

Analysis of NAT64 Port Allocation Method

draft-chen-sunset4-cgn-port-allocation-03

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Gang Chen

Tina Tsou

Chris Donley

Tom Taylor

China Mobile

Huawei(USA)

CableLabs

Huawei

Purpose of Presentation

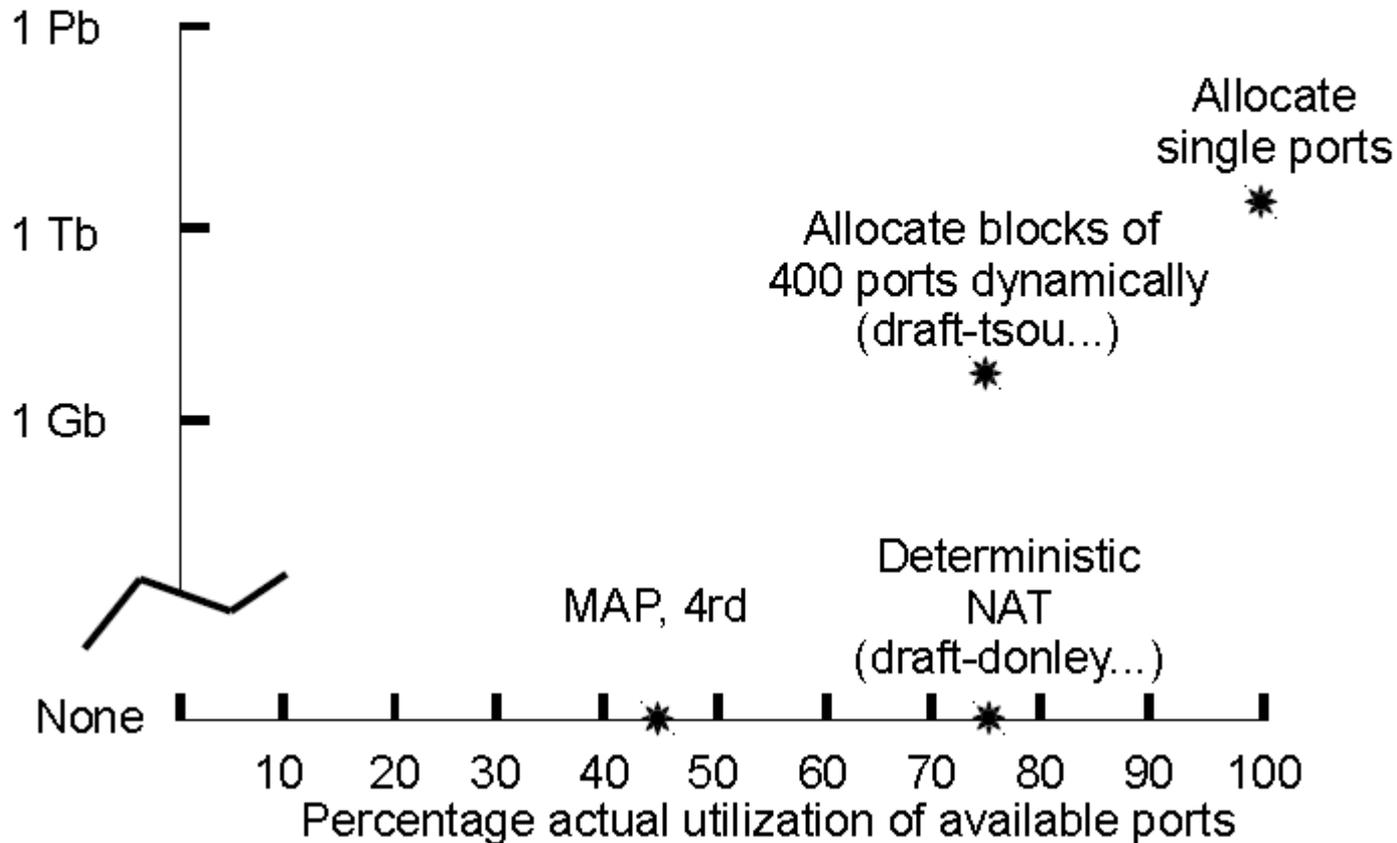
- Sunset4 has a milestone: “Submit NAT64 port allocation and address sharing methods to IESG for consideration as an Informational RFC”.
- Three related drafts:
 - draft-chen-sunset4-cgn-port-allocation-02
 - draft-tsou-behave-natx4-log-reduction-04
 - draft-donley-behave-deterministic-cgn-07
- Purpose of presentation is to get agreement on the convergence for the milestone

Issues To Be Addressed

- Propose a theoretical framework for different NAT ports allocations methods
- Real issues identified
 - Efficiency of port usage, affects potential sharing ratio
 - Log volume, affects operational costs, effort to trace back
 - Others: Connectivity State Optimization and port guessing attack
- Solution spaces:
 - Deterministic CGN (draft-donley-behave-deterministic-cgn-07)
 - draft-tsou-behave-natx4-log-reduction-04
 - MAP-T/4rd, PCP

Tradeoff

Logging bytes per million subs per day (logarithmic)



Comments

- Improve description for testing condition and environment (**Section 2 and Section 5.1**)
- Complete citation (**Section 3.1 and 3.3**)
- Add state sync and failover statement for the different solutions (**To be added**)

Discussion

- In the solution space, the draft is intending to propose a converged solution to cover the needs from draft-tsou-xx and draft-donley-xx
- A preliminary thought is to take the algorithm in draft-donley-xx as basic to figure out the volume of each port segment
- For allocation process, three possibility
 - Static: each port segment is designated to a particular user
 - Dynamic: each port segment is dynamically allocated to a user
 - Hybrid: users can be categorized as “a static group” and “a dynamic group”. For each group, port segments is allocated in static or dynamic way respectively.

Next Step

- Incorporate all comments in next version
- Adopt/Comments?