



UNIVERSIDAD DE
GUADALAJARA
Administración General

lacnic



lacnic27
22/26 mayo 2017 - foz do iguaçu, brasil

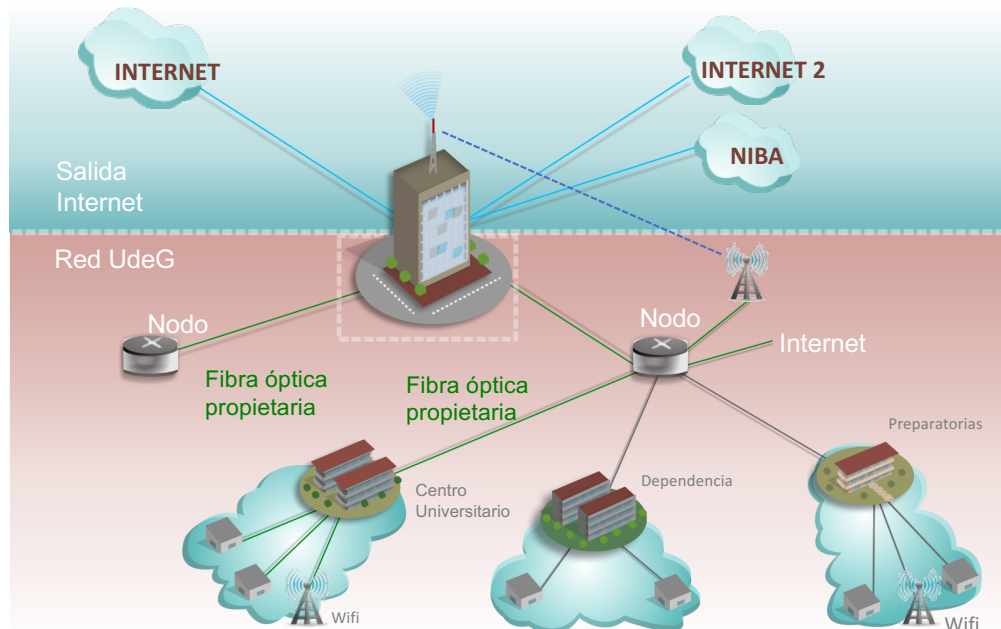
Experiencias en Despliegue de Voz sobre IPv6 en la Universidad de Guadalajara

José Martín Flores Ruiz /
Jaime Olmos de la Cruz
Mayo 2017



UNIVERSIDAD DE GUADALAJARA

Red Universitaria e Institución Benemérita de Jalisco



Compuesta

15 campus

**165 planteles de
bachillerato**

Con +296 mil

universitarios

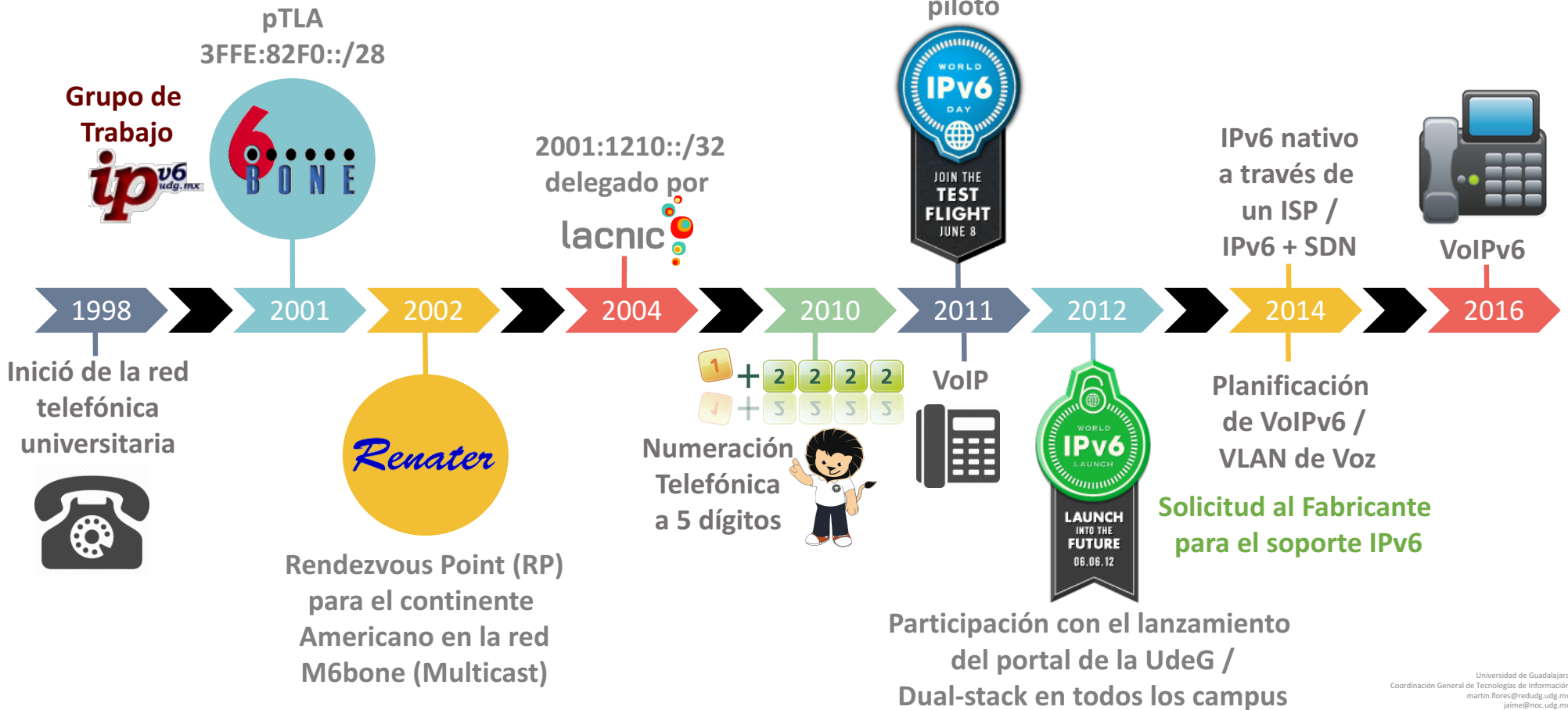
**+150 mil estudiantes
bachillerato**

+120 mil estudiantes de ES

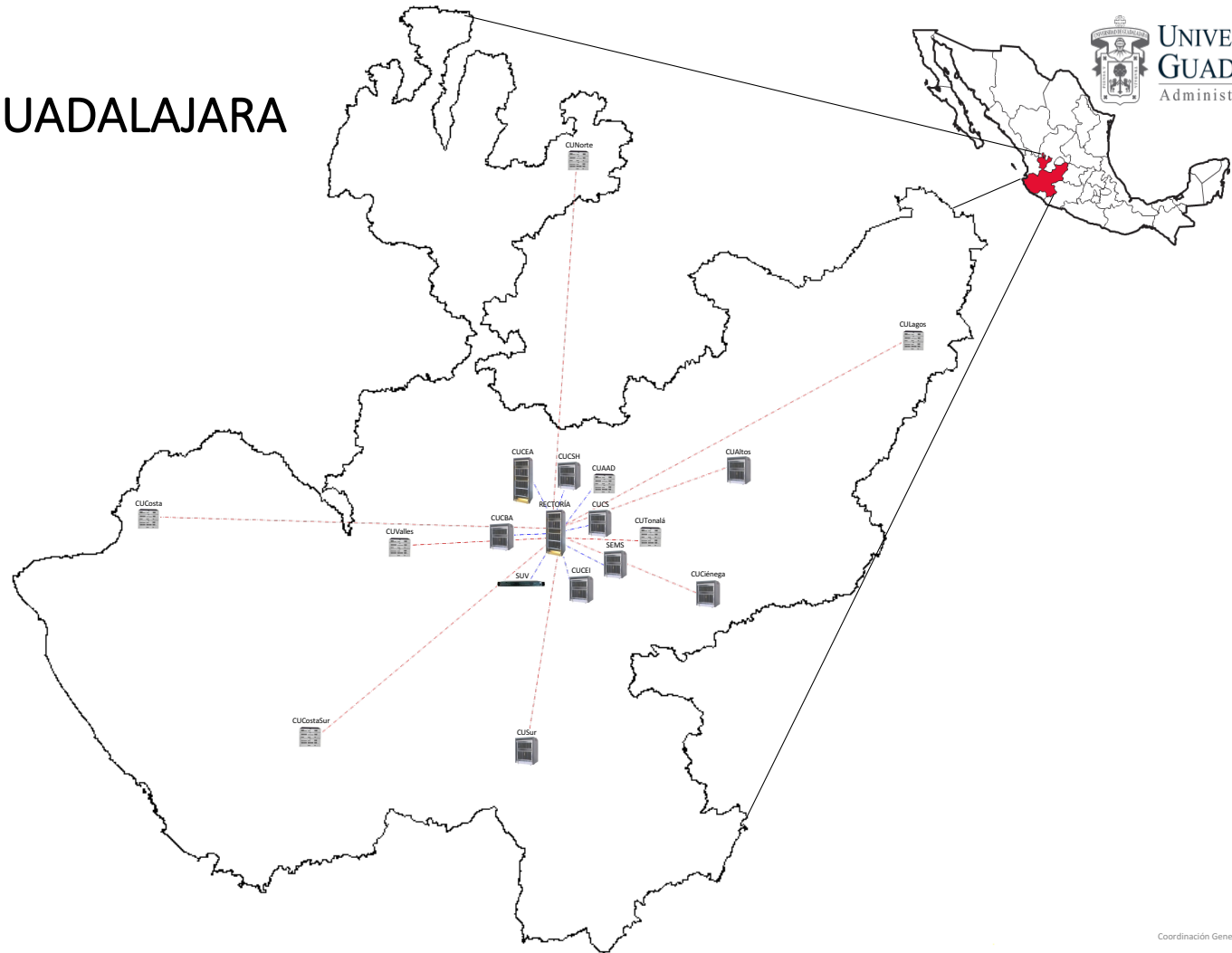
+16 mil académicos

+10 mil administrativos

Telefonía e IPv6

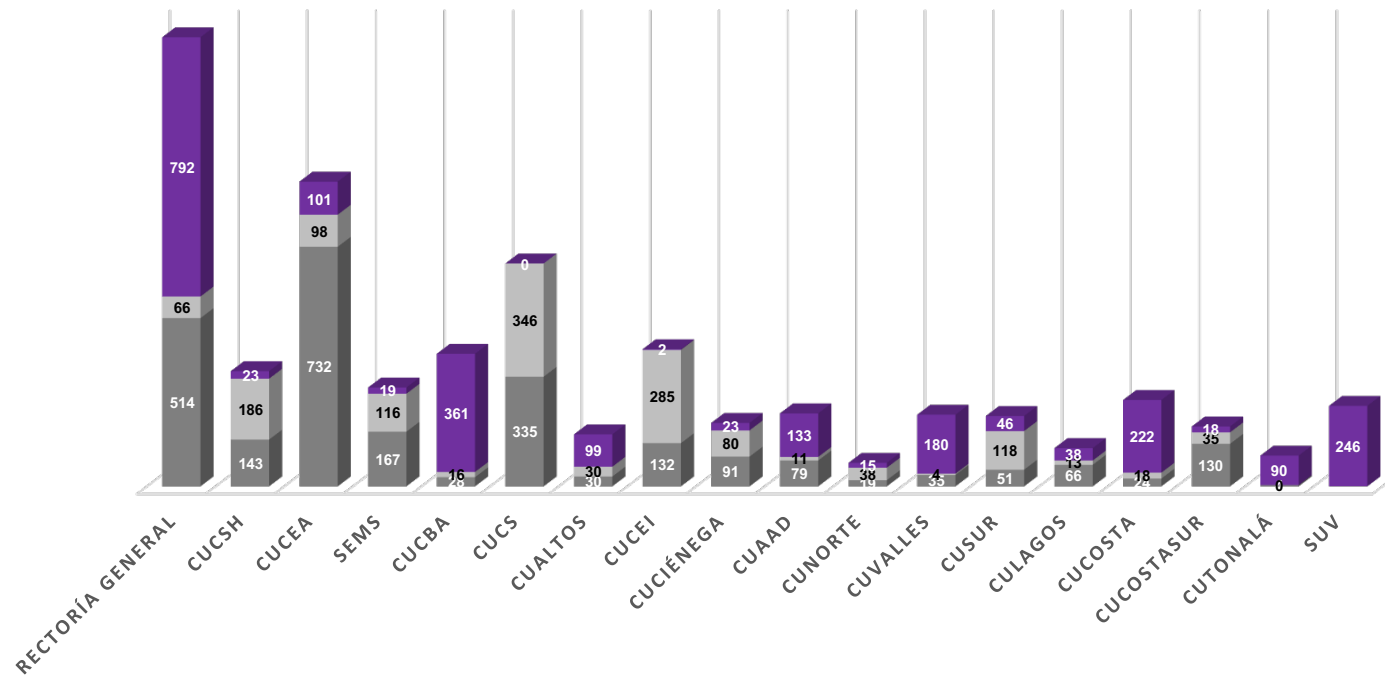


RED TELEFÓNICA UNIVERSIDAD DE GUADALAJARA



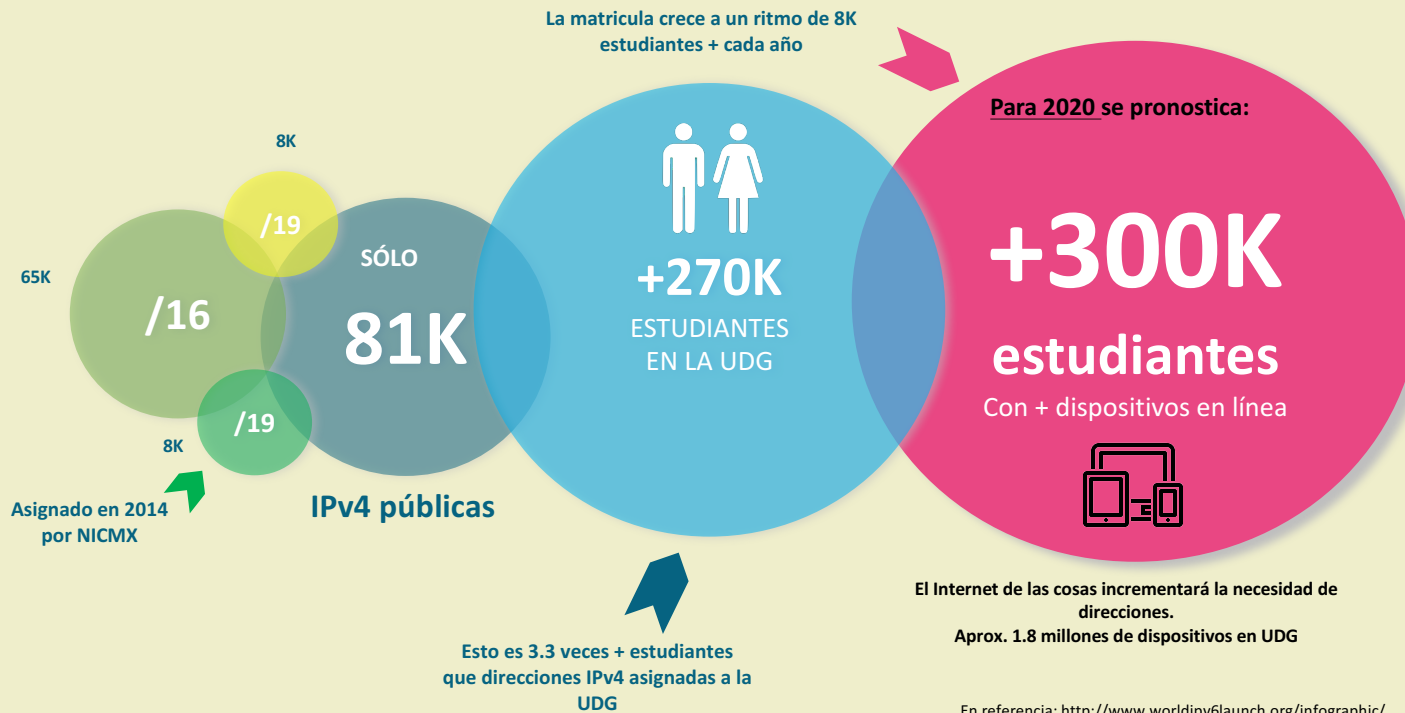
EXTENSIONES TELEFÓNICAS POR CAMPUS UNIVERSITARIO

■ DIGITALES ■ ANALÓGICAS ■ IP



IPv4 en Universidad de Guadalajara

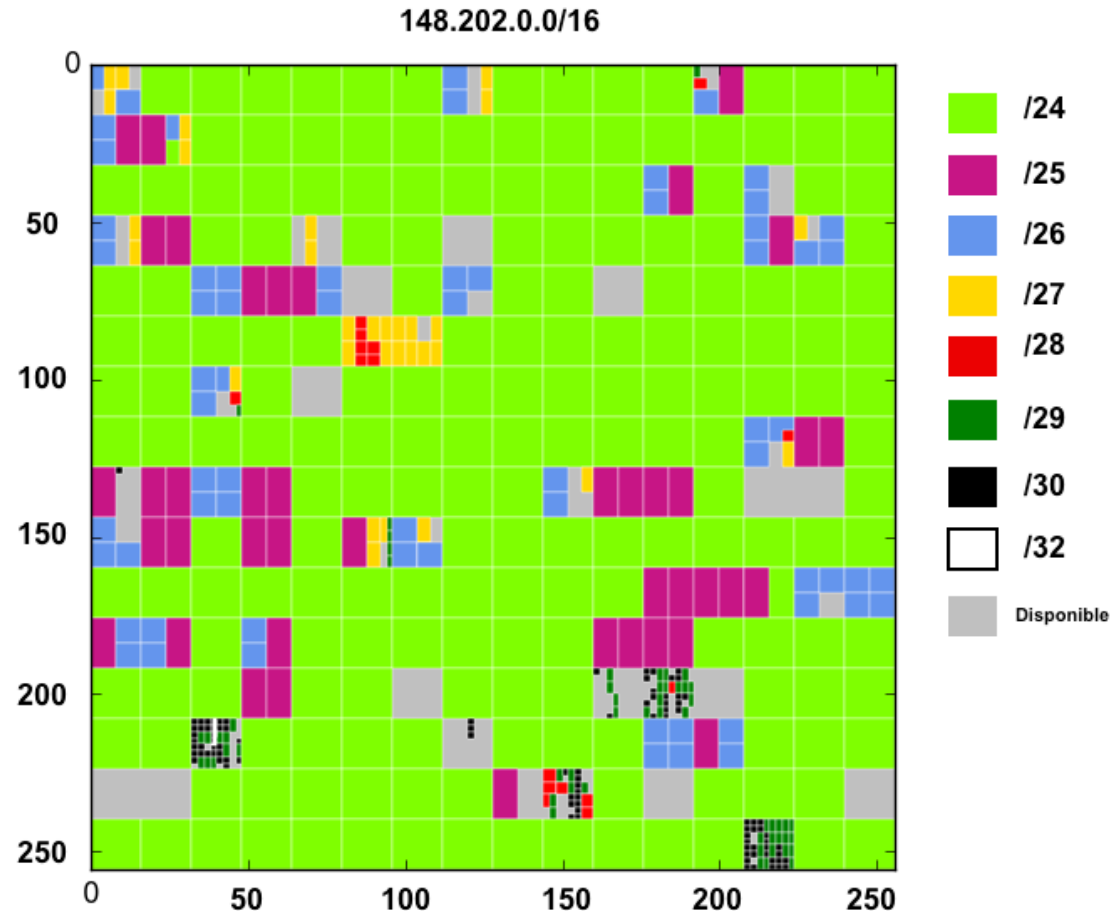
El espacio es de 81,919 direcciones
(no todas pueden ser utilizadas)



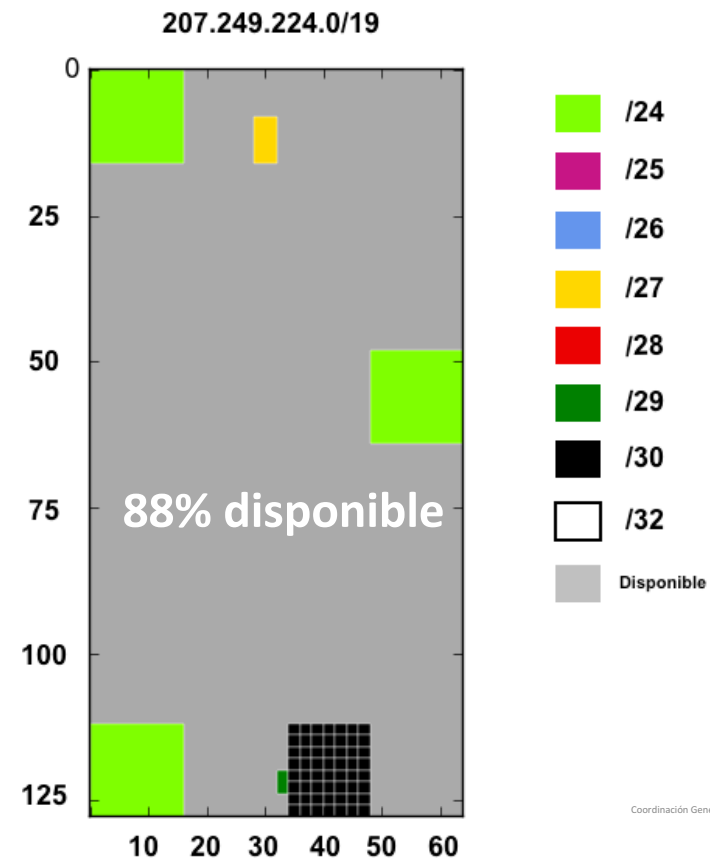
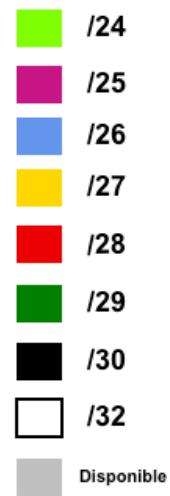
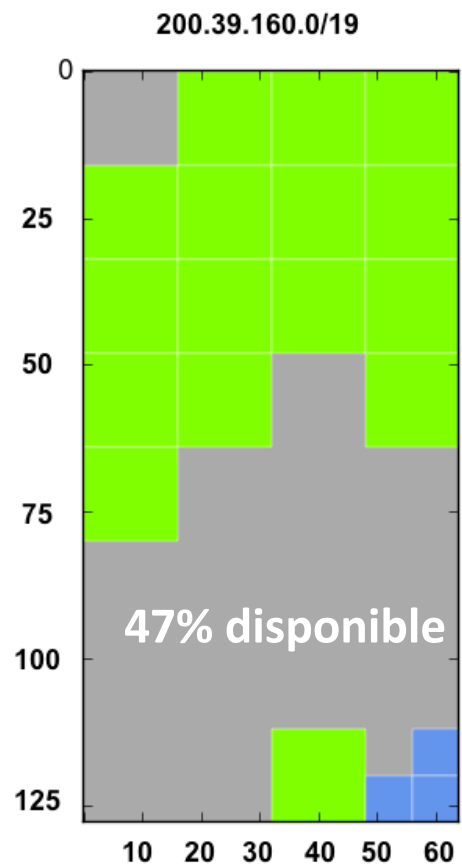
En referencia: <http://www.worldipv6launch.org/infographic/>

Agotamiento de recursos públicos IPv4

95% asignado

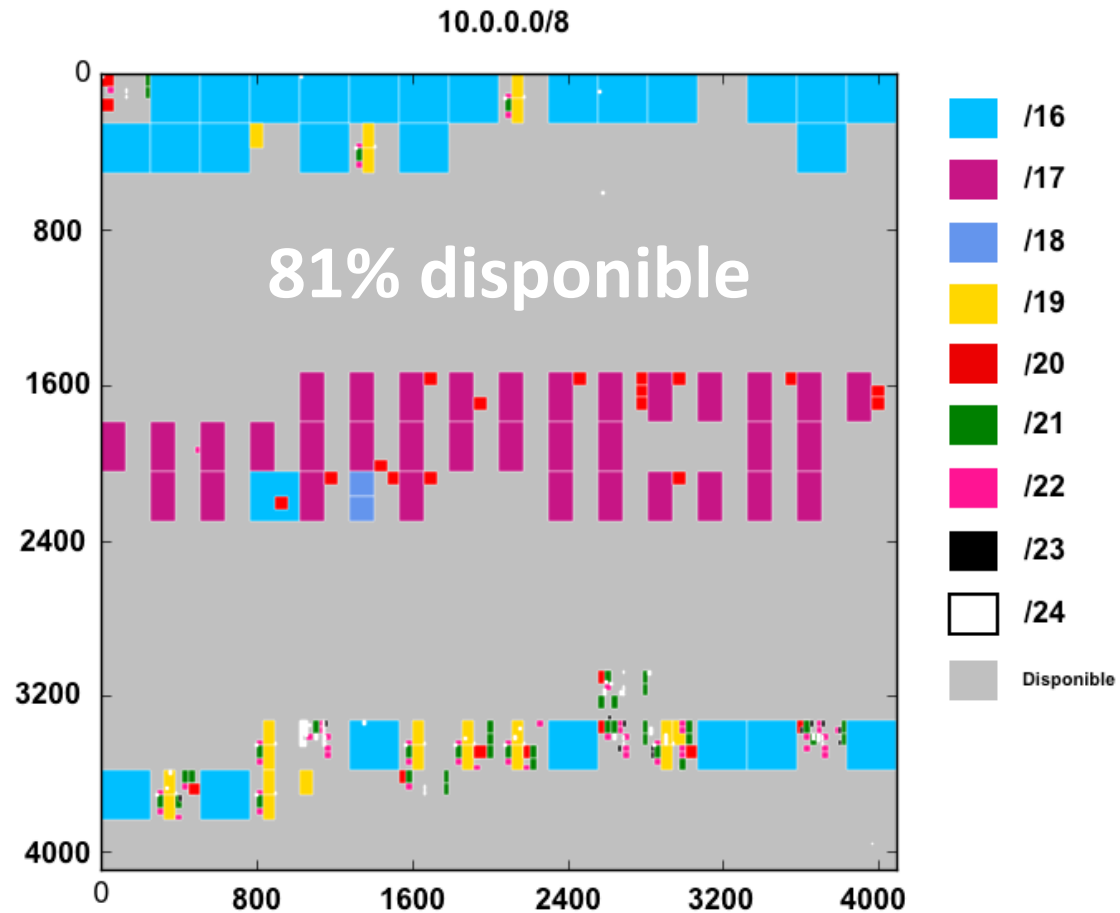


Agotamiento de recursos públicos IPv4



Recursos privados IPv4

La telefonía de Voz sobre IP fue concebida sobre IPv4 público



VLAN TELEFONÍA IP RECTORÍA GENERAL



DIRECCIÓN IPv6 TELEFONÍA

Prefijo UdeG

Dependencia

2001 : 1210 : 0100 : 0200 : 0000 : 2fbe : c671 : c300

Conmutador

Extensión



DHCP TELEFONÍA IPv4

| Client IP Address | Name | Lease Expiration | Type | Unique ID | Description | Network Access | Actions |
|-------------------|--------------------------|------------------------|------|---------------|-------------|----------------|-------------|
| 148.202.251.172 | [REDACTED]-00809fe6e1f8 | Reservation (active) | DHCP | 00809fe6e1f8 | CGTI 12321 | Full Access | Address ... |
| 148.202.251.173 | [REDACTED]-00809fe6e1ff | Reservation (active) | DHCP | 00809fe6e1ff | CGTI 12327 | Full Access | |
| 148.202.251.174 | [REDACTED]-00809fd5391b | Reservation (active) | DHCP | 00809fd5391b | CGTI 12350 | Full Access | |
| 148.202.251.175 | [REDACTED]-00809fca6250 | Reservation (active) | DHCP | 00809fca6250 | CGTI 12355 | Full Access | |
| 148.202.251.176 | [REDACTED]-00809fe6e2d9 | Reservation (active) | DHCP | 00809fe6e2d9 | CGTI 12365 | Full Access | |
| 148.202.251.188 | [REDACTED]-00809fba6b0f | Reservation (active) | DHCP | 00809fba6b0f | CPDI 11203 | Full Access | |
| 148.202.251.189 | [REDACTED]-00809fc93ced | Reservation (active) | DHCP | 00809fc93ced | CPDI 11206 | Full Access | |
| 148.202.251.190 | [REDACTED]-00809fba6ae7 | Reservation (active) | DHCP | 00809fba6ae7 | CPDI 11215 | Full Access | |
| 148.202.251.191 | [REDACTED]-00809fc956e9 | Reservation (active) | DHCP | 00809fc956e9 | CPDI 11216 | Full Access | |
| 148.202.251.192 | [REDACTED]-00809fba2a13 | Reservation (active) | DHCP | 00809fba2a13 | CPDI 11221 | Full Access | |
| 148.202.251.193 | [REDACTED]-00809fba29ec | Reservation (active) | DHCP | 00809fba29ec | CPDI 11230 | Full Access | |
| 148.202.251.194 | [REDACTED]-00809fba60a2 | Reservation (active) | DHCP | 00809fba60a2 | CPDI 11231 | Full Access | |
| 148.202.251.195 | [REDACTED]-00809fba6c61 | Reservation (active) | DHCP | 00809fba6c61 | CPDI 11232 | Full Access | |
| 148.202.251.196 | [REDACTED]-00809dfc0bf | Reservation (active) | DHCP | 00809dfc0bf | CPDI 11235 | Full Access | |
| 148.202.251.197 | [REDACTED]-00809fba6d5b | Reservation (active) | DHCP | 00809fba6d5b | CPDI 11236 | Full Access | |
| 148.202.251.198 | [REDACTED]-00809dfc0af | Reservation (active) | DHCP | 00809dfc0af | CPDI 11238 | Full Access | |
| 148.202.251.199 | [REDACTED]-00809fc93cd2 | Reservation (active) | DHCP | 00809fc93cd2 | CPDI 11245 | Full Access | |
| 148.202.251.200 | [REDACTED]-00809fdc8ff2 | Reservation (active) | DHCP | 00809fdc8ff2 | CPDI 11252 | Full Access | |
| 148.202.251.201 | CPDI 11253 | Reservation (inactive) | None | 00809fdf62fd | CPDI 11253 | Full Access | |
| 148.202.251.202 | [REDACTED]-00809df62d2 | Reservation (active) | DHCP | 00809df62d2 | CPDI 12245 | Full Access | |
| 148.202.251.203 | [REDACTED]-00809fba6d6b | Reservation (active) | DHCP | 00809fba6d6b | CPDI 12249 | Full Access | |
| 148.202.251.207 | [REDACTED]-00809fc9440a | Reservation (active) | DHCP | 00809fc9440a | DFIN 12581 | Full Access | |
| 148.202.251.208 | [REDACTED]-00809fc94561 | Reservation (active) | DHCP | 00809fc94561 | DFIN 12582 | Full Access | |
| 148.202.251.209 | [REDACTED]-00809f63b4db | Reservation (active) | DHCP | 00809f63b4db | DFIN 12585 | Full Access | |
| 148.202.251.210 | [REDACTED]-00809fc85043 | Reservation (active) | DHCP | 00809fc85043 | DFIN 12586 | Full Access | |
| 148.202.251.211 | [REDACTED]-00809ff6f81ca | Reservation (active) | DHCP | 00809ff6f81ca | DFIN 12587 | Full Access | |



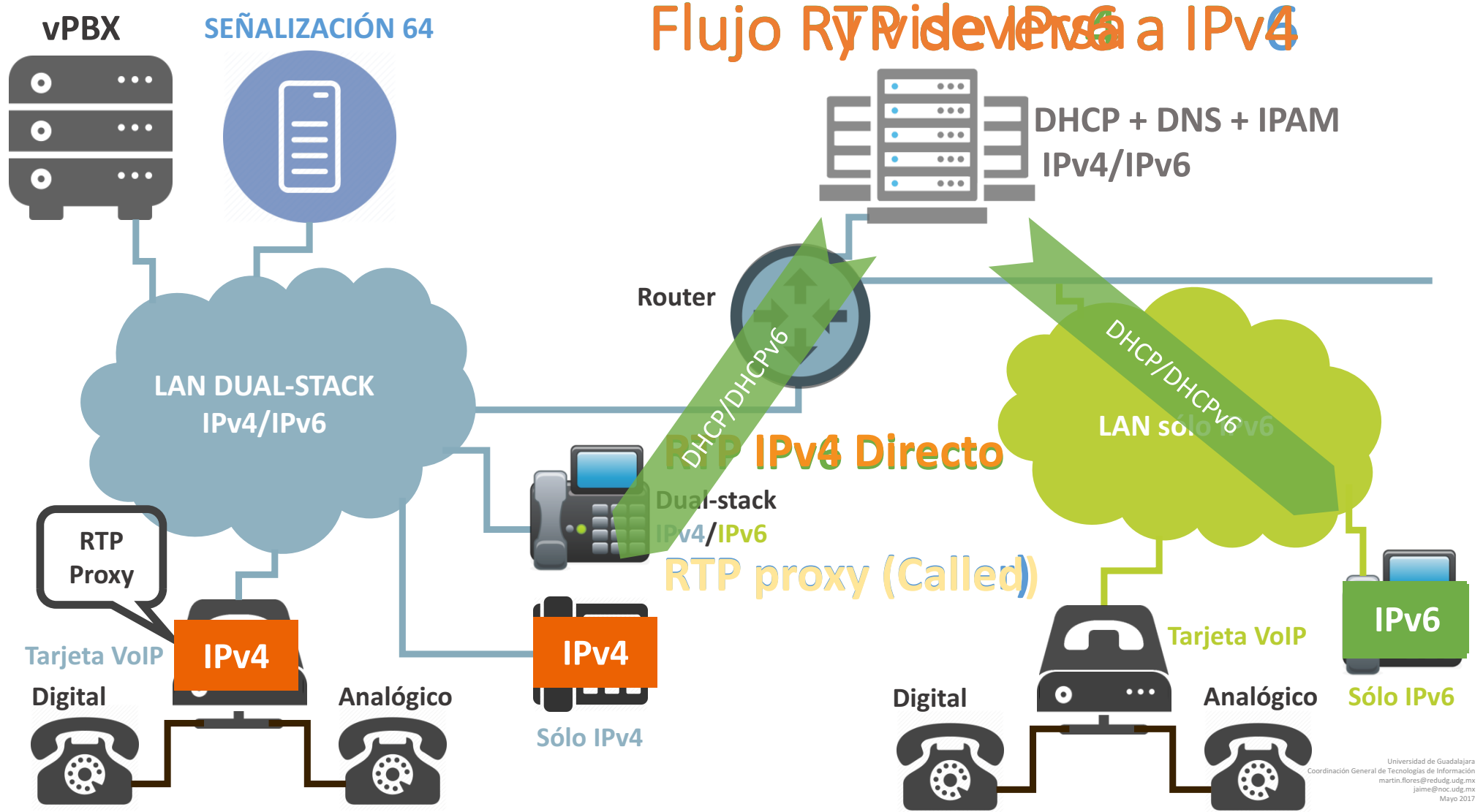
DHCPv6 para TELEFONÍA

The screenshot shows the DHCP console interface. The left pane displays a tree view of the DHCP configuration for 'od.voz.udg.mx', including IPv4 and IPv6 scopes and their associated options. The right pane shows a table of IPv6 reservations.

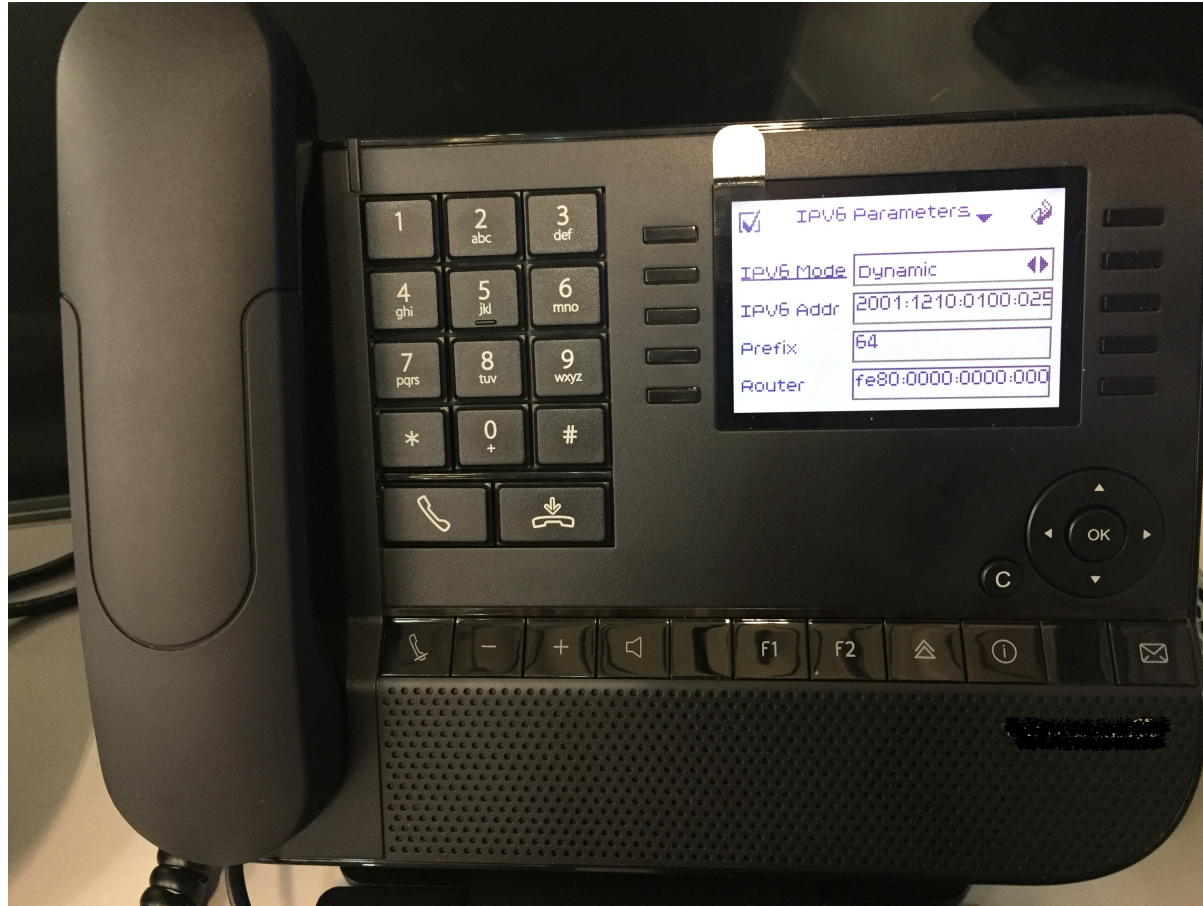
| Client IPv6 Address | Name | Lease Expiration | IAID | Type | Unique ID | Description | Actions |
|---------------------------------------|------|---------------------------|----------|------|----------------------|-------------|-------------|
| 2001:1210:100:251:0:2fbc:c671:300c | | Reservation (active) | 23200485 | IANA | 0003000100809fe978a8 | | Address ... |
| 2001:1210:100:251:b3ae:1524:9d81:e357 | | 04/02/2017 01:30:29 p. m. | 23200485 | IANA | 0003000100809fe9793f | | |



Flujo RTP Video y Voz a IPv4



Primer despliegue de VoIPv6



“La mejor forma de predecir el futuro es implementarlo.”

David Heinemeier Hansson

¡Obrigado!



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<http://www.ipv6.udg.mx>

<http://ipv6test.udg.mx>