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**mk-subnet-overview.py**

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# Introduction

## Target Audience

The intended users of this document is anyone trying to visualize IPv4 subnets.

## Design Goals

The design goal for this script was to use an existing IPv4 data repository in Excel and create and Excel output file that gave an overview over the subnets allowing to find unused subnets at a glance.

## Design Decisions

1. The script Is written in Python 3 (tested with Python 3.6.1)
2. The script is using the openpyxl module supporting xlsx Excel files

## Prerequisites

Installation of Python 3 and module openpyxl.

Python 3 installation depends on the operating system used.

Module openpyxl can be installed using pip:

pip install openpyxl

# Syntax

The syntax for mk-subnet-overview.py is:

Syntax: mk-subnet-overview.py [options]

options are:

-h --help

-b --blocksize=n

-s --subnetsize=n

-r --repository=filename

-w --worksheet=worksheet\_name

-o --overview=filename

-v --vlan=column\_name

-n --vlan\_name=column\_name

-i --ipnetaddr=column\_name

-m --mask=column\_name

## Subnet Options

These options contain subnet and block values.

### Option blocksize (alias –b) - blocksize=22 (default)

The option blocksize is a bitmask value and can theoretically have values 0..32

However, it is not recommended to use values below 16 due to processing time and overview size.

Mind you that the overview will exclude the column for blocksize and ignore any subnets >= blocksize. That means if blocksize=16 and subnetsize=26 subnets will be shown from /17 to /26.

### Option subnetsize (alias –r) - subnetsize=29 (default)

The options subnetsize is a bitmask values and can theoretically have values 0..32

All subnets in the repository smaller than subnetsize will be summarized to subnetsize.

However, it is not recommended to use values above 29.

## Excel Workbook and Worksheet Related Options

These options contain input filename, worksheet name and output filename.

### Option repository (alias –r) - repository=kostis\_vlan\_repository.xlsx (default)

The option repository is an Excel filename. The repository must contain at least one worksheet (see below).

### Option worksheet (alias –w) - worksheet=VLANs (default)

The option worksheet is an Excel worksheet name. It must be present in the repository and must contain at least four columns containing information about all given VLAN Ids, VLAN names, IPv4 network addresses and IPv4 network masks.

The first line in that repository must be comprised of headers.  
Header names can be assigned in this script using options.

### Option overview (alias –o) - overview=kostis\_subnet\_overview.xlsx (default)

The option overview is an Excel filename. This file is created by this script.

## Excel Data Options

Since there are currently only four columns processed by this script, there are also only four options.

Values formatted with strikethrough will be ignored!

### Option vlan (alias –v) - vlan=VLAN (default)

The option vlan is an Excel header column name. Headers must be on the first line of the repository.

This information will be shown in Excel comments in overviews.

### Option vlan\_name (alias –n) - vlan\_name=VLAN\_name (default)

The option vlan\_name is an Excel header column name. Headers must be on the first line of the repository.

This information will be shown in Excel comments in overviews.

### Option ipnetaddr (alias –i) - ipnetaddr=“ipnetaddr” (default)

The option ipnetaddr is an Excel header column name. It must be on the first line of the repository.

he column data must be in dotted-decimal format (e. g. “192.168.1.0”)

### Option mask (alias –m) - mask=ipmask (default)

The option mask is an Excel header column name. It must be on the first line of the repository.

The column data must either be in dotted-decimal format (e. g. “255.255.240.0”) or a bitmask decimal value (0-32 without a “/”).

# Appendix: Script History

New entries on top:

|  |  |  |
| --- | --- | --- |
| **when** | **version** | **what** |
|  |  |  |
| 2017-07-07 | V0.10 | Initial coding |