**L’administration dispose du bloc  : 172.20.0.0 /16**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| **Réseau ou Net-Id** | | | | | | | | | | | | | | | | **Hôte ou Host-Id** | | | | | | | | | | | | | | | |
| **172** | | | | | | | | **20** | | | | | | | | **0** | | | | | | | | **0** | | | | | | | |
| **1** | **0** | **1** | **0** | **1** | **1** | **0** | **0** | **0** | **0** | **0** | **1** | **0** | **1** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** |

**Découpage du bloc en 10 zones ⇒ On ne peut découper qu’avec un multiple de 2n (2, 4, 8, 16, 32, …)**

**⇒ il faut donc au minimum 10 zones**

**⇒ il faut utiliser des bits dans la partie host-Id pour définir chaque zone, mais combien ?**

**En utilisant 1 bit dans la partie host-Id, on peut découper la zone en 2 car il y a 2 combinaisons possibles :**

**(21 = 2) ⇒ le bit est soit à 0, soit à 1**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| **Zone 1** | **Réseau ou Net-Id** | | | | | | | | | | | | | | | | **Hôte ou Host-Id** | | | | | | | | | | | | | | | |
| **Adresse** | **172** | | | | | | | | **20** | | | | | | | | **0** | | | | | | | | **0** | | | | | | | |
| **réseau** | **1** | **0** | **1** | **0** | **1** | **1** | **0** | **0** | **0** | **0** | **0** | **1** | **0** | **1** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| **Zone 1** | **Réseau ou Net-Id** | | | | | | | | | | | | | | | | **Hôte ou Host-Id** | | | | | | | | | | | | | | | |
| **Adresse** | **172** | | | | | | | | **20** | | | | | | | | **127** | | | | | | | | **255** | | | | | | | |
| **broadcast** | **1** | **0** | **1** | **0** | **1** | **1** | **0** | **0** | **0** | **0** | **0** | **1** | **0** | **1** | **0** | **0** | **0** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| **Zone 2** | **Réseau ou Net-Id** | | | | | | | | | | | | | | | | **Hôte ou Host-Id** | | | | | | | | | | | | | | | |
| **Adresse** | **172** | | | | | | | | **20** | | | | | | | | **128** | | | | | | | | **0** | | | | | | | |
| **réseau** | **1** | **0** | **1** | **0** | **1** | **1** | **0** | **0** | **0** | **0** | **0** | **1** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** |

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| **Zone 2** | **Réseau ou Net-Id** | | | | | | | | | | | | | | | | **Hôte ou Host-Id** | | | | | | | | | | | | | | | |
| **Adresse** | **172** | | | | | | | | **20** | | | | | | | | **255** | | | | | | | | **255** | | | | | | | |
| **broadcast** | **1** | **0** | **1** | **0** | **1** | **1** | **0** | **0** | **0** | **0** | **0** | **1** | **0** | **1** | **0** | **0** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** |

**En utilisant 2 bits dans la partie host-Id, on peut découper la zone en 4 car il y a 4 combinaisons possibles :**

**(22 = 4) ⇒ soit 00, soit 01, soit 10, soit 11**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Zone 1** | **Réseau ou Net-Id** | | | | | | | | | | | | | | | | **Hôte ou Host-Id** | | | | | | | | | | | | | | | |
| **Adresse** | **172** | | | | | | | | **20** | | | | | | | | **0** | | | | | | | | **0** | | | | | | | |
| **réseau** | **1** | **0** | **1** | **0** | **1** | **1** | **0** | **0** | **0** | **0** | **0** | **1** | **0** | **1** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Zone 1** | **Réseau ou Net-Id** | | | | | | | | | | | | | | | | **Hôte ou Host-Id** | | | | | | | | | | | | | | | |
| **Adresse** | **172** | | | | | | | | **20** | | | | | | | | **63** | | | | | | | | **255** | | | | | | | |
| **broadcast** | **1** | **0** | **1** | **0** | **1** | **1** | **0** | **0** | **0** | **0** | **0** | **1** | **0** | **1** | **0** | **0** | **0** | **0** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| **Zone 2** | **Réseau ou Net-Id** | | | | | | | | | | | | | | | | **Hôte ou Host-Id** | | | | | | | | | | | | | | | |
| **Adresse** | **172** | | | | | | | | **20** | | | | | | | | **64** | | | | | | | | **0** | | | | | | | |
| **réseau** | **1** | **0** | **1** | **0** | **1** | **1** | **0** | **0** | **0** | **0** | **0** | **1** | **0** | **1** | **0** | **0** | **0** | **1** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** |

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| **Zone 2** | **Réseau ou Net-Id** | | | | | | | | | | | | | | | | **Hôte ou Host-Id** | | | | | | | | | | | | | | | |
| **Adresse** | **172** | | | | | | | | **20** | | | | | | | | **127** | | | | | | | | **255** | | | | | | | |
| **broadcast** | **1** | **0** | **1** | **0** | **1** | **1** | **0** | **0** | **0** | **0** | **0** | **1** | **0** | **1** | **0** | **0** | **0** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| **Zone 3** | **Réseau ou Net-Id** | | | | | | | | | | | | | | | | **Hôte ou Host-Id** | | | | | | | | | | | | | | | |
| **Adresse** | **172** | | | | | | | | **20** | | | | | | | | **128** | | | | | | | | **0** | | | | | | | |
| **réseau** | **1** | **0** | **1** | **0** | **1** | **1** | **0** | **0** | **0** | **0** | **0** | **1** | **0** | **1** | **0** | **0** | **1** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Zone 3** | **Réseau ou Net-Id** | | | | | | | | | | | | | | | | **Hôte ou Host-Id** | | | | | | | | | | | | | | | |
| **Adresse** | **172** | | | | | | | | **20** | | | | | | | | **191** | | | | | | | | **255** | | | | | | | |
| **broadcast** | **1** | **0** | **1** | **0** | **1** | **1** | **0** | **0** | **0** | **0** | **0** | **1** | **0** | **1** | **0** | **0** | **1** | **0** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| **Zone 4** | **Réseau ou Net-Id** | | | | | | | | | | | | | | | | **Hôte ou Host-Id** | | | | | | | | | | | | | | | |
| **Adresse** | **172** | | | | | | | | **20** | | | | | | | | **192** | | | | | | | | **0** | | | | | | | |
| **réseau** | **1** | **0** | **1** | **0** | **1** | **1** | **0** | **0** | **0** | **0** | **0** | **1** | **0** | **1** | **0** | **0** | **1** | **1** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** |

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| **Zone 4** | **Réseau ou Net-Id** | | | | | | | | | | | | | | | | **Hôte ou Host-Id** | | | | | | | | | | | | | | | |
| **Adresse** | **172** | | | | | | | | **20** | | | | | | | | **255** | | | | | | | | **255** | | | | | | | |
| **broadcast** | **1** | **0** | **1** | **0** | **1** | **1** | **0** | **0** | **0** | **0** | **0** | **1** | **0** | **1** | **0** | **0** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** |