**Network IP:**104.139.212.0

**Mask:**255.255.254.0 (/23)

**Sub networks:**

* N1: 88 IP's
* N2: 80 IP's
* N3: 32 IP's
* N4: 40 IP's
* N5: 8 IP's

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| --- | --- | --- | --- |
| **Rețea** | **IP-uri necesare** | **Dim. clasă de adrese** | **Netmask** |
| N1  104.139.212.0/25 | 88 + 1 (rețea) + 1 (b-cast) + 1 (default gateway) = 91 | 128 = 2^7 | / (32-7) = 25 |
| N2  104.139.212.128/25 | 80 -> 83 | 128 = 2^7 | /25 |
| N3  104.139.213.0/26 | 32 -> 35 | 64 = 2^6 | /26 |
| N4  104.139.213.64/26 | 40 -> 43 | 64 = 2^6 | /26 |
| N5  104.139.213.128/28 | 8 -> 11 | 16 = 2^4 | /28 |
| NI  104.139.213.144/29 | 3 + 2 -> 5 | 8 =2^3 | /29 |
| NII  104.139.213.152/30 | 2 + 2 -> 4 | 4 = 2^2 | /30 |
| NIII  104.139.213.156/30 | 2 + 2 -> 4 | 4 = 2^2 | /30 |
| NIV  104.139.213.160/30 | 2 + 2 -> 4 | 4 = 2^2 | /30 |
| NWireless  104.139.213.164/30 | 2 + 2 -> 4 | 4 = 2^2 | /30 |
|  |  |  |  |

**Clasa:** 104.139.212.0/23

/23 = netmask = 11111111.11111111.11111110.00000000

* 2^(32-23) = 2^9 nr. de ip-uri din această clasă de adrese (2^nr. 0-uri din netmask = dim. unei clase de adrese)

**Adresa de rețea:** 104.139.212.0 AND 255.255.254.0 = 104.139.212.0

**Adresa de broadcast:** 104.139.212.0 OR not(255.255.254.0) =

= 104.139.212.0 OR 0.0.00000001.1 = 104.139.213.255

*Metoda 1:*

104.139.212.0/23 are 2^9 ip-uri => se împarte în 2 subclase de 2^8 ip-uri fiecare, astfel:

- 104.139.212.0/24 (= 32-8) (104.139.212.0– x.x.x.x), => se împarte în 2 subclase de 2^7 ip-uri fiecare, astfel:

x.x.x.x = 104.139.212.0 OR not(255.255.255.0) = 104.139.212.255

\* 104.139.212.0/25 (104.139.212.0 – 104.139.212.127) => se împarte în 2 sbcls. de 2^6

+ 104.139.212.0 /26 (104.139.212.0 – 104.139.212.63) vlan10

+ 104.139.212.64 /26 (104.139.212.64 – 104.139.212.127) vlan20

- y.y.y.y/24 (y.y.y.y - 104.139.213.255),

y.y.y.y = 104.139.212.255 + 1 = 104.139.213.0 =>2^7 subclase

\* 104.139.213.0/25 (104.139.213.0 - 104.139.213.127) => 2^6 subclase

+ 104.139.213.0 /26 (104.139.213.0 - 104.139.213.63)

\* 104.139.213.128/25 (104.139.213.128 - 104.139.213.255) => 2^6 subclase

+ 104.139.213.128 /26 (104.139.213.128 - 104.139.213.191) => 2^5 subclase

# 104.139.213.128 /27 (104.139.213.128 - 104.139.213.159) => 2^4 subclase

/ 104.139.213.128 /28 (104.139.213.128 - 104.139.213.143)

*Metoda 2:*

104.139.212.0/23 are 2^9 ip-uri => se împarte în 2 subclase de 2^8 ip-uri fiecare, astfel:

- 104.139.212.0/24 (= 32-8) (104.139.212.0– x.x.x.x),

x.x.x.x = 104.139.212.0 + 2^8 – 1 = 104.139.212.255

\* 205.84.233.128/27

\* 205.84.233.160/27

- y.y.y.y/24 (y.y.y.y - 104.139.213.255),

y.y.y.y = 104.139.212.0 + 2^8 = 104.139.213.0