Byte Offset

Byte Offset	Bit 0–3	Bit 4–7	Bit 8–15	Bit 16–31
0	Version	IHL (Header Length)	Type of Service (TOS)	Total Length
4	Identification			IP Flags x D M / Fragment Offset
8	Time To Live (TTL)		Protocol	Header Checksum
12	Source Address			
16	Destination Address			
20	IP Option (variable length, optional, not common)			

20 Bytes

IHL (Internet Header Length)

Bit: 0 1 2 3 4 5 6 7 8 9 10 1 2 3 4 5 6 7 8 9 20 1 2 3 4 5 6 7 8 9 30 1
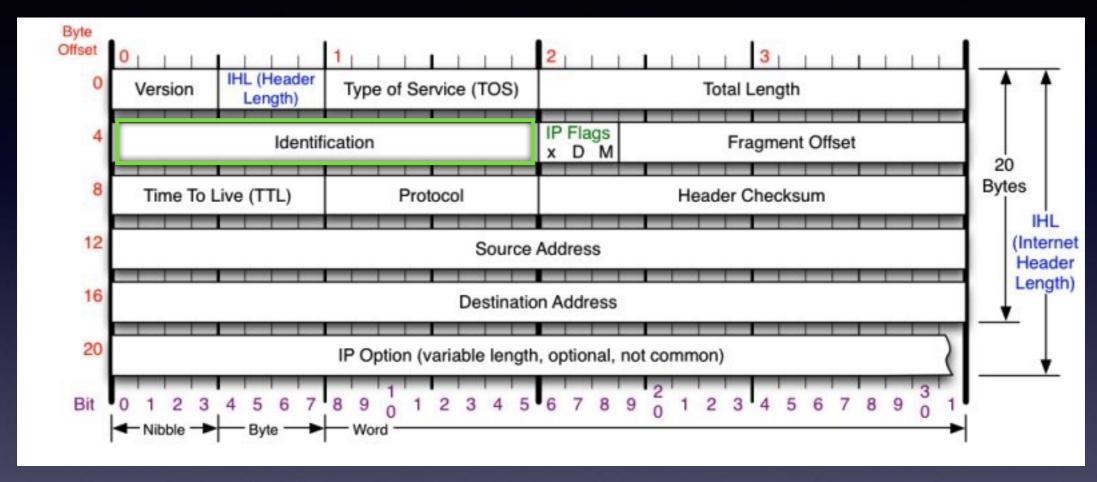
Nibble — Byte — Word

Le protocole IP

Le champ d'identification ID

- Identifie un paquet
- Nécessaire pour identifier un paquet lors de la fragmentation
- Permet d'évaluer la charge d'une machine si les champs ID sont incrémentaux
- Permet d'obtenir des renseignements sur l'architecture mise en place (Load balancing)
- Note: souvent ID=0 lors de la présence de répartiteurs de charge

```
kali:hping3 www.free.fr -S
HPING www.free.fr (eth0 212.27.48.10): S set, 40 headers + 0 data bytes
len=46 ip=212.27.48.10 ttl=57 DF id=51365 sport=0 flags=RA seq=0 win=0 rtt=25.8 ms
len=46 ip=212.27.48.10 ttl=57 DF id=5129 sport=0 flags=RA seq=1 win=0 rtt=27.2 ms
len=46 ip=212.27.48.10 ttl=57 DF id=51449 sport=0 flags=RA seq=2 win=0 rtt=27.0 ms
len=46 ip=212.27.48.10 ttl=57 DF id=6637 sport=0 flags=RA seq=3 win=0 rtt=29.2 ms
len=46 ip=212.27.48.10 ttl=57 DF id=51633 sport=0 flags=RA seq=4 win=0 rtt=28.2 ms
len=46 ip=212.27.48.10 ttl=57 DF id=7145 sport=0 flags=RA seq=5 win=0 rtt=27.4 ms
len=46 ip=212.27.48.10 ttl=57 DF id=53154 sport=0 flags=RA seq=6 win=0 rtt=28.1 ms
len=46 ip=212.27.48.10 ttl=57 DF id=8750 sport=0 flags=RA seq=7 win=0 rtt=27.7 ms
len=46 ip=212.27.48.10 ttl=57 DF id=54045 sport=0 flags=RA seq=8 win=0 rtt=25.8 ms
len=46 ip=212.27.48.10 ttl=57 DF id=10695 sport=0 flags=RA seq=9 win=0 rtt=26.0 ms
len=46 ip=212.27.48.10 ttl=57 DF id=55309 sport=0 flags=RA seq=10 win=0 rtt=27.4 ms
len=46 ip=212.27.48.10 ttl=57 DF id=12419 sport=0 flags=RA seq=11 win=0 rtt=27.5 ms
len=46 ip=212.27.48.10 ttl=57 DF id=55538 sport=0 flags=RA seq=12 win=0 rtt=25.5 ms
len=46 ip=212.27.48.10 ttl=57 DF id=13169 sport=0 flags=RA seq=13 win=0 rtt=27.0 ms
len=46 ip=212.27.48.10 ttl=57 DF id=57315 sport=0 flags=RA seq=14 win=0 rtt=27.5 ms
len=46 ip=212.27.48.10 ttl=57 DF id=14972 sport=0 flags=RA seq=15 win=0 rtt=27.5 ms
len=46 ip=212.27.48.10 ttl=57 DF id=17000 sport=0 flags=RA seq=16 win=0 rtt=27.1 ms
len=46 ip=212.27.48.10 ttl=57 DF id=7181 sport=0 flags=RA seq=17 win=0 rtt=27.3 ms
len=46 ip=212.27.48.10 ttl=57 DF id=17950 sport=0 flags=RA seq=18 win=0 rtt=29.9 ms
```