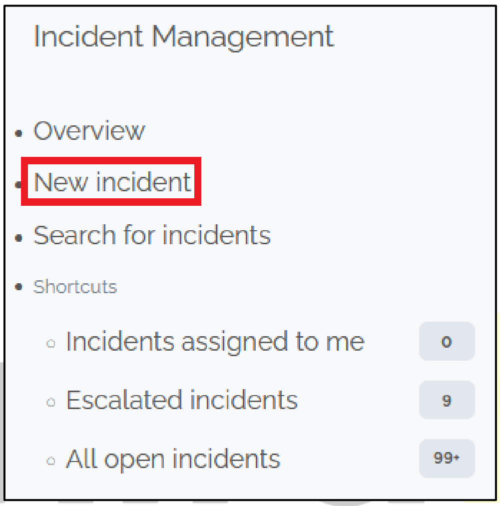


Figure 70 Creating an Incident

The following form is displayed:

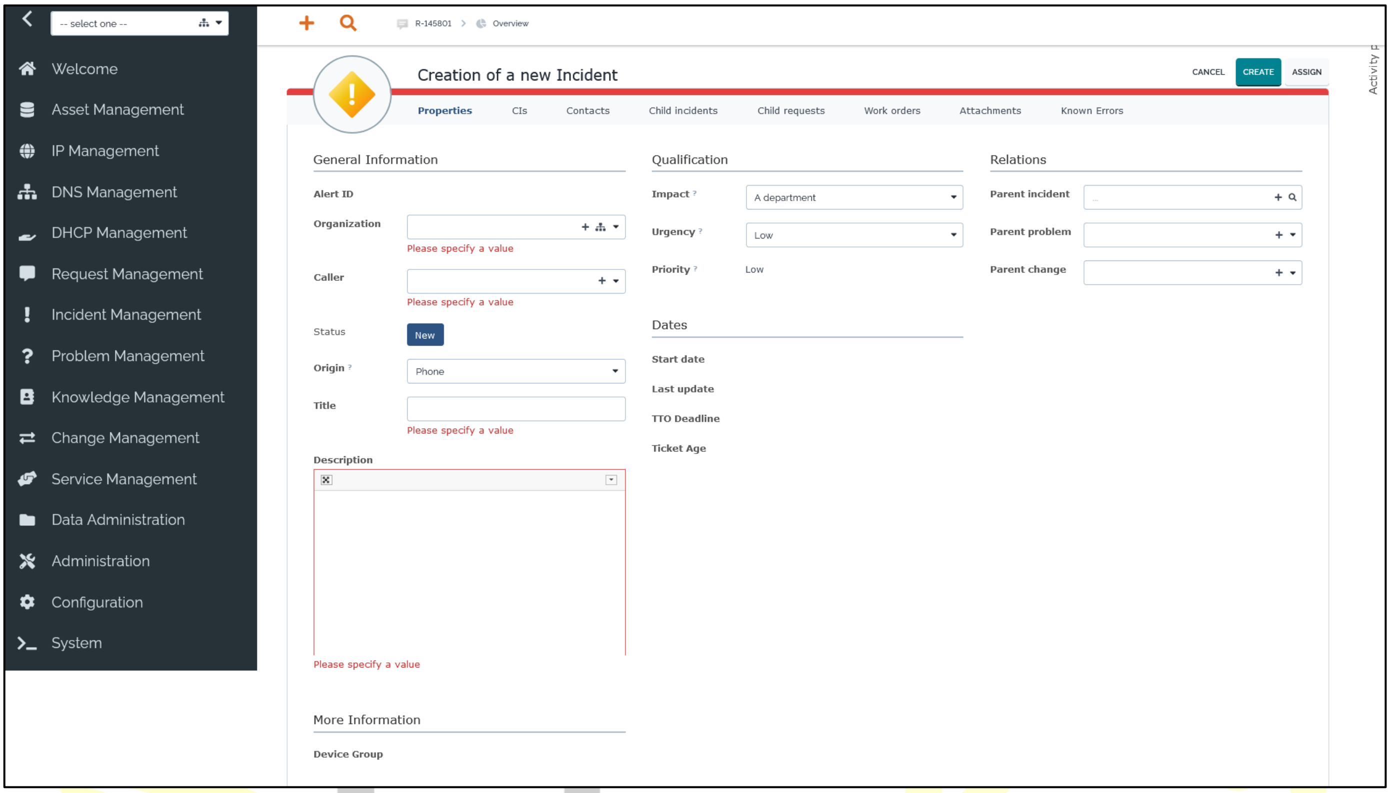


Figure 71 Creating a new Incident

8.5 Grouping related incidents

It is sometimes useful to regroup incident tickets under an incident which is the root cause of the issue. For instance when a network device is down, you may have several servers reported as “not responding”.

To group tickets, use the field **parent incident**.

When an incident is parent of another ticket, each time its private and public logs are modified, Helpdesk will automatically update the logs of the child tickets. When the parent incident get resolved, Helpdesk will automatically resolve the child incidents.

8.6 Incident Life Cycle

Incident objects have the following life cycle:

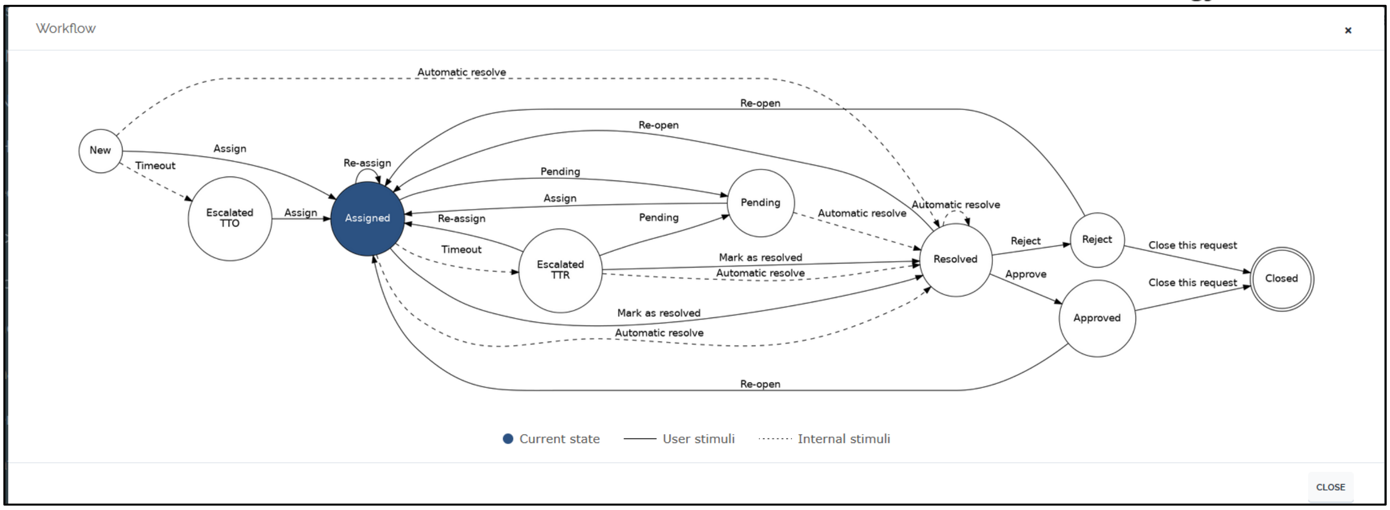


Figure 72 Workflow of an incident

9. Problem Management

A *problem* is the cause of one or more *incidents* occurring in your IT. At the time the *problem* is recorded, the cause may be still unknown. Such tickets will allows IT engineers to document all the actions made to find the root cause and fix the issue.

The main difference between a *problem* and an *incident* is that an *incident* must be fixed as quickly as possible to reduce the unavailability period of the service, whereas the problem will focus on identifying the root cause. While the root cause remains undefined, a workaround is provided to help in fixing corresponding recurring *incidents*.

The *problems* are managed by users having the profile **Problem manager**.

9.1 Problem Properties

Name	Type	Mandatory?
Ref	Alphanumeric string	Yes
Title	Alphanumeric string	Yes
Organization	Foreign key to a(n) Organization	Yes
Status	Possible values: Assigned, Closed, New, Resolved	Yes
Priority	Possible values: Critical, High, Medium, Low	Yes
Service	Foreign key to a(n) Service	No
Service subcategory	Foreign key to a(n) Service Subcategory	No
Product	Alphanumeric string	No
Impact	Possible values: A Department, A Service, A person	Yes

Urgency	Possible values: critical, high, medium, low	Yes
Description	Multiline character string	Yes
Start date	Date and time (year-month-day hh:mm:ss)	No
Last update	Date and time (year-month-day hh:mm:ss)	No
Assignment Date	Date and time (year-month-day hh:mm:ss)	No
Resolution Date	Date and time (year-month-day hh:mm:ss)	No
Close date	Date and time (year-month-day hh:mm:ss)	No
Caller	Foreign key to a(n) Person	No
Team	Foreign key to a(n) Team	No
Agent	Foreign key to a(n) Person	No
Related Change	Foreign key to a(n) Change	No

9.2 Tabs

Tab	Description
CIs	All the configuration items impacted for this ticket
Contacts	All the contacts linked to this ticket
Known Errors	All the known errors that are linked to this problem
Work orders	All the work orders for this ticket
Related requests	All the requests that are related to this problem

9.3 Creating a Problem

Click on the “New problem” menu:

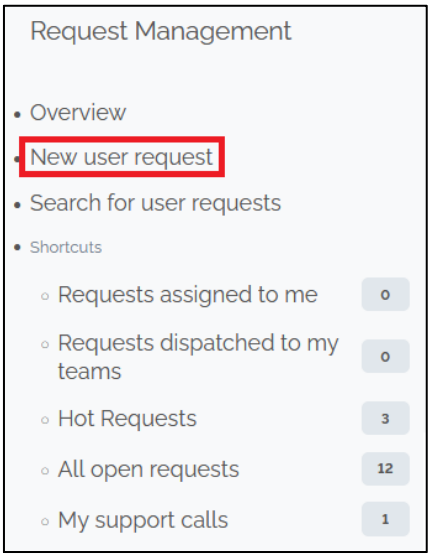


Figure 73 Creation of Problem

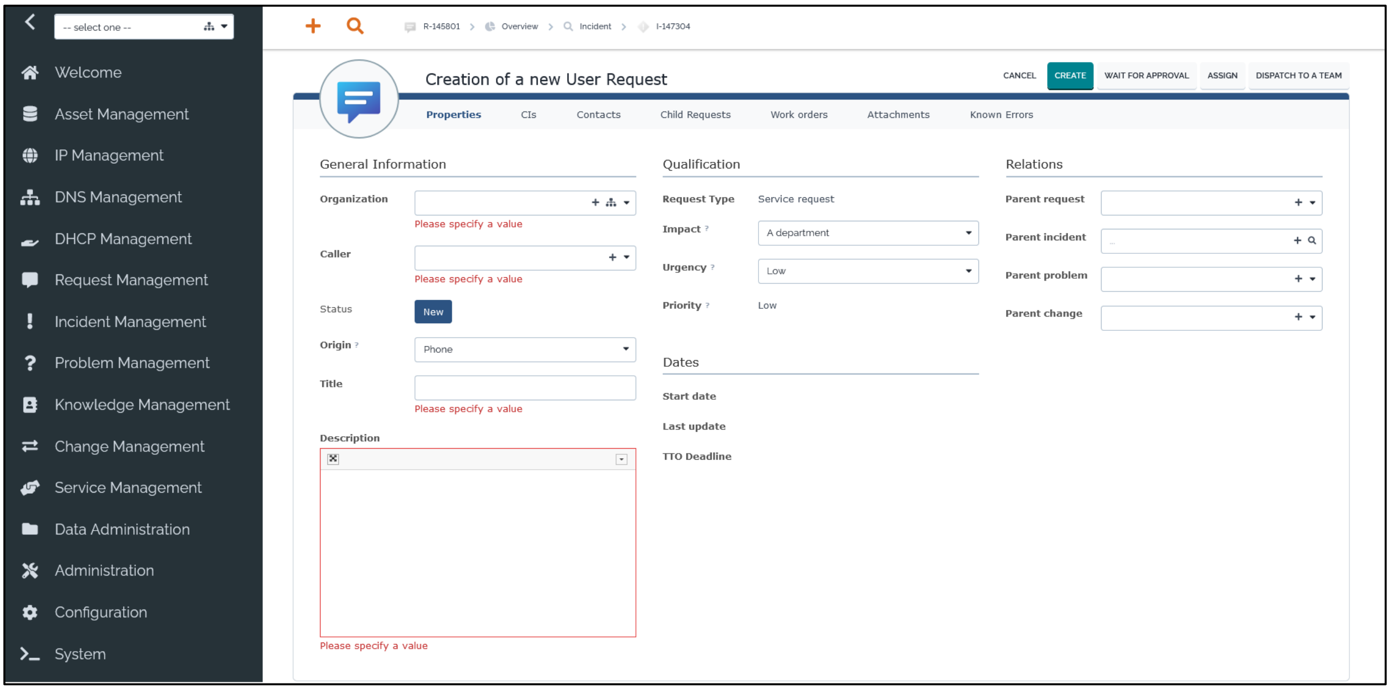


Figure 74 New Problem Creation

Managing Private Log

A problem ticket only have a private log to keep track of all the activities and communications related to it.

This log is not visible on the end user portal.

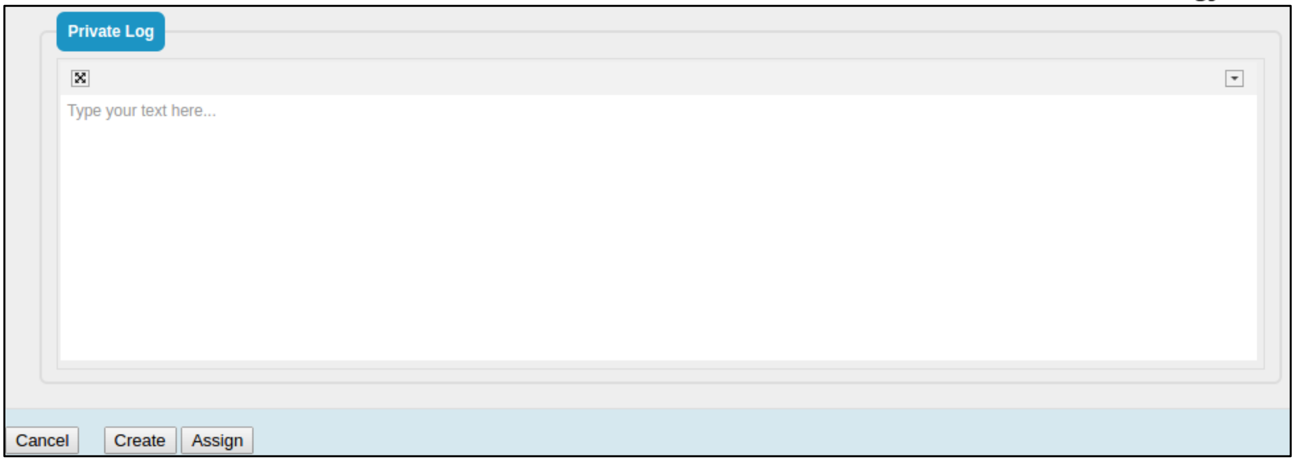


Figure 75 Private Log

Managing CIs and Contacts

Unlike the incident and change management modules, the lists of CIs and contacts that are linked to a problem are managed manually.

9.4 Problem Life Cycle

Problem objects have the following life cycle:

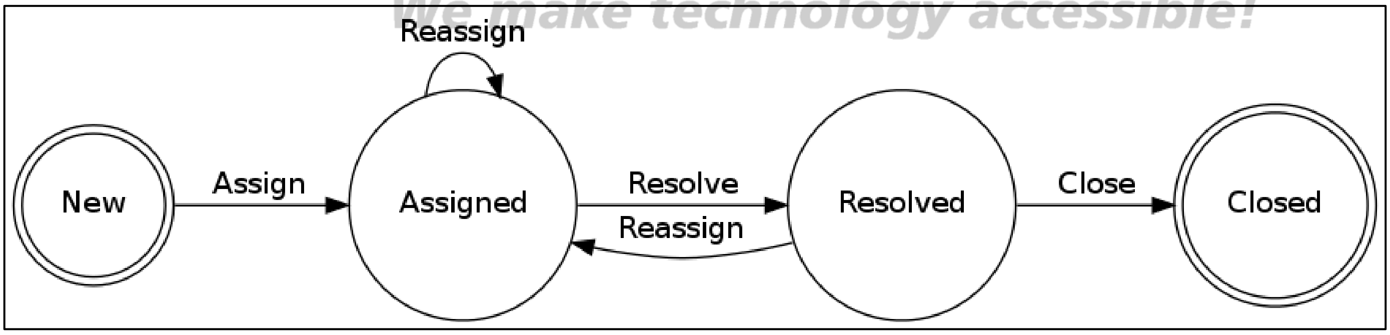


Figure 76 Life Cycle of Problem

9.5 Known Error

The *known errors* are part of the *problem management* process. They are used to document known issues even if the problem is not completely fixed, for instance by providing a workaround. This improves the efficiency of the *incident Management* process.

A *known error* can be linked to *configuration items*. When a ticket is linked a CI then the known errors related to that CI is displayed automatically in the ticket.

9.6 Known Error Properties

Name	Type	Mandatory
Name	Alphanumeric string	Yes
Customer	Foreign key to a(n) organization	yes
Related problem	Foreign key to a(n) problem	No
Error code	Alphanumeric string	No
Domain	Application, desktop, network, server	Yes
Vendor	Alphanumeric string	No
Model	Alphanumeric string	No
Version	Alphanumeric string	No
Symptom	Multicharacter string	Yes
Root cause	Multicharacter string	No
Work around	Multicharacter string	No
Solution	Multicharacter string	No

9.6.1 Creating a Known Error

Click on the “New known error” menu

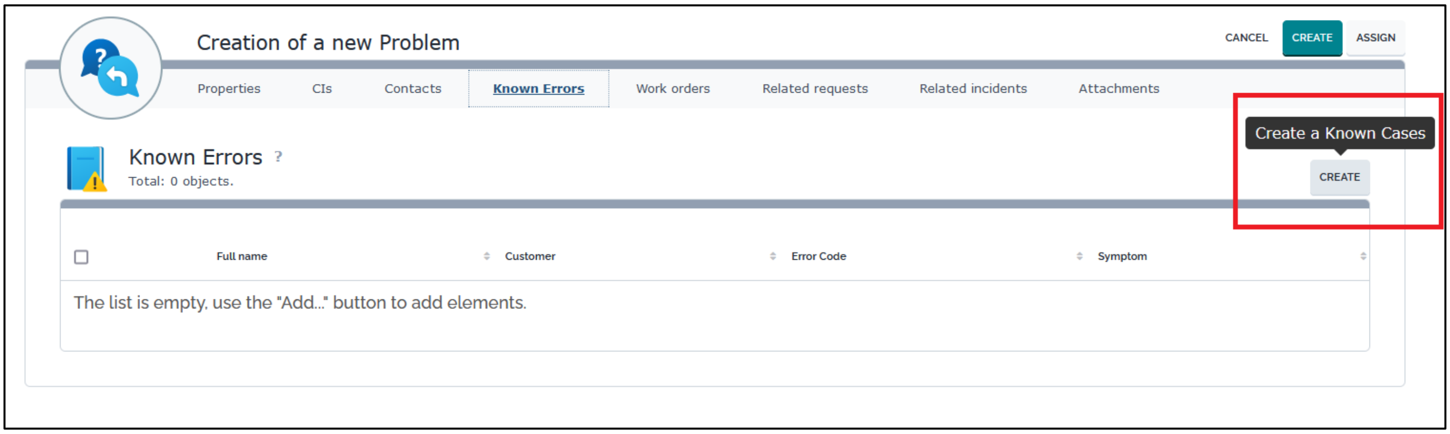


Figure 77 Creation of New Problem

The following form is displayed

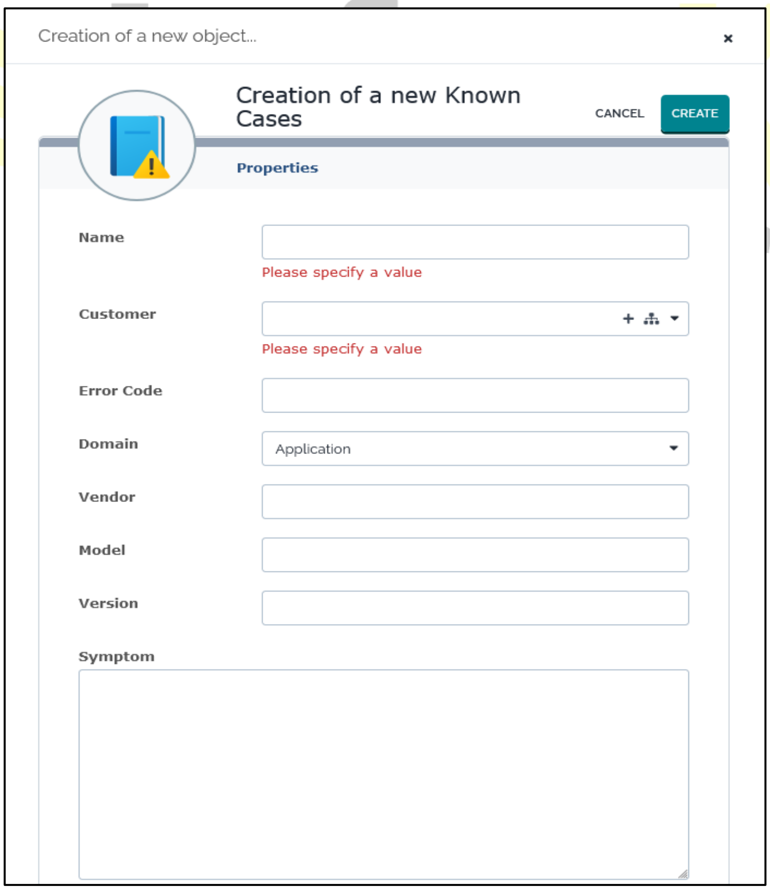


Figure 78 Creation of New known cases

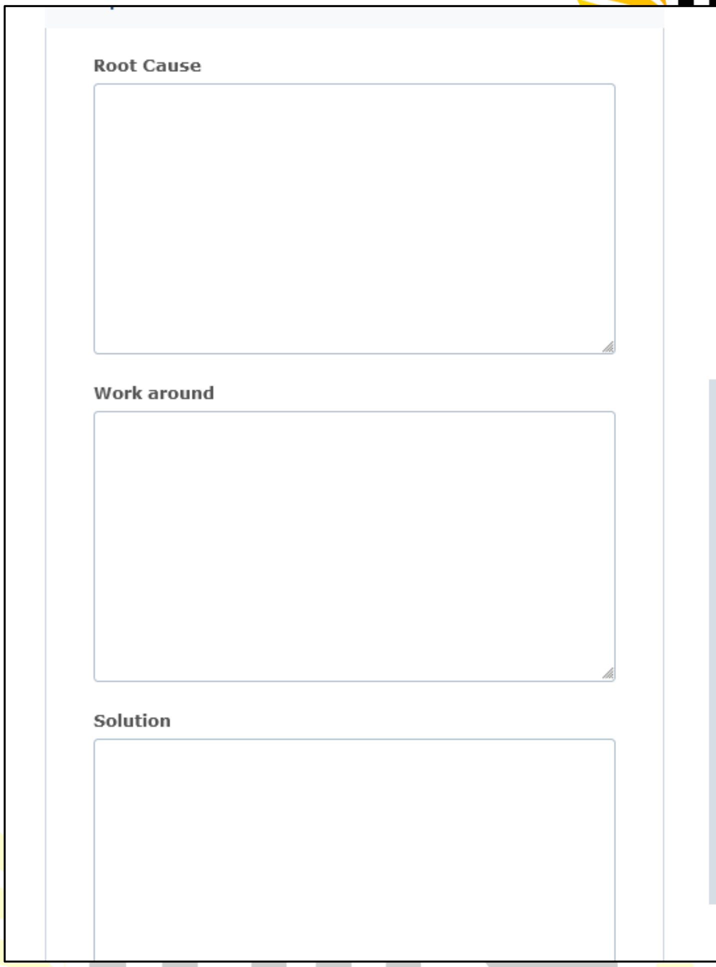


Figure 79 More info on Known error

In addition to its name, and the corresponding organization, a known error can be characterized by the following attributes:

- Error code
- Domain
- Vendor
- Model
- Version

Most of the time, a known error should be linked to a problem. This way, support agents can quickly get the relevant information to troubleshoot and fix.

10. Knowledge Management

A File Document is used to upload documentation that can be shared across multiple objects in the CMDB. Once a document (Word, PDF & excel) has been uploaded into Helpdesk, it can be "attached" to many differ- ent configuration items that share the same documentation. This is useful for process- ing instructions, technical documentation, etc. that need to be referenced from several places in the CMDB.

File Documents are stored inside the MySQL database so their maximum size is limited by:

- The maximum upload size configured on the web server.
- The maximum size of a MySQL packet configured on the MySQL server.

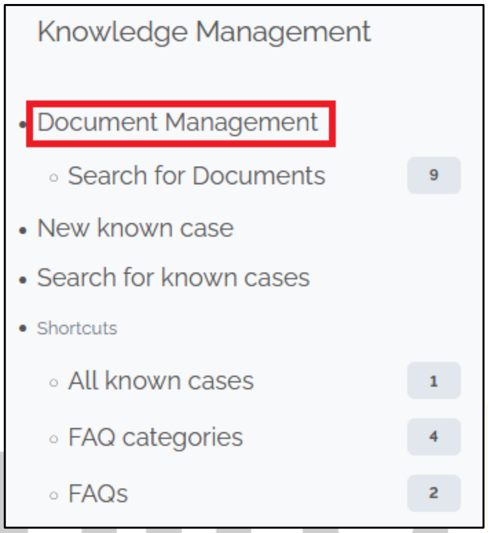


Figure 80 knowledge management

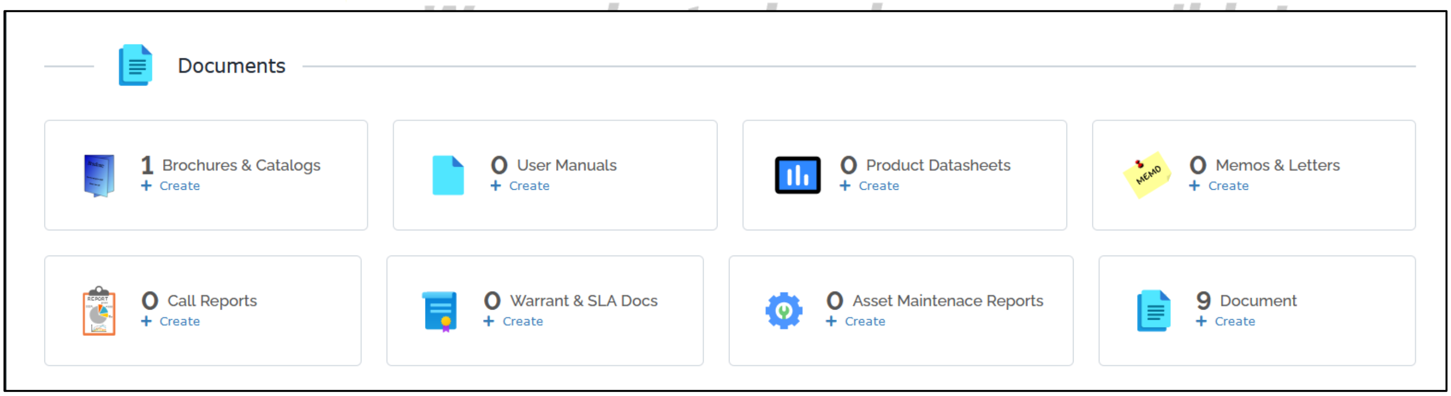


Figure 81 Documents Catalog

10.1 Document Note

A Note is used to store a short text document. HTML formatting of Notes is supported using the WYSIWYG editor.

10.2 Document Web

Web documents are used to store hyperlinks to external applications or documents. Think to them as "pointers" to external documents.

10.3 FAQ

The frequently asked questions (FAQs) answer the most common questions asked by users about a service. FAQs can easily solve common problems.

FAQ Properties

Name	Type	Mandatory
Category	Foreign key to a(n) FAQ Category	Yes
Title	Alphanumeric string	Yes
Error code	Alphanumeric string	No
Key words	Alphanumeric string	No
Summary	Multiline character string	No
Description	HTML string	No

10.4 Creating a FAQ

The menu “FAQs” provides a list of FAQ. Just click on the button “New” to create a new FAQ.

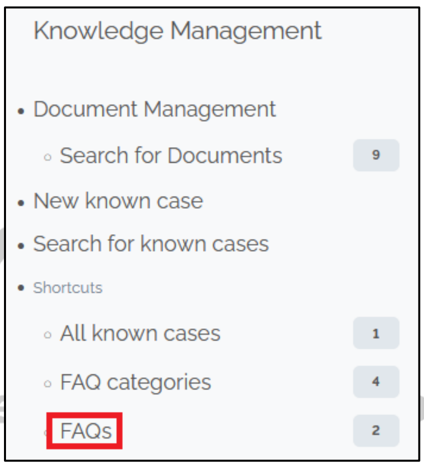


Figure 82 Creating a FAQ

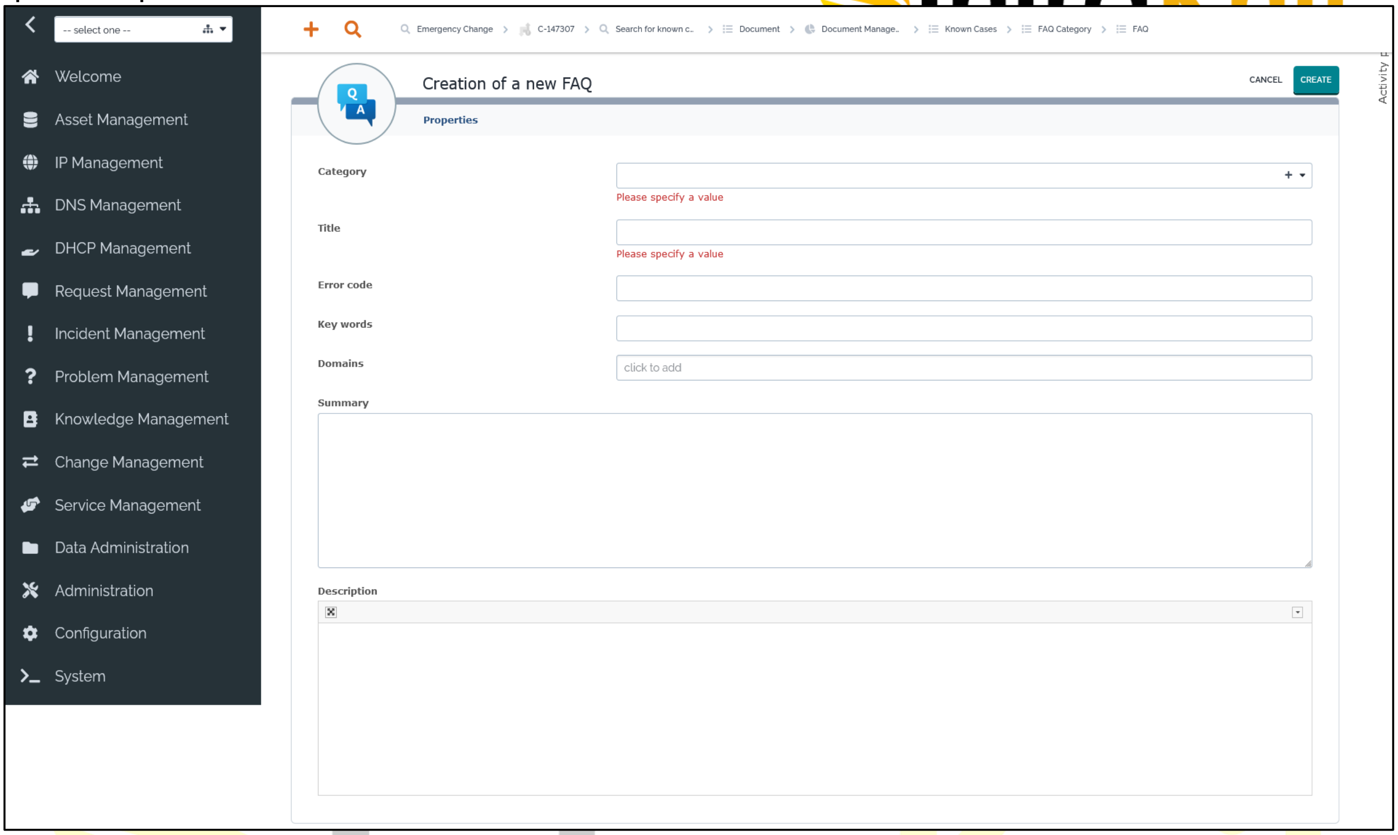


Figure 83 creation of new FAQ

11. Change Management

A *change ticket* or simply a *change* keeps track of modifications planned in the IT:

- Patch installations
- System configuration changes
- OS updates
- Software installations

This way you can track all the modifications made in your IT. A lot of incidents are due to changes made in the IT environment. By documenting them, you can identify easily what changes had been made when an incident occurs and restore the service more quickly.

Moreover, this change management module allows you to analyze automatically the impact of the changes on the infrastructure and the application solutions. IT engineers can then better control the unavailability of the critical services in the enterprise, and improve customer satisfaction.

Change tickets are managed by the people having the profiles:

- **Change Requestor** raise the request
- **Change Implementation Agent** plan and implement the changes
- **Change Implementation Supervisor** approve the changes at 1st level
- **Change Implementation Manager** approve the changes at 2nd level
- **Change Req Approver (CAB mem)** approve the changes at final level
- **Change Record Authorizer** keep record for all changes

11.1 Change Properties

Name	Type	Mandatory?
Ref	Alphanumeric string	Yes
Organization	Foreign key to a(n) Organization	Yes
Status	Possible values: Approved, Assigned, Closed, New, Planned, Rejected	No
Title	Alphanumeric string	Yes
Description	Multiline character string	Yes
Caller	Foreign key to a(n) Person	Yes
Team	Foreign key to a(n) Team	No
Agent	Foreign key to a(n) Person	No
Change manager	Foreign key to a(n) Person	No
Category	Possible values: application, hardware, network, other, software, system	No
Reject reason	Multiline character string	No
Fallback plan	Multiline character string	No
Parent change	Foreign key to a(n) Change	No
Creation date	Date and time (year-month-day hh:mm:ss)	No
Start date	Date and time (year-month-day hh:mm:ss)	No
End date	Date and time (year-month-day hh:mm:ss)	No
Last update	Date and time (year-month-day hh:mm:ss)	No
Approval date	Date and time (year-month-day hh:mm:ss)	No
Close date	Date and time (year-month-day hh:mm:ss)	No
Outage	Possible values: yes, no	No

11.2 Tabs

Tab	Description
CIs	All the configuration items impacted for this ticket
Contacts	All the contacts linked to this ticket
Work orders	All the work orders for this ticket
Related requests	All the user requests linked to this change
Related problems	All the problems linked to this change

Child changes All the sub changes linked to this change

11.3 Assigning a user request to a team and agent

The list of teams to which you can assign a change is defined by the delivery model of the corresponding organization. When creating a change, the agent has to select the customer organization, then the list of teams is strictly limited to the teams defined for this customer.

Normal Change

An ITIL normal change refers to changes that must follow the complete change management process. By definition, a normal change will proceed through all steps of the change management process and will eventually be reviewed by the Change Advisory Board (CAB). The CAB will provide advice regarding the change to the person who is deemed responsible to approve or reject normal changes

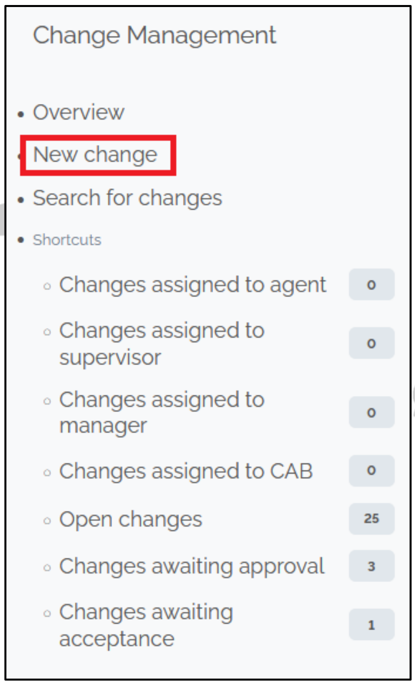


Figure 84 Change Management

Creating a Normal Change

Click on the “New change” menu

Then select “Normal Change” in the form below:

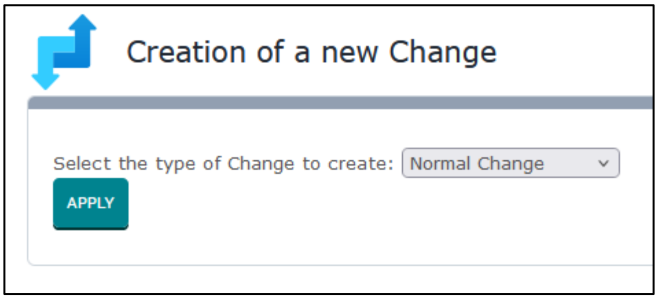


Figure 85 Creation of Change Management

And click “Apply” to display the Normal Change creation form:

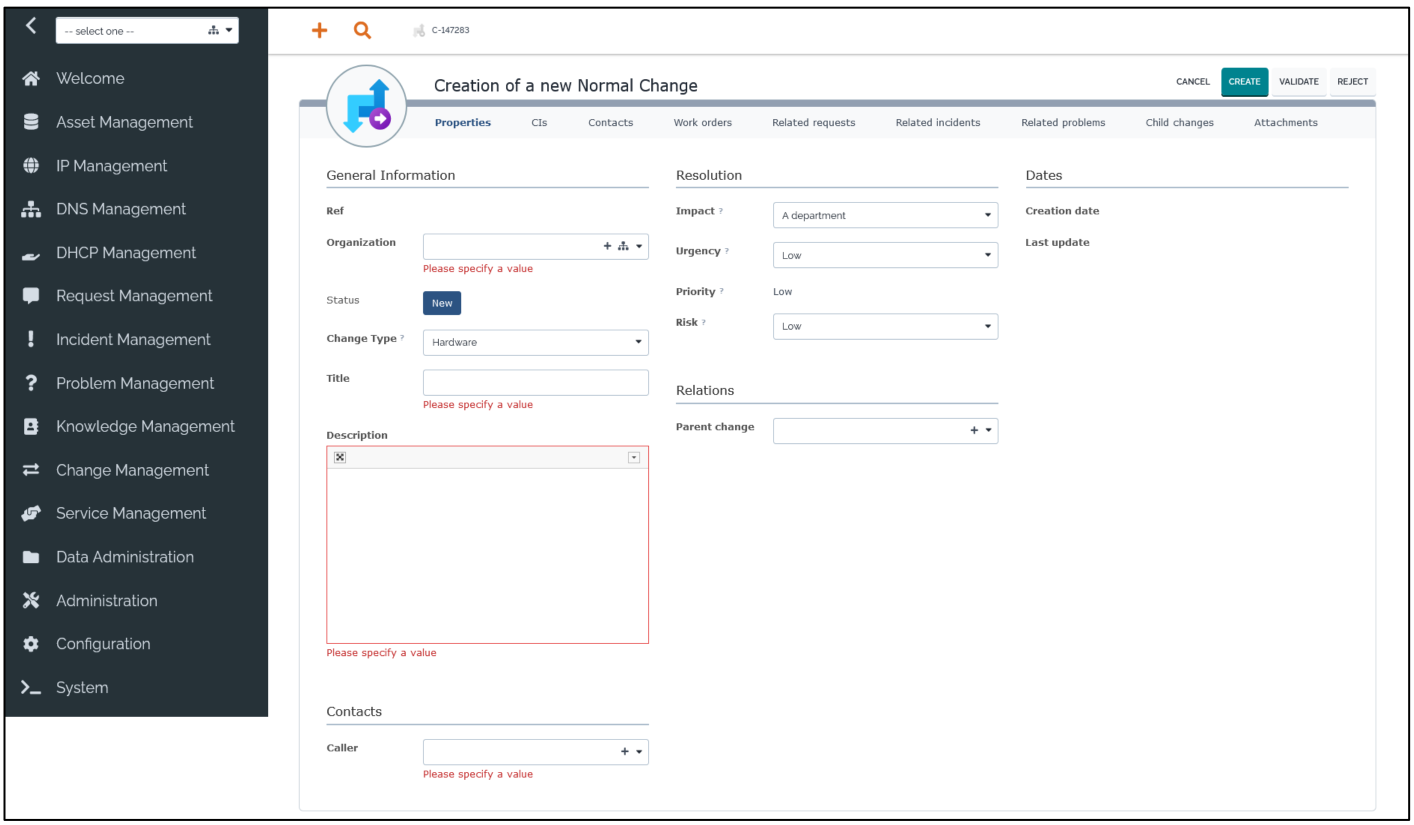


Figure 86 Creation of New Change

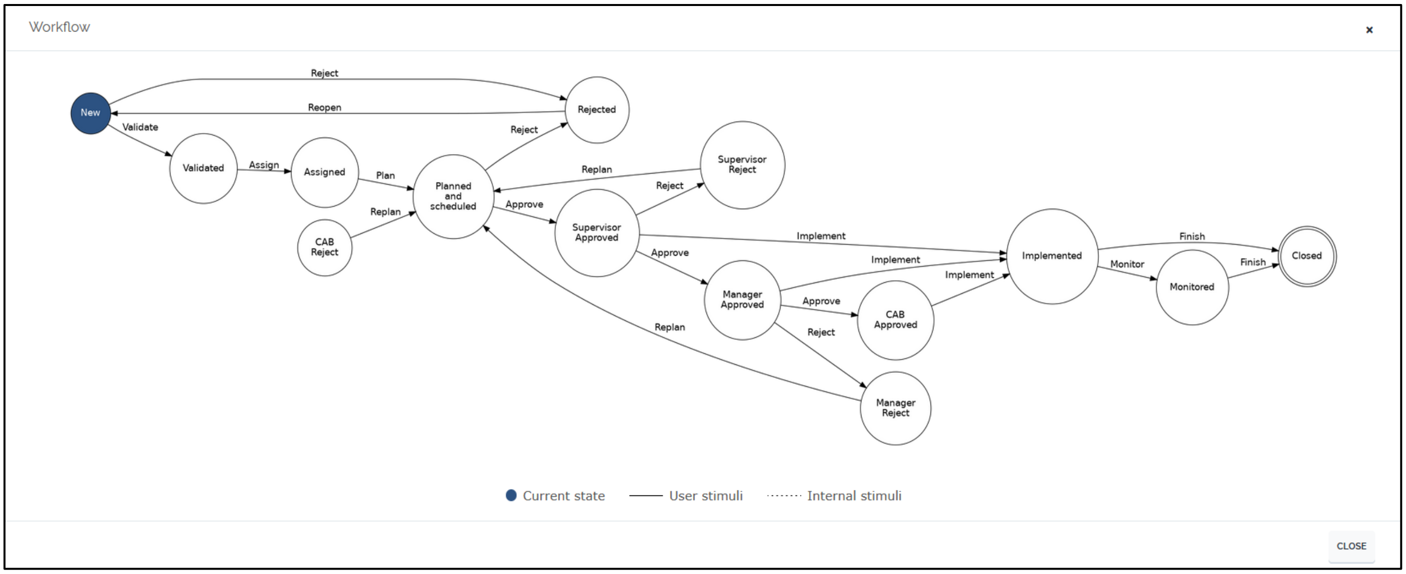


Figure 87 Change Life Cycle

11.3.1 Routine Change

An ITIL routine (standard) change quite simply refers to pre-approved changes. Preapproved changes can be defined for a variety of tasks, but they will typically be low risk, low effort changes that have a low or known cost.

Creating a Routine Change

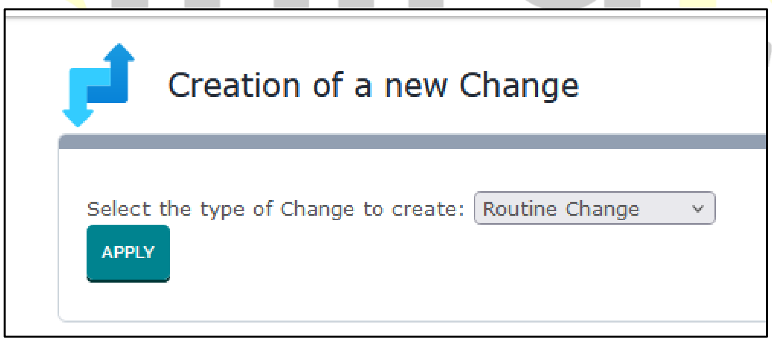


Figure 88 Creation of Routine Change

And click “Apply” to display the Routine Change creation form

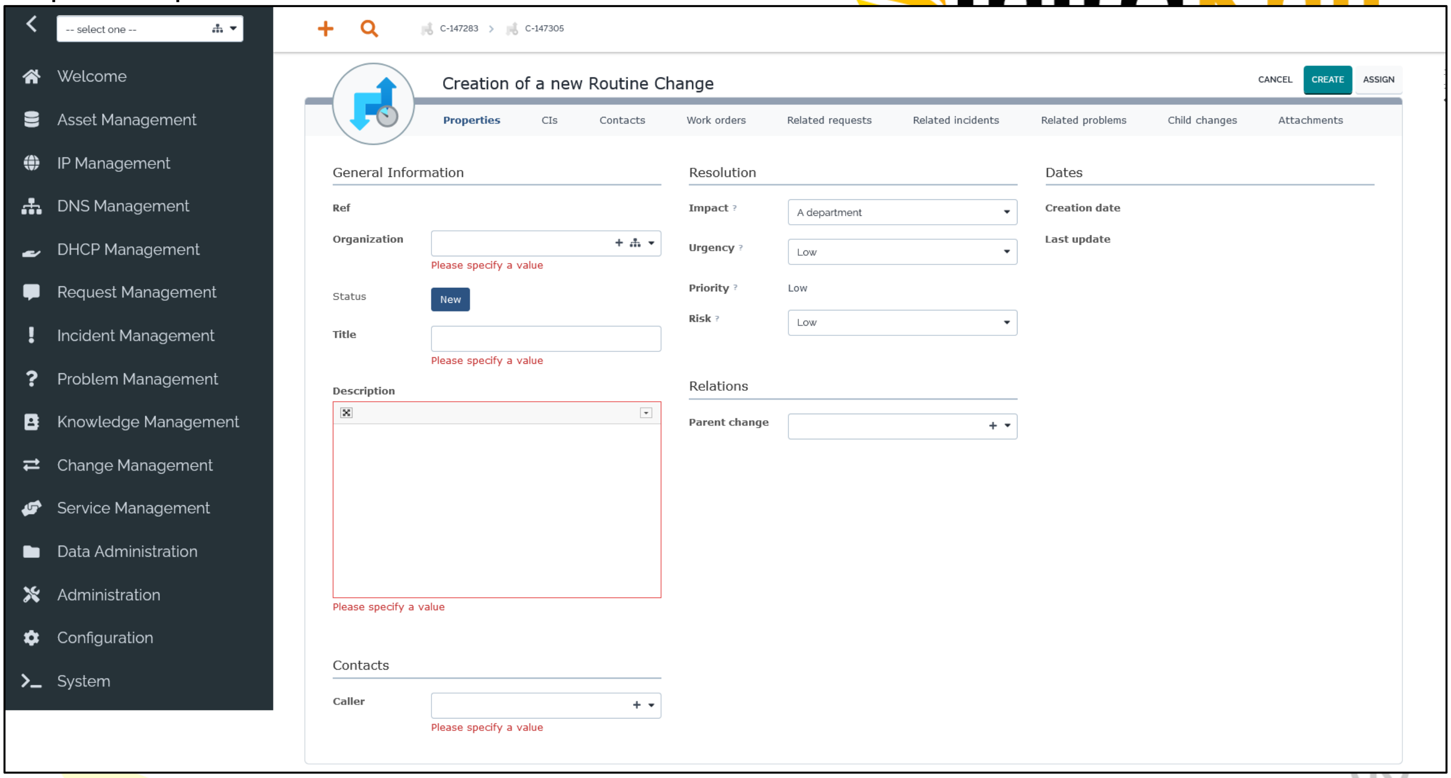


Figure 89 Creation of Routine Change

Routine Change Life Cycle

Routine Change objects have the following life cycle:

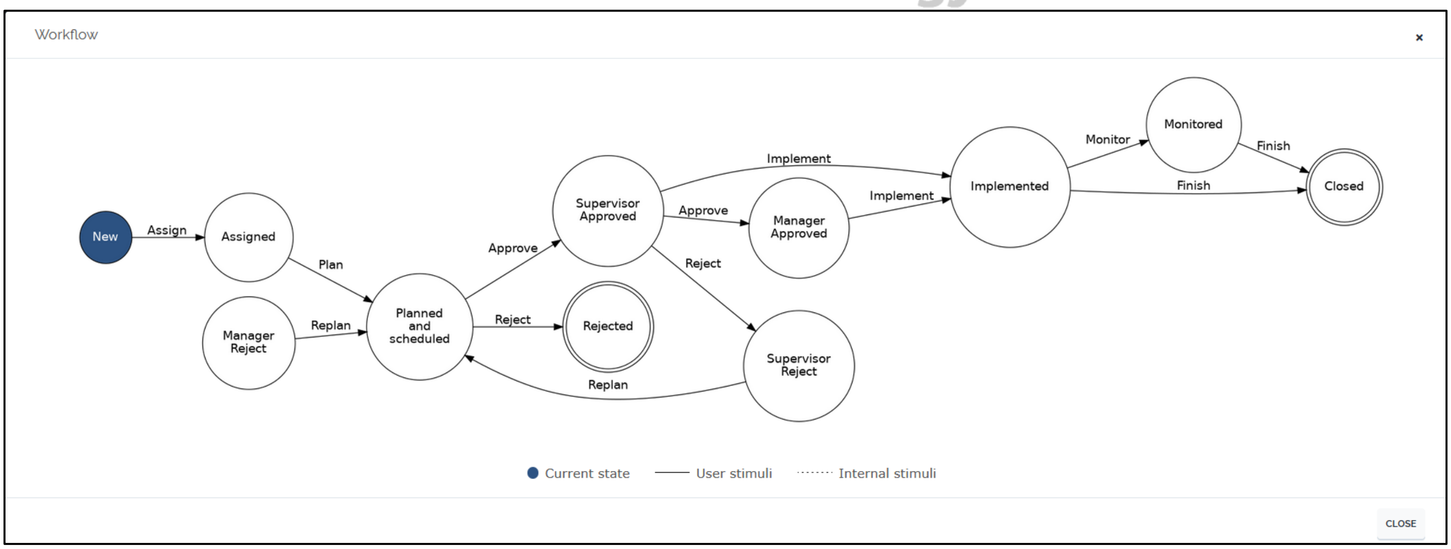


Figure 90 Life Cycle of Routine Change

Emergency Changes

An ITIL emergency change is the highest priority change that can be defined in an organization. Emergency changes are defined as changes that need to be evaluated, assessed and either rejected or approved in a short timeframe. Simply defining a change as an emergency does not automatically entail the change should be implemented. The Emergency Change Advisory Board (ECAB) will assess the change and provide advice to the delegated person responsible for approving or rejecting emergency changes

11.3.2 Creating an Emergency Change

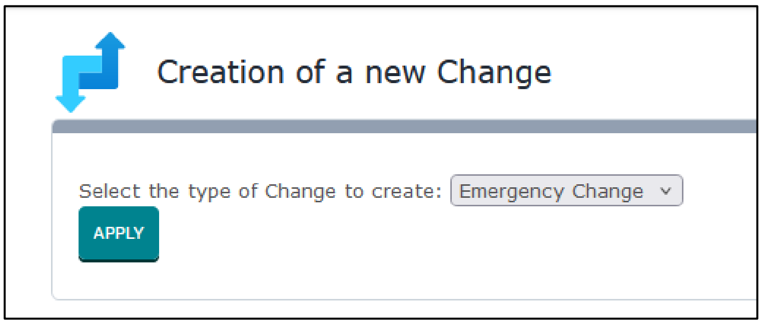


Figure 91 Creation of Emergency Change

And click “Apply” to display the Emergency Change creation form:

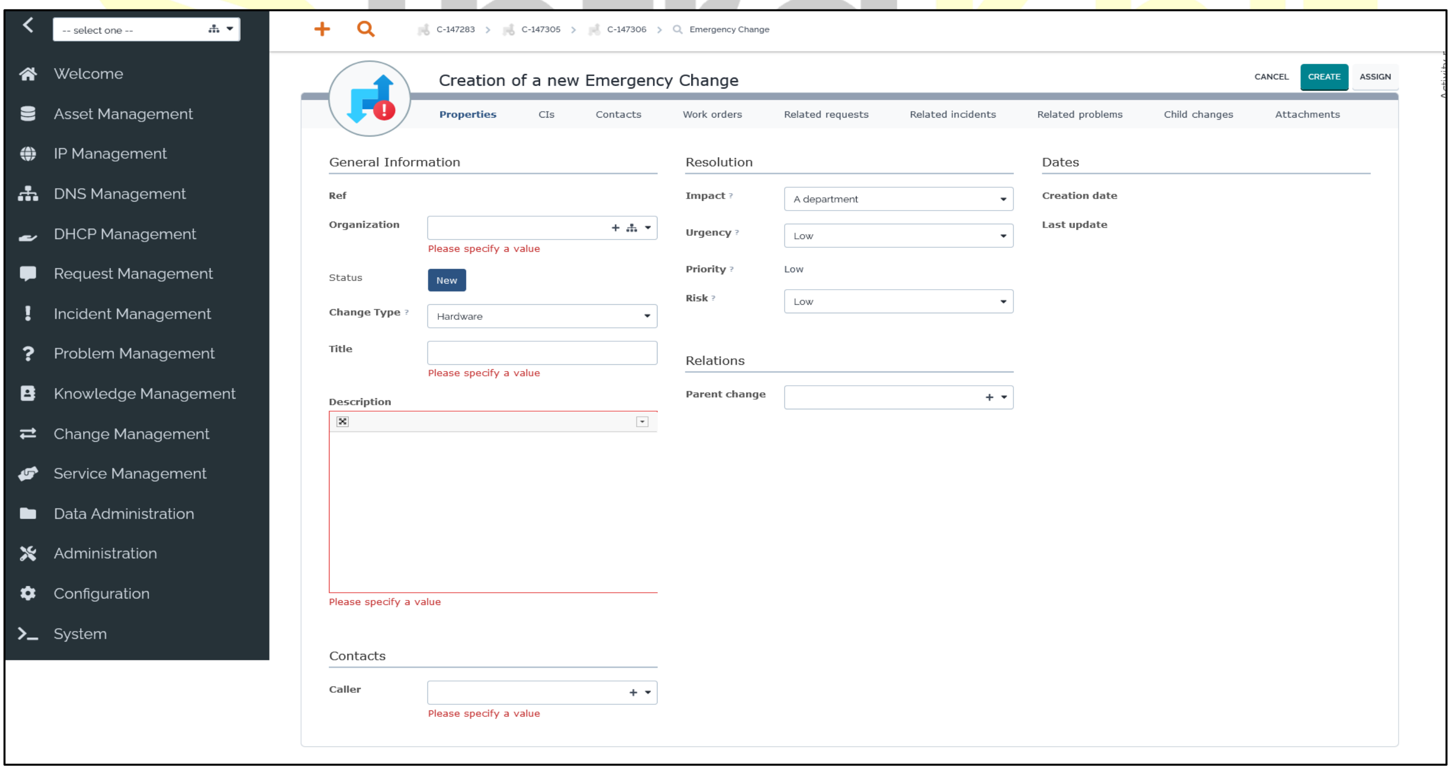


Figure 92 Creation of Emergency Change(2)

Emergency Change Life Cycle

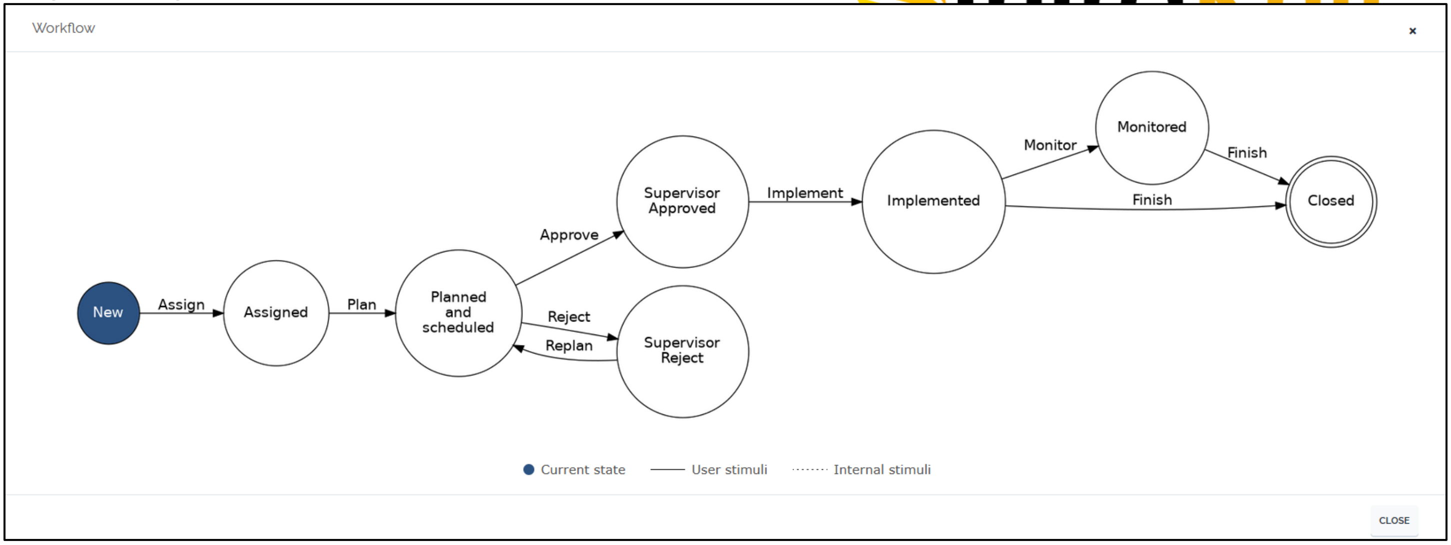


Figure 93 Life Cycle of Emergency Change

12. Service Management

IT Service Management (ITSM) is a process-based practice intended to align the delivery of IT services with needs of the enterprise. Part of this, is the management of the service catalog that defines *services*, *SLA* and *contracts* with the end users (or customers).

This module allows a service manager to define all the pieces of the service catalog:

- Customer contracts
- Provider contracts
- Service Families
- Services
- Service subcategories
- SLA & SLT
- Delivery model
- Coverage window
- Holiday calendar
- Holiday

The service management is integrated with the ticket management system:

- When creating a ticket for a given customer, the agent can select the service amongst the list of services defined for this customer.

- Ticket deadlines are computed depending on the SLA signed with the customer.

There is two alternatives to manage the service catalog in helpdesk

- Service Management (services, SLAs, contracts)
- Service Management (services, SLAs, contracts) for Service providers

The first one is used to manage service within a single company, whereas the second is desgined for service providers. Both modules provides the same elements to be managed, the differences are the relationships between those elements. In the sec- tions below we describe those differences.

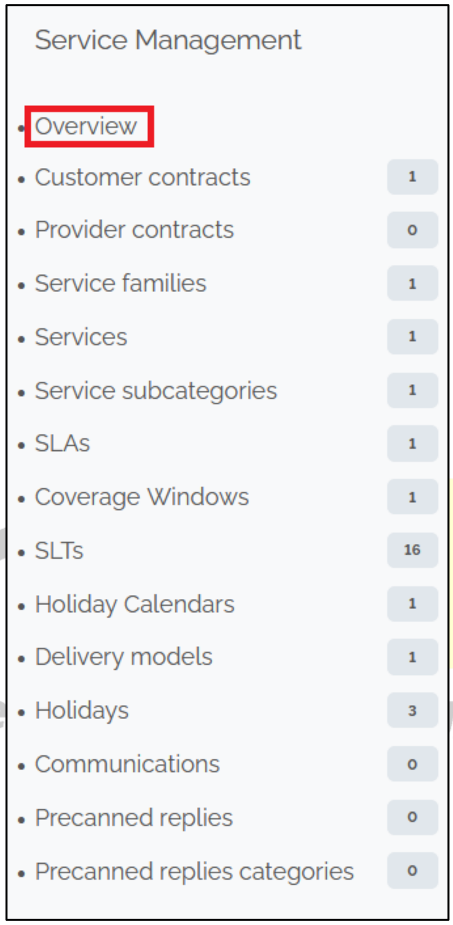


Figure 94 Service Management

12.1 Overview

Click on overview in service management module.

12.2 Contract Type

There are two type of contracts in service management.

1. Customer contract.
2. Provider contract.

12.2.1 Contract Type Properties

Name	Type	Mandatory
Name	Alphanumeric String	yes

12.3 Customer Contract

A customer contract allows you to define which services have been purchased (requested) by a customer and what are the SLA corresponding to those services. By default, no coverage window is defined in helpdesk.

It is possible to document several contracts for a given customer. For each customer contracts you can link documents, and contacts related to it.

12.3.1 Customer Contract Properties

Name	Type	Mandatory
Name	Alphanumeric string	Yes
Customer	Foreign key to a(n) customer	Yes
Description	Multicharacter string	No
Start date	Date(year-month-day)	No
End date	Date(year-month-day)	No
Cost	Alphanumeric string	No
Cost currency	Dollars, Euros	No
Billing frequency	Alphanumeric String	No
Cost unit	Alphanumeric string	No
Provider	Foreign key to a(n) organization	Yes
Status	Implementation, obsolete, production	No
Contract type	Foreign key to a(n) Contract type	No

12.3.2 Creating a Customer Contract

The menu “Customer contract” provides a list of already defined customer contracts. Just click on the button “New” to create a new one.

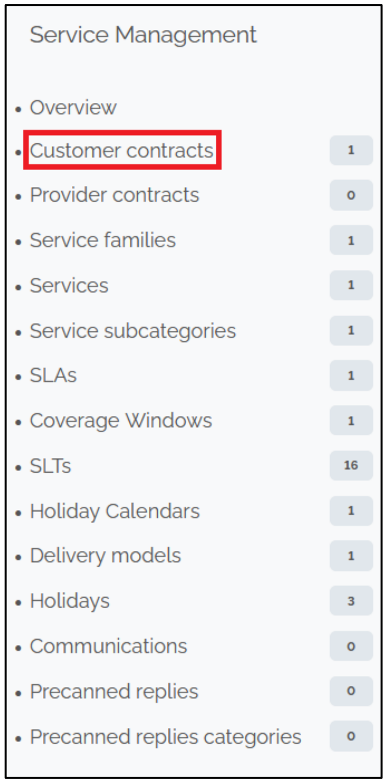


Figure 95 Customer Contracts

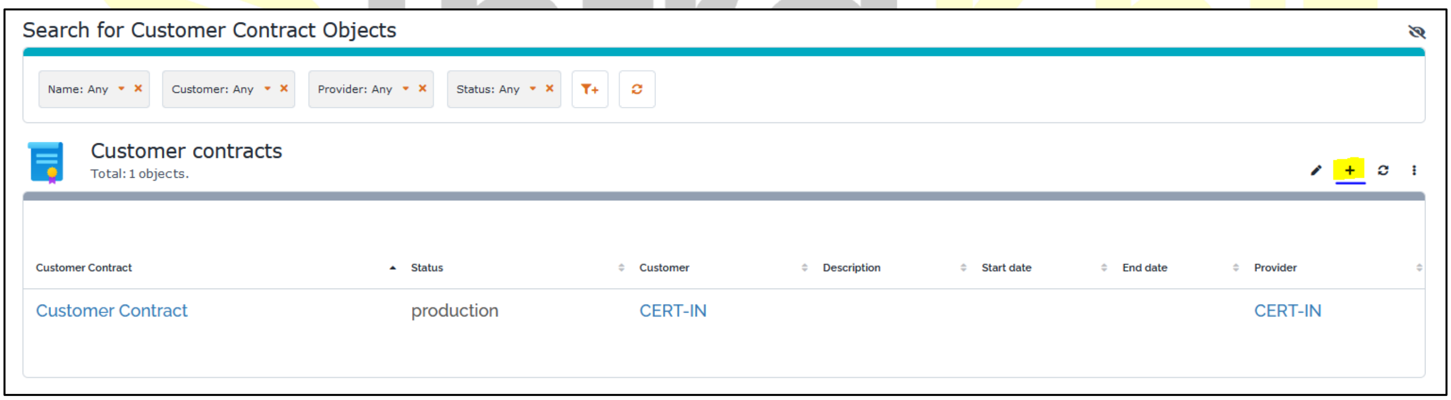


Figure 96 Search Customer Contracts

12.3.3 Tabs

Tab	Description
Contacts	All the contacts for this customer contract
Documents	All the documents for this customer contract
Services	All the services purchased for this contract

12.3.3.1 Provider Contract

A provider contract allows you to document all the contracts you have with your providers (Support, maintenance, hardware contracts, etc.) This helps you to retrieve quickly such information and better manage the contract renewal process.

You can also link configuration items that are covered by a provider contract. For each customer contracts, you can link documents, and contacts related to it.

12.3.3.2 Provider Contract Properties

Name	Type	Manda-tory?
Name	Alphanumeric string	Yes
Customer	Foreign key to a(n) Organization	Yes
Description	Multiline character string	No
Start date	Date (year-month-day)	No
End date	Date (year-month-day)	No
Contract type	Foreign key to a(n) Contract Type	No
Cost	Alphanumeric string	No
Cost Currency	Possible values: Dollars, Euros	No
Billing fre-quency	Alphanumeric string	No
Cost unit	Alphanumeric string	No
Provider	Foreign key to a(n) Organization	Yes
SLA	Alphanumeric string	No
Service hours	Alphanumeric string	No
Status	Possible values: implementation, obsolete, production	No

12.3.3.3 Creating a Provider Contract

The menu “Provider contract” provides a list of already defined provider contracts. Just click on the button “New” to create a new one.

12.4 SLA (Service Level Agreement)

A *service level agreement* (SLA) is a group of SLT. It defines the agreement between a provider and a customer for a given set of services.
Each IT department can define its own list of SLAs.

SLA enables you to define the level of service for a given service. They are linked to SLT that are responsible for defining target to measure the quality of service.

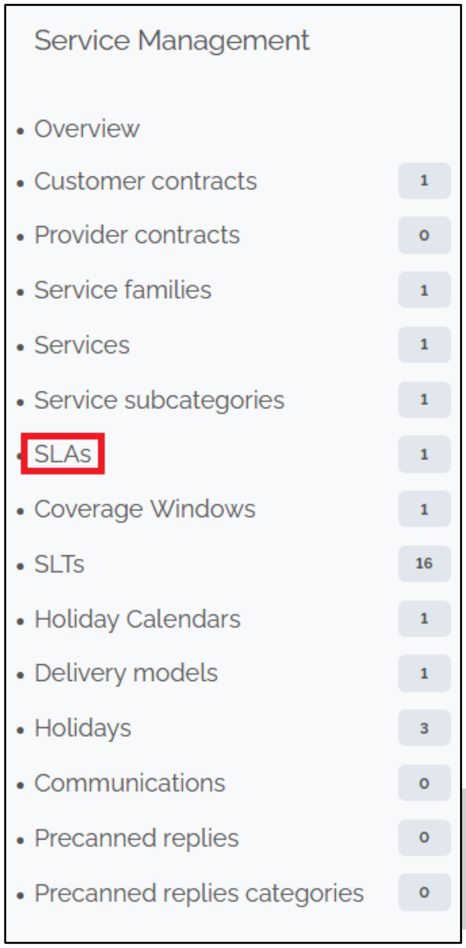


Figure 97 SLA

Name	Type	Manda-tory?
Name	Alphanumeric string	Yes
Provider	Foreign key to a(n) Organization	Yes
description	Multiline character string	No

Click on new to create a new SLA.

The following form will display. Enter your details as per your requirement.

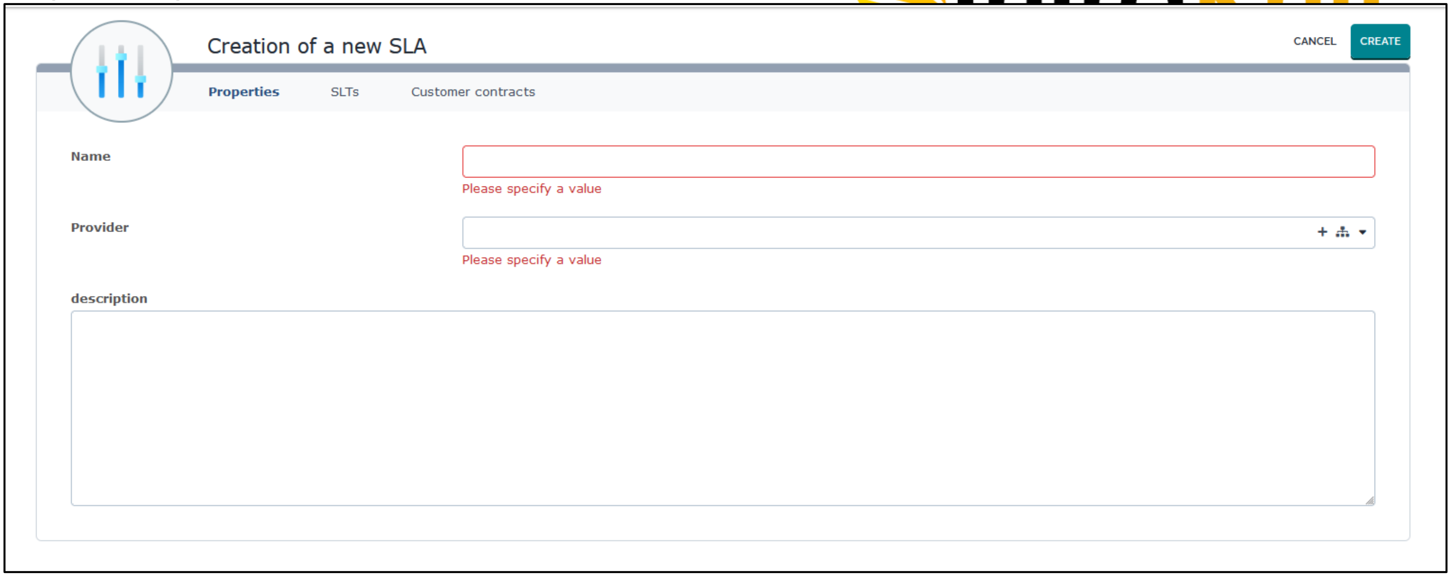


Figure 98 Creation of New SLA

12.4.1 Tabs

Tab	Description
SLTs	All the service level targets for this SLA
Customer contracts	All the customer contracts using this SLA

12.4.2 SLT (Service Level Target)

A *service level target* (SLT) allows you to define metrics for agreements that have to be respected. By default, AOMS is proposed with two types of metrics:

- *Time to own* (TTO): This is time between the creation of a ticket and the time to take it into account (assign it to an agent)
- *Time to resolve* (TTR): This is the time between the creation of a ticket and the time to resolve it

SLT Properties

Name	Type	Manda-tory
Name	Alphanumeric string	Yes
Priority	Possible values: critical, high, medium, low	No
Request type	Possible values: incident, service re-quest	No

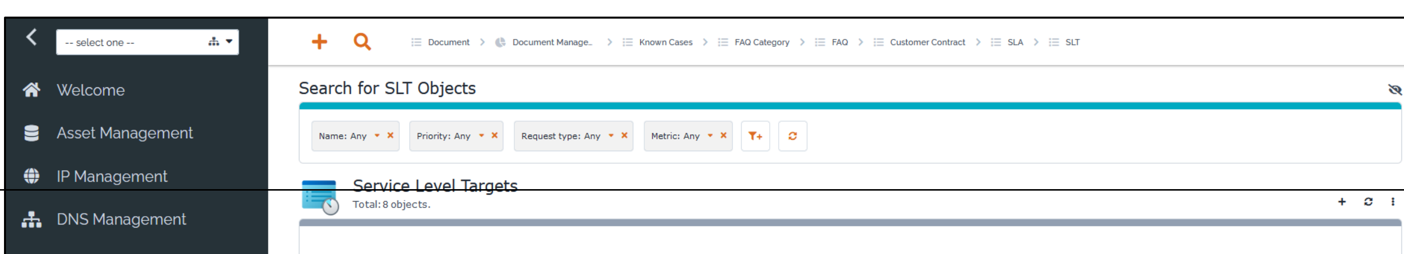
Metric	Possible values: TTO, TTR	No
Value	Numeric value (could be negative)	No
Unit	Possible values: hours, minutes	No

Figure 99 Service Management (2)

12.4.3 Creating a SLT

The menu “SLT” provides a list of already defined *service level targets*. Just click on the button “New” to create a new one.

Click on new to create a new SLT.



The following form will display. Enter your details as per your requirement.

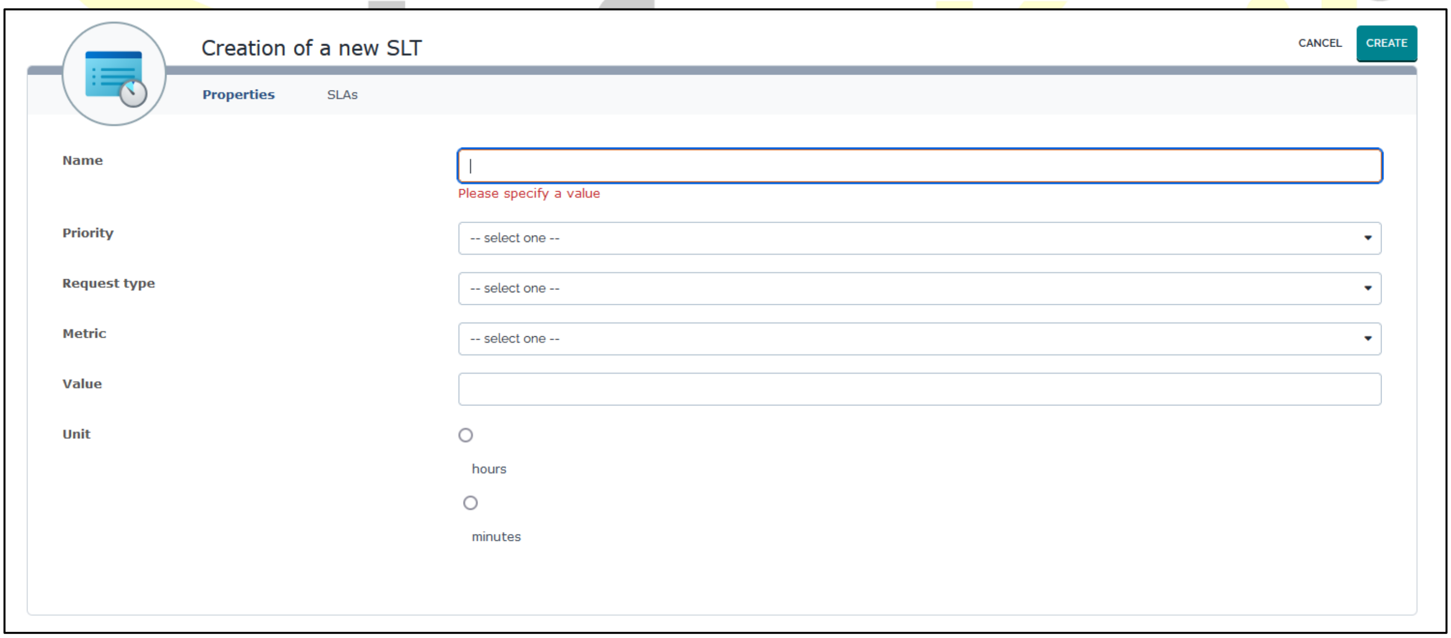


Figure 101 New SLT

12.5 Delivery Model

A *delivery model* defines which teams are providing support and services to a set of organizations (customers). It can be used also to document key people with their role:
* Service Manager * Chief technology officer * Helpdesk manager
Several customers can share the same delivery model. Nevertheless, it may be useful to define several delivery models, especially if you want to limit the number of teams to which you can assign a ticket

.

The *delivery model* of a given customer is used to identify to which team you can assign a ticket for this one.

NOTE: If no delivery model is defined for a given customer, then you will not be able to create tickets for that customer.

Creating a Delivery Model

Click on Delivery Model in Service Management. Click on

new to create a Delivery Model.

Enter the details in the form as per your requirement.

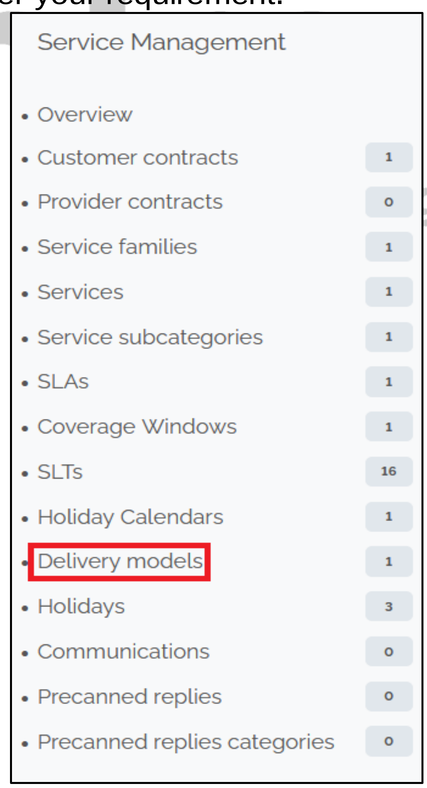


Figure 102 Delivery Management in SLT

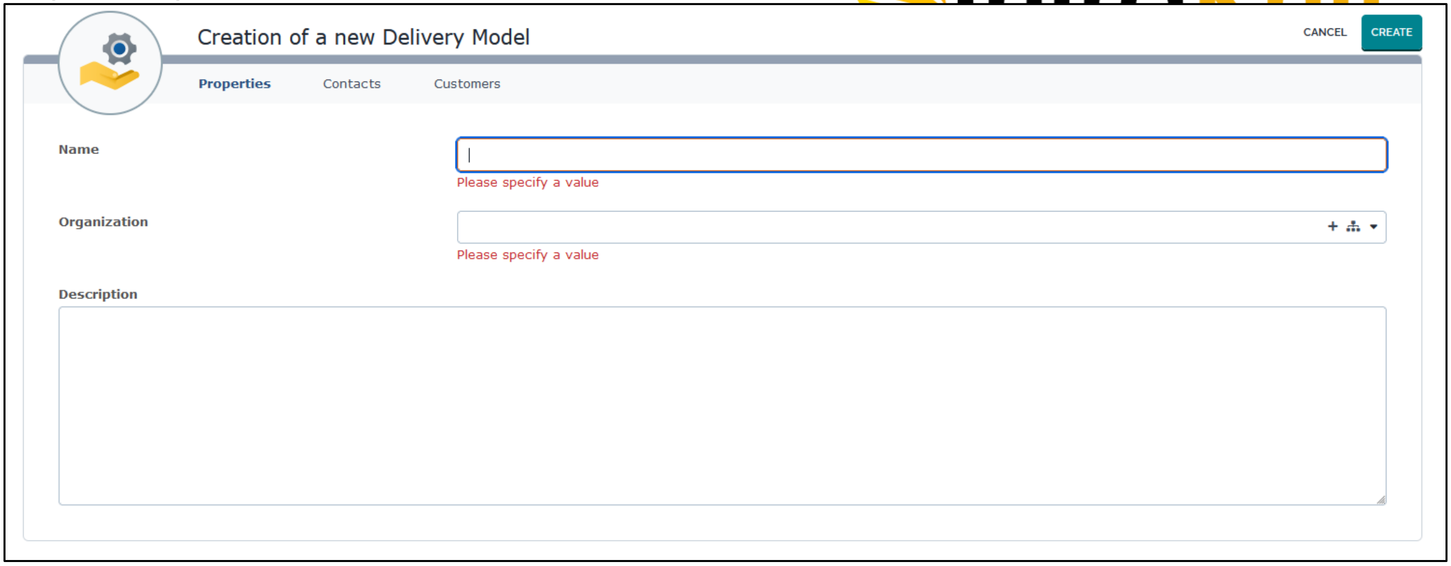


Figure 103 Creation of New Delivery Model

12.5.1 Tabs

Tab	Description
Contacts	All the contacts (Teams and Person) for this delivery model
Customers	All the customers having this delivering model

Coverage window

The menu “Coverage windows” in the module “Service management” displays all coverage windows defined in AOMS. If none are define click on “Create a new coverage window”, else click on “Create” to create a new one.

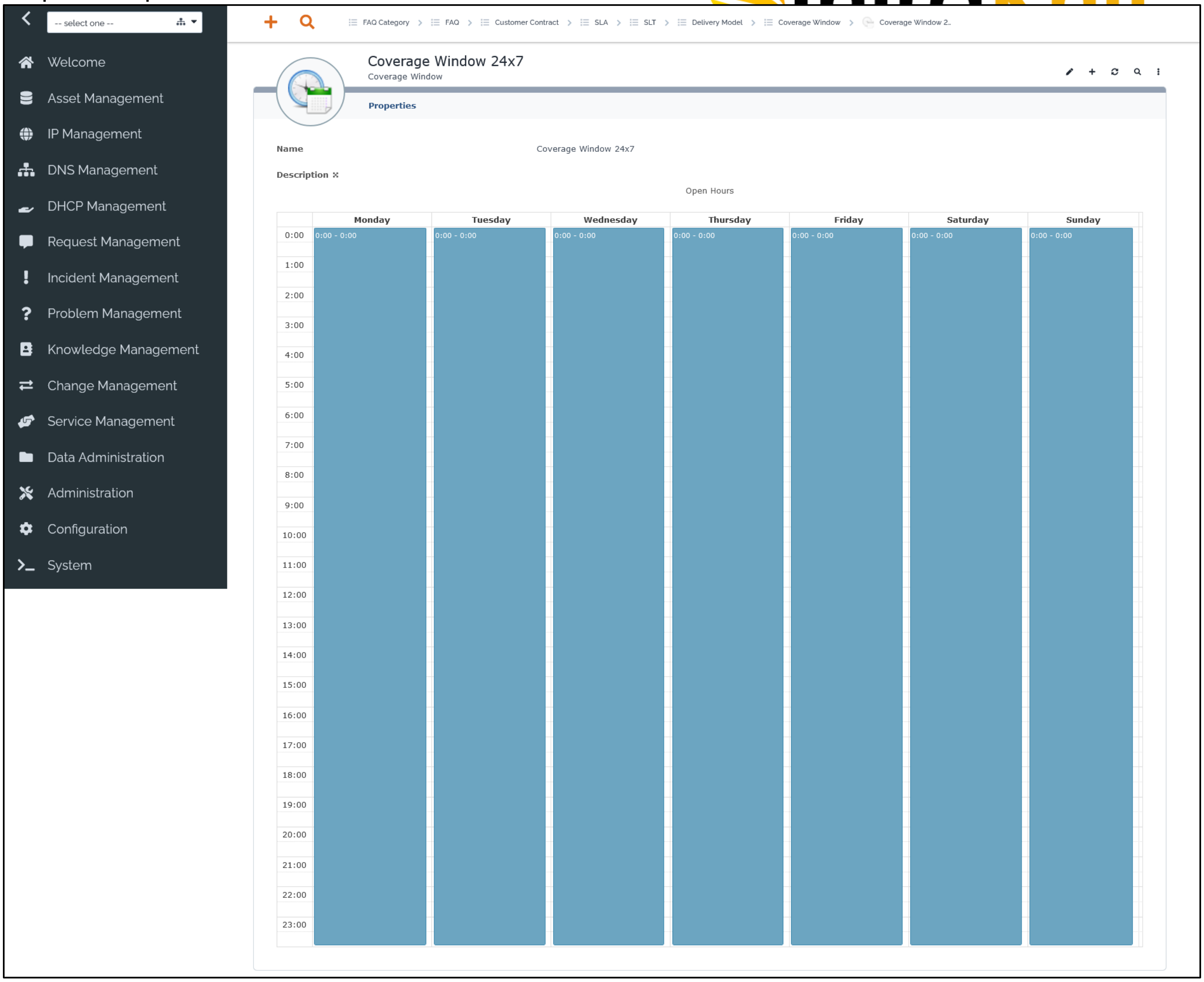


Figure 104 Coverage Window

13. Data Administration

Data Administration contains the following category:

- CSV Import
- Audit
- Organization
- Typology Configuration