

A Survey of ISPs in Taiwan for applying HD-Ratio to IPv4

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Outline

- Survey Scheme
- Questionnaire
- Statistics
- Summary

Survey Scheme

- **Original motivation**
 - **TWNIC 3rd OPM Address SIG concluded to conduct HD-Ratio for IPv4 survey in Taiwan**
 - **To be a reference for AP community**
- **Purposes**
 - **To introduce HD-Ratio to all ISPs**
 - **To know the obstacle of approaching 80%**
 - **To gather opinions**
- **Project period**
 - **2005/01/5 – 2005/01/31**

Survey Scheme (Cont.)

- **Delivered via E-mail**
- **Received from Fax or E-mail**
- **Target**
 - **TWNIC's member (55)**
 - **APNIC's member in Taiwan (2)**
- **Return 61.4% valid questionnaires (35) from ISPs**

Questionnaire structure

- **ISPs background Information**
- **Elaboration of Survey**
- **Introduction of HD-Ratio**
 - **Current utilization=80%**
 - **What is HD-Ratio?**
 - **How to calculate by HD-Ratio?**
- **Questions**

Questions

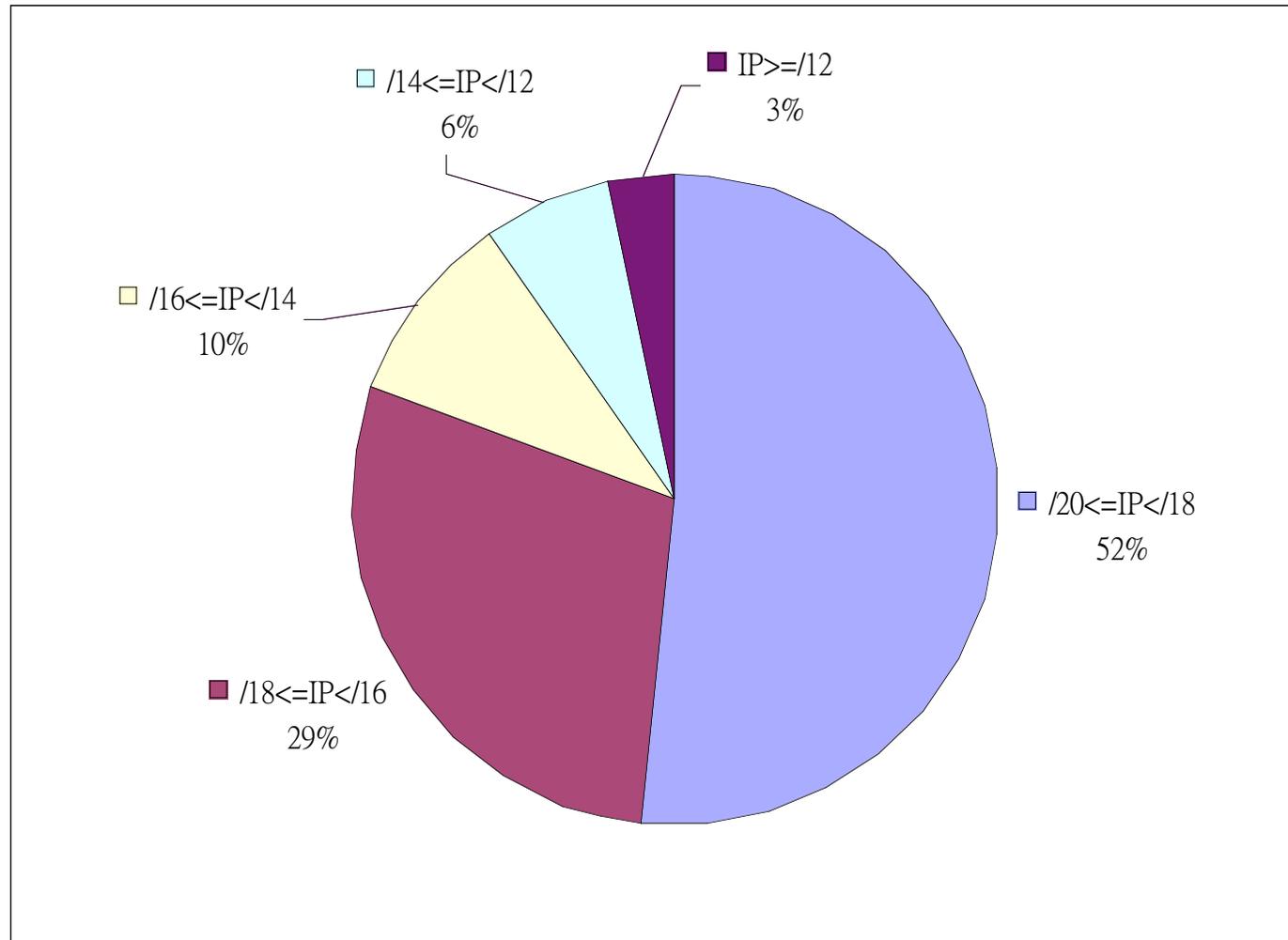
- Update background information - contact detail
- How many POPs are running in your company?
- What kind of services are you providing using static IP?
- What are the factors that one ISP's IP utilization can't reach 80% but need IP immediately?
- What kind of factors would be considered when IP address space is going to sub-divide? What is their priority?



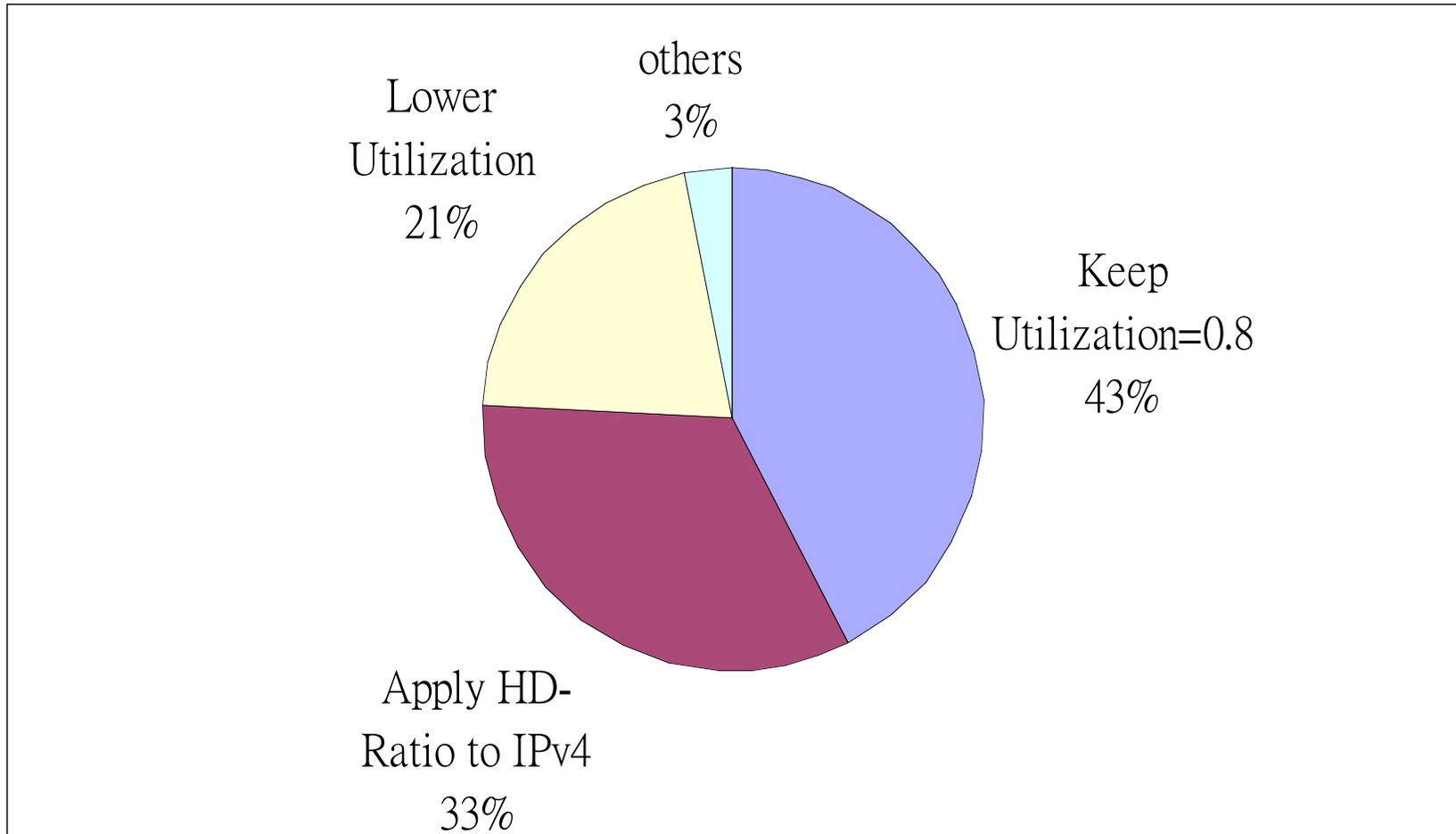
Questions (Cont.)

- Does the static IP address allocation affect the utilization achievement?
- What kind of management types did you implement when IP address shortage happened?
- Would HD-Ratio affect your company to request IPv4 address?
- What kind of calculating method does your company prefer?

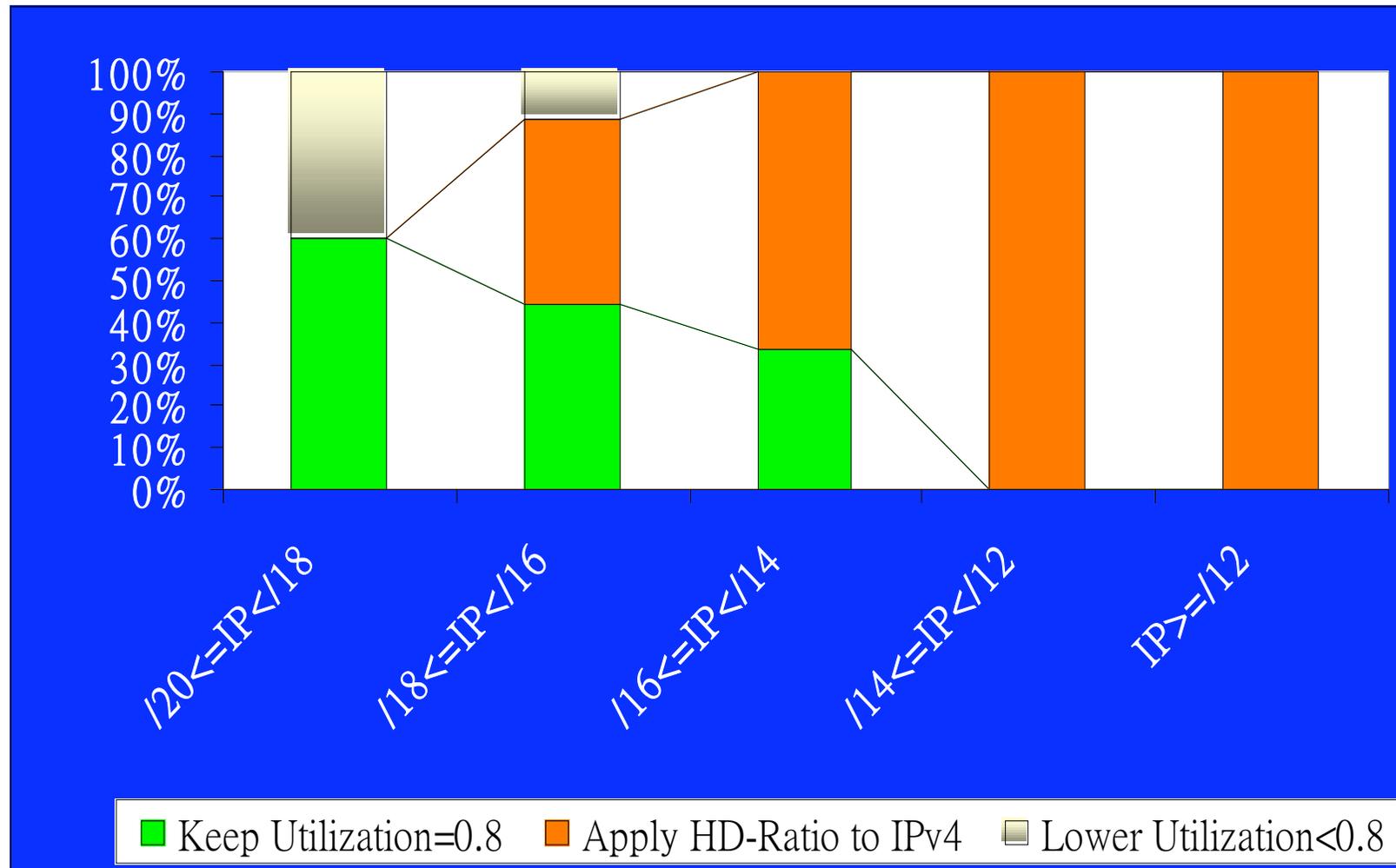
TW ISP IP address distribution



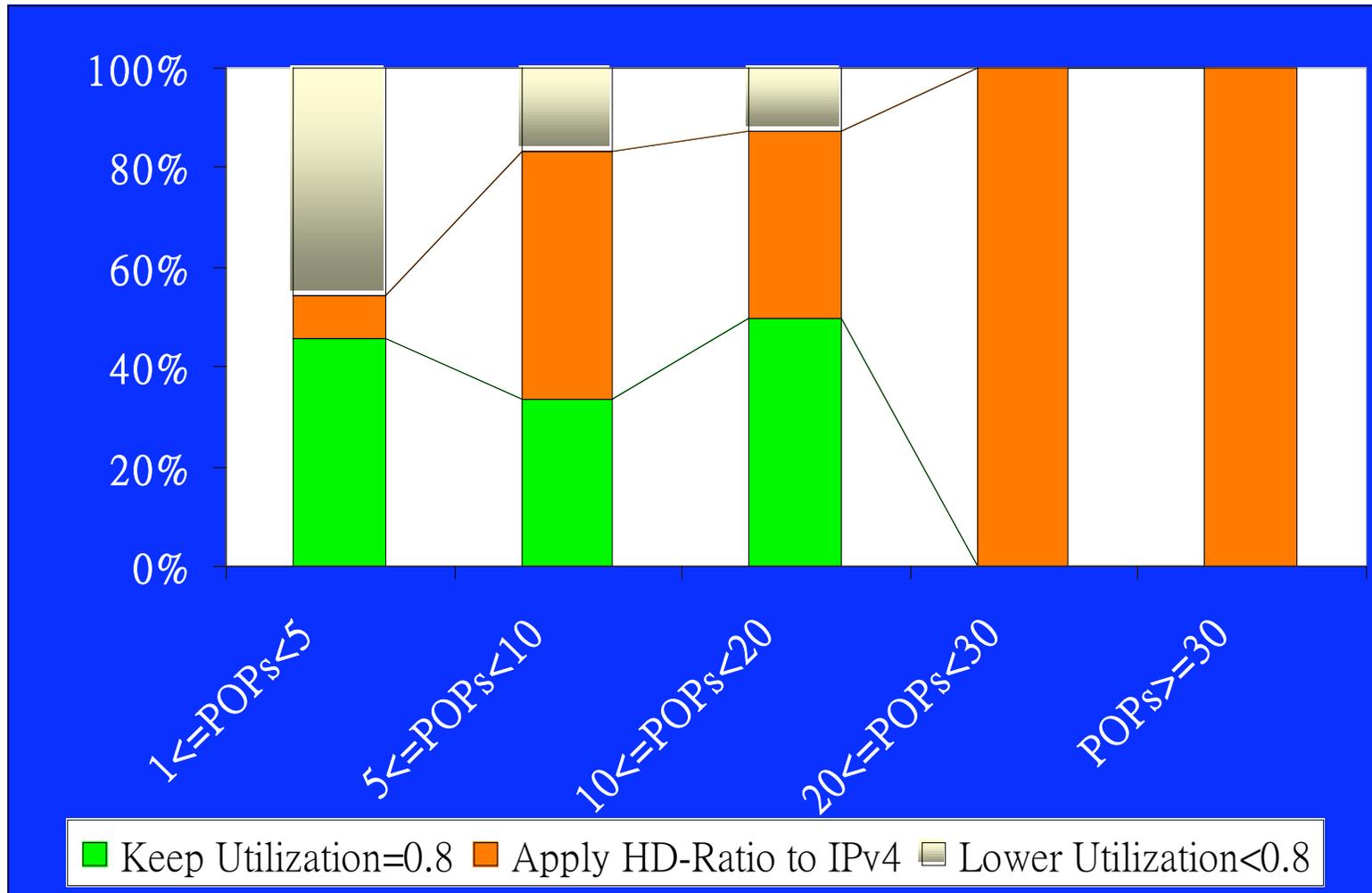
Statistics result – prefer calculating method



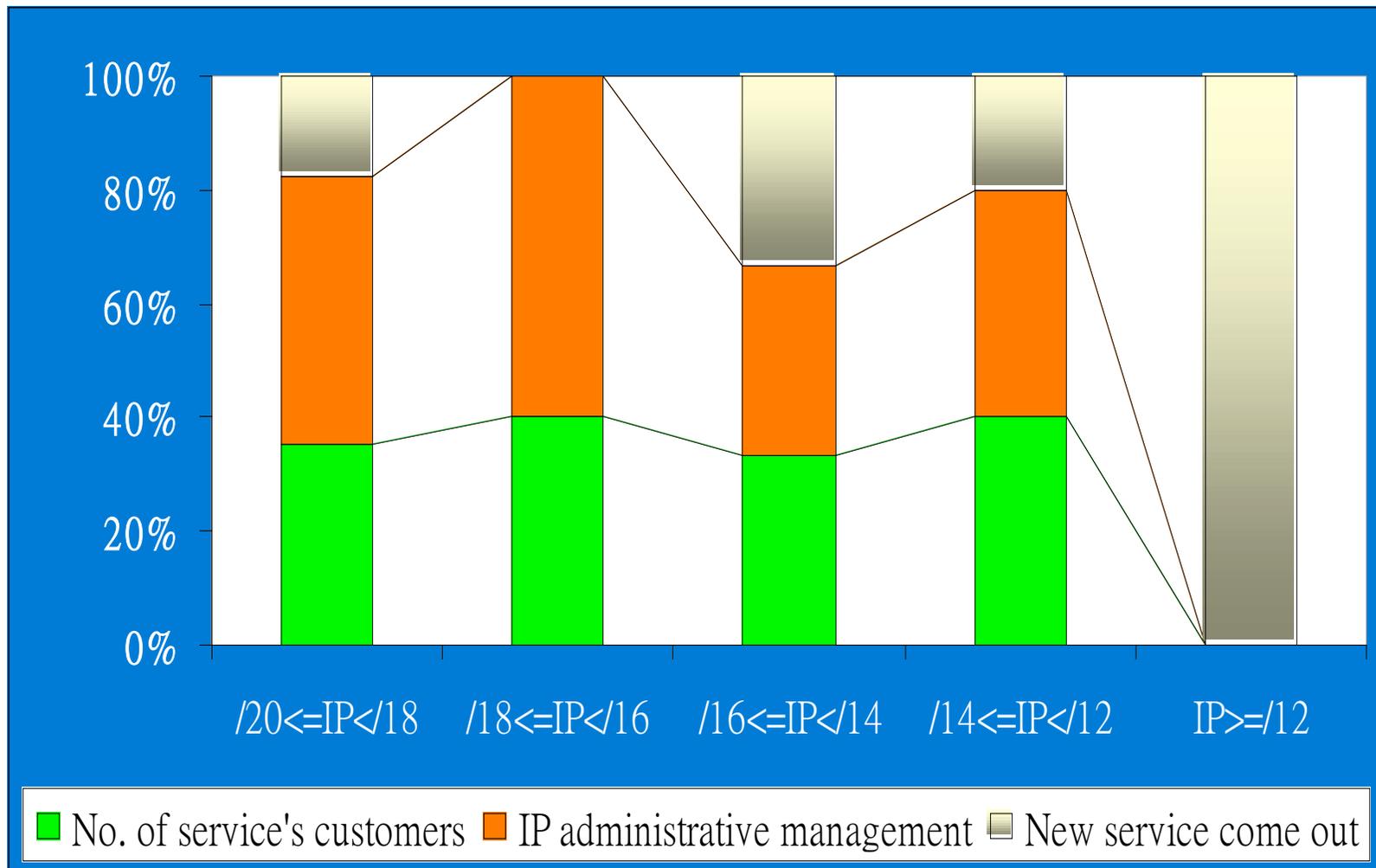
Prefer calculating method grouped by IP



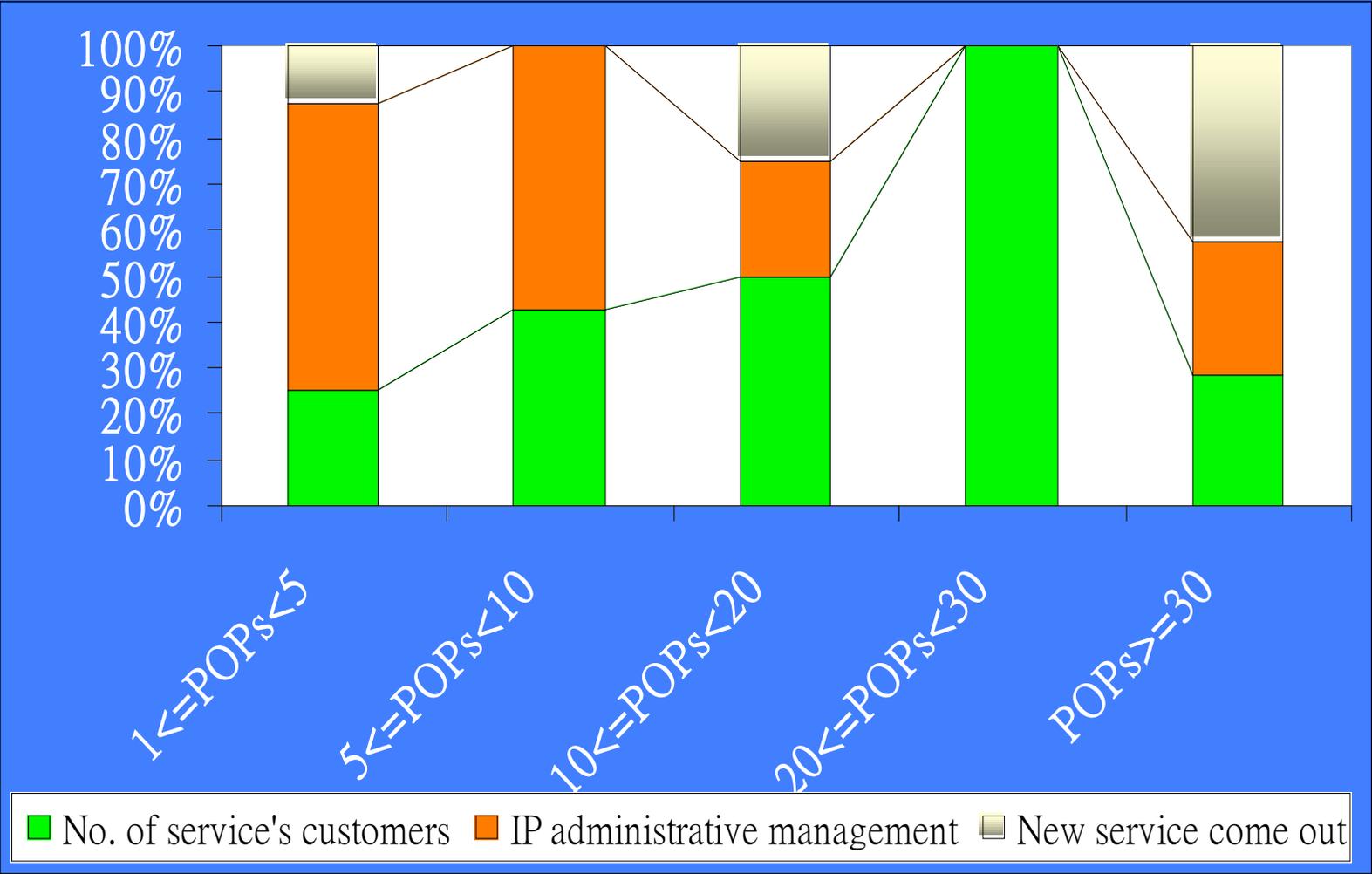
Prefer calculating method grouped by POP



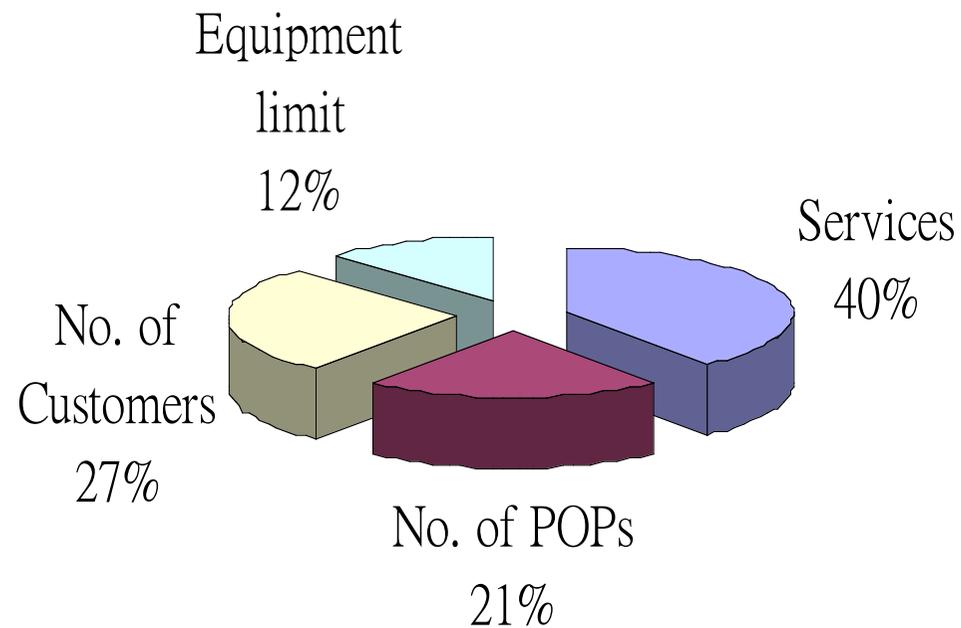
Reason of Difficulties for 80% (grouped by IP)



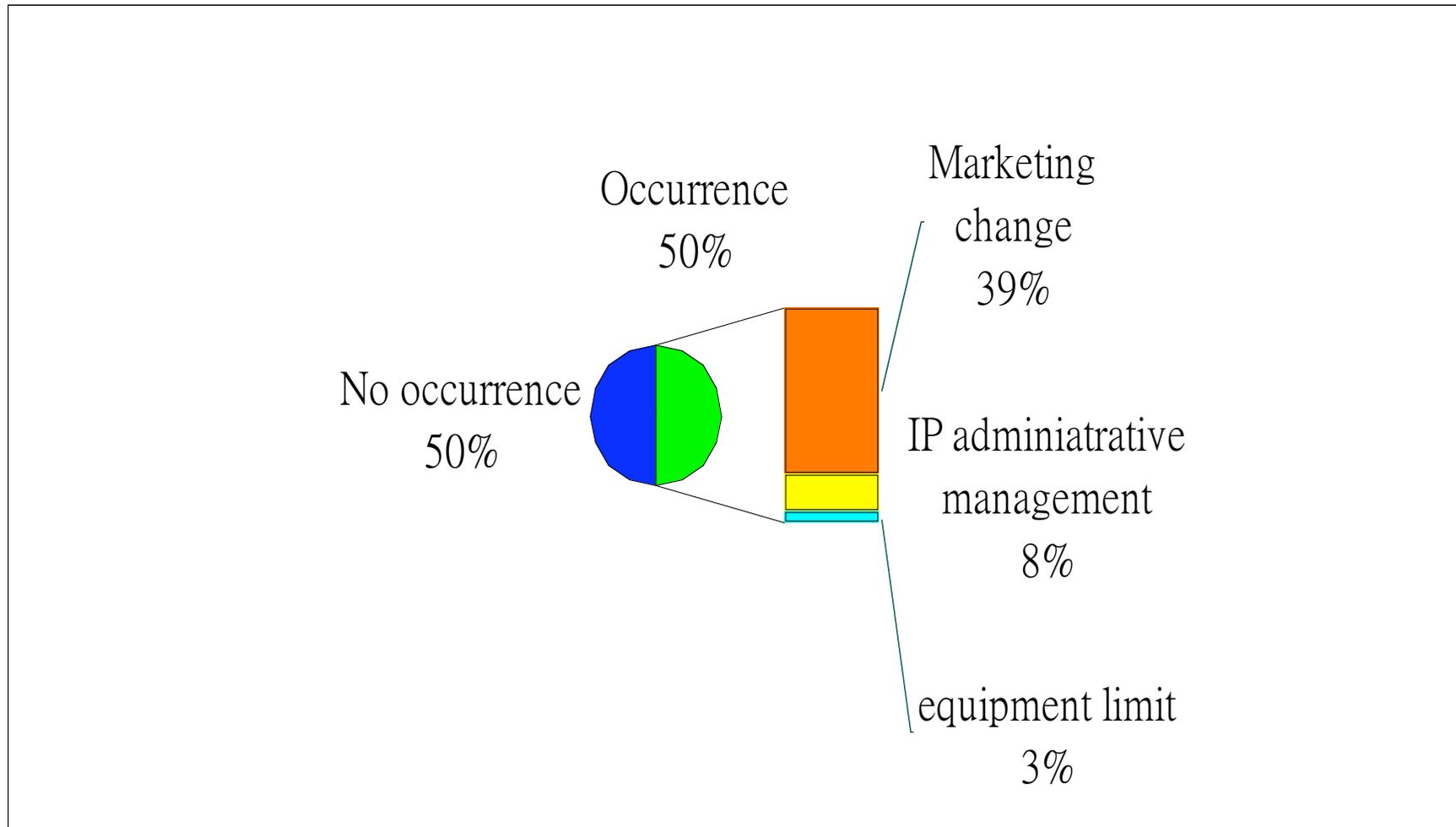
Reason of difficulties for 80% (grouped by POP)



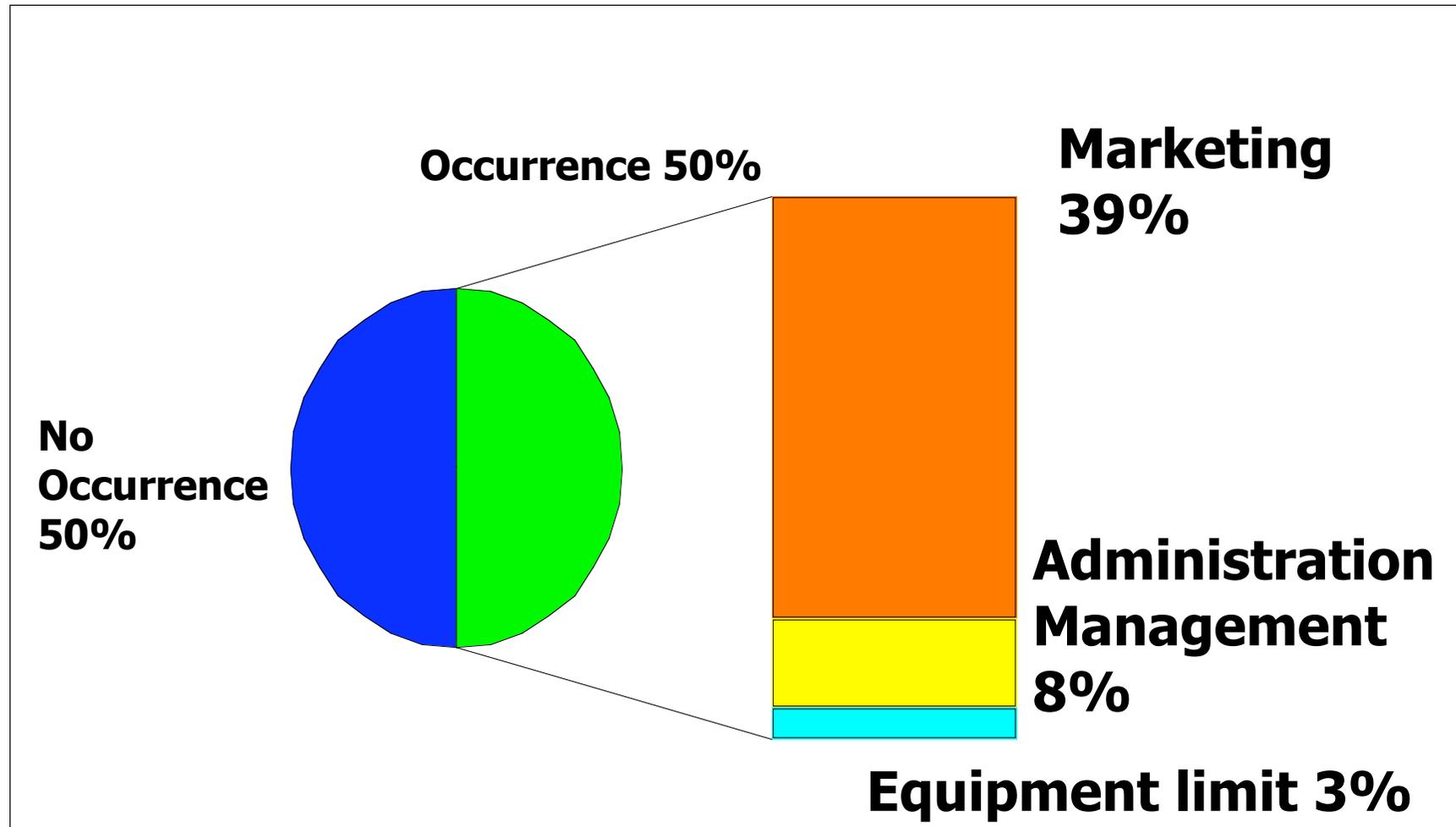
Sub-divide address space - priority



IP fragment Occurrence



Address block fragment Occurrence



Summary

- Services, customers and POPs affect achieving 80%
- Services and customers are considered as major factors in IP administrative management
- Marketing change and administrative management would occur address block fragment
- Over 50% ISPs support to change utilization, but there are still 43% ISPs want to keep original
- Prefer to HD-Ratio : more IP address holder and more POP establisher
- We think HD-ratio to IPv4 is positive for some ISPs, but it still need to gather more consensus in Taiwan



Thank You

<http://www.twnic.net.tw>

