



APNIC

Asia Pacific Network Information Centre

# APNIC Policy Update

1<sup>st</sup> TWNIC Open Policy Meeting

3 December, 2003

Taipei, Taiwan



APNIC

Asia Pacific Network Information Centre

# Internet Registry Allocation and Assignment

## Policies

# Allocation and Assignment

## Allocation

*“A block of address space held by an IR (or downstream ISP) for subsequent allocation or assignment”*

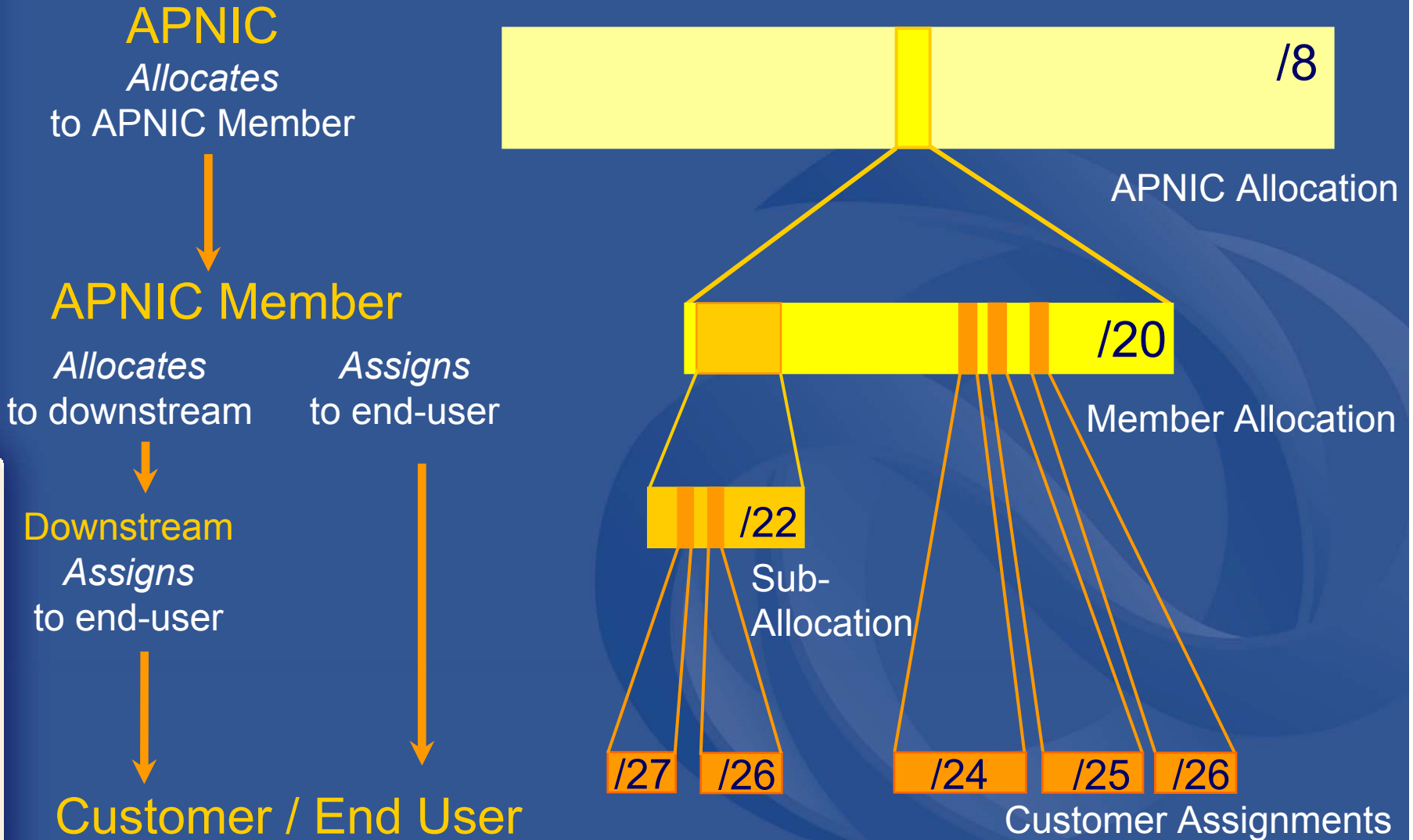
- Not yet used to address any networks

## Assignment

*“A block of address space used to address an operational network”*

- May be provided to LIR customers, or used for an LIR’s infrastructure (‘self-assignment’)

# Allocation and Assignment



# Portable & non-portable

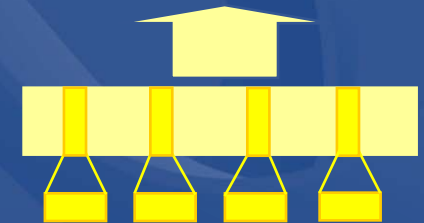
## Portable Assignments

- Customer addresses independent from ISP
  - Keeps addresses when changing ISP
- Bad for size of routing tables
- Bad for QoS: routes may be filtered, flap-dampened



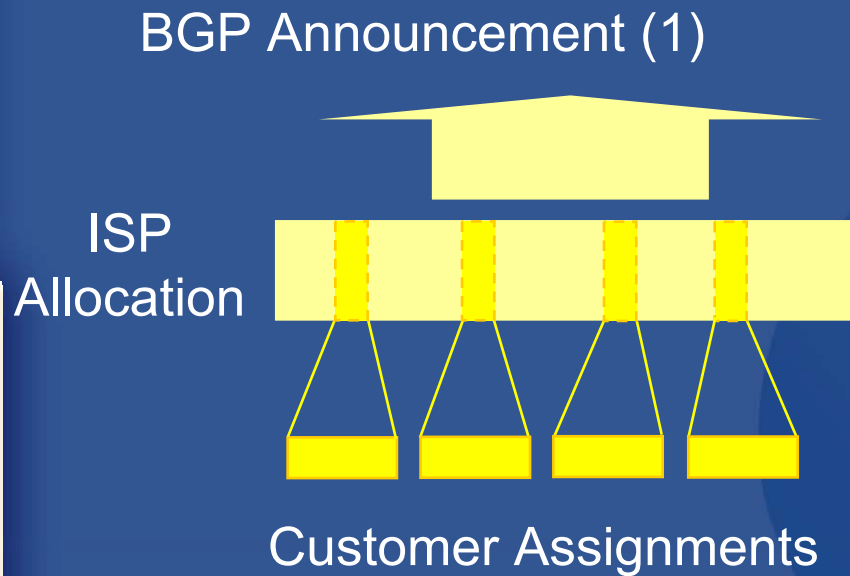
## Non-portable Assignments

- Customer uses ISP's address space
  - Must renumber if changing ISP
- Only way to effectively scale the Internet



# Aggregation and “portability”

## Aggregation



(Non-portable Assignments)

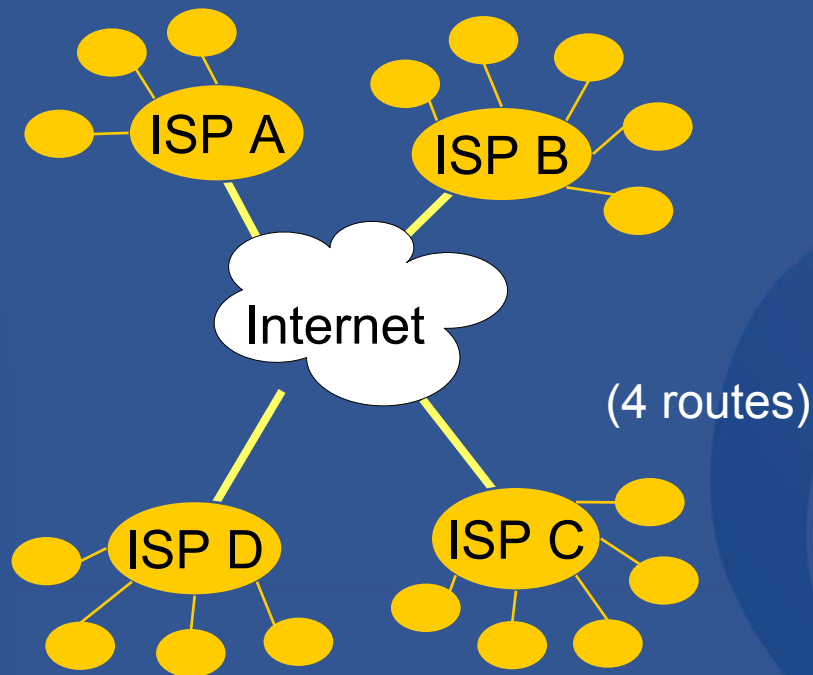
## No Aggregation



(Portable Assignments)

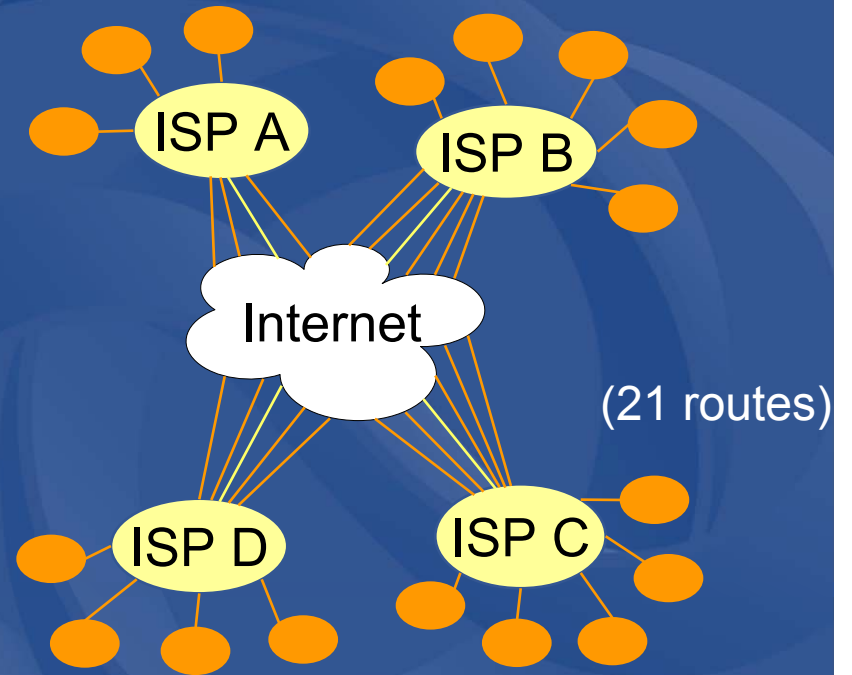
# Aggregation and “portability”

## Aggregation



(Non-portable Assignments)

## No Aggregation



(Portable Assignments)

# Address management objectives

## Conservation

- Efficient use of resources
- Based on demonstrated need

## Aggregation

- Limit routing table growth
- Support provider-based routing

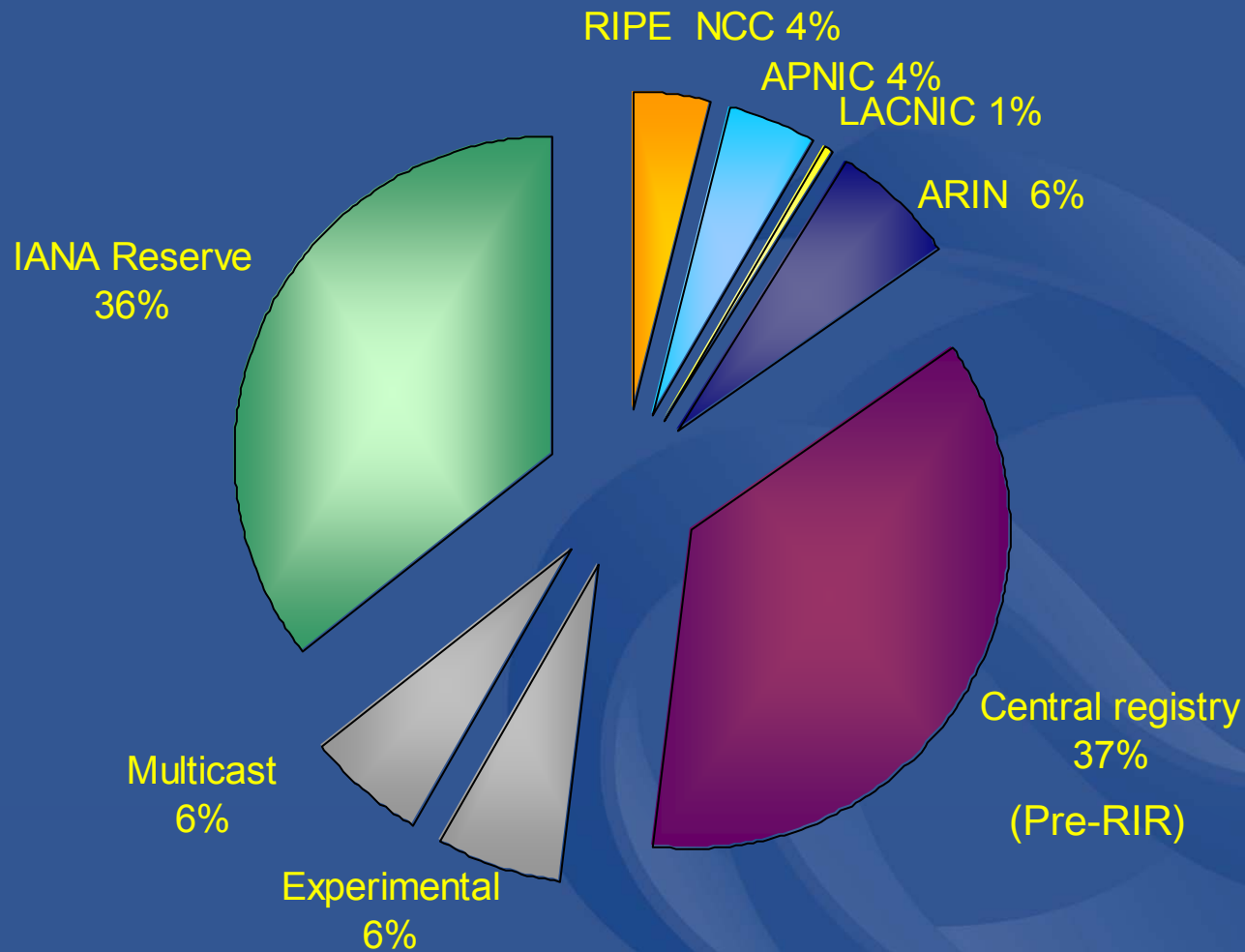
## Registration

- Ensure uniqueness
- Facilitate trouble shooting



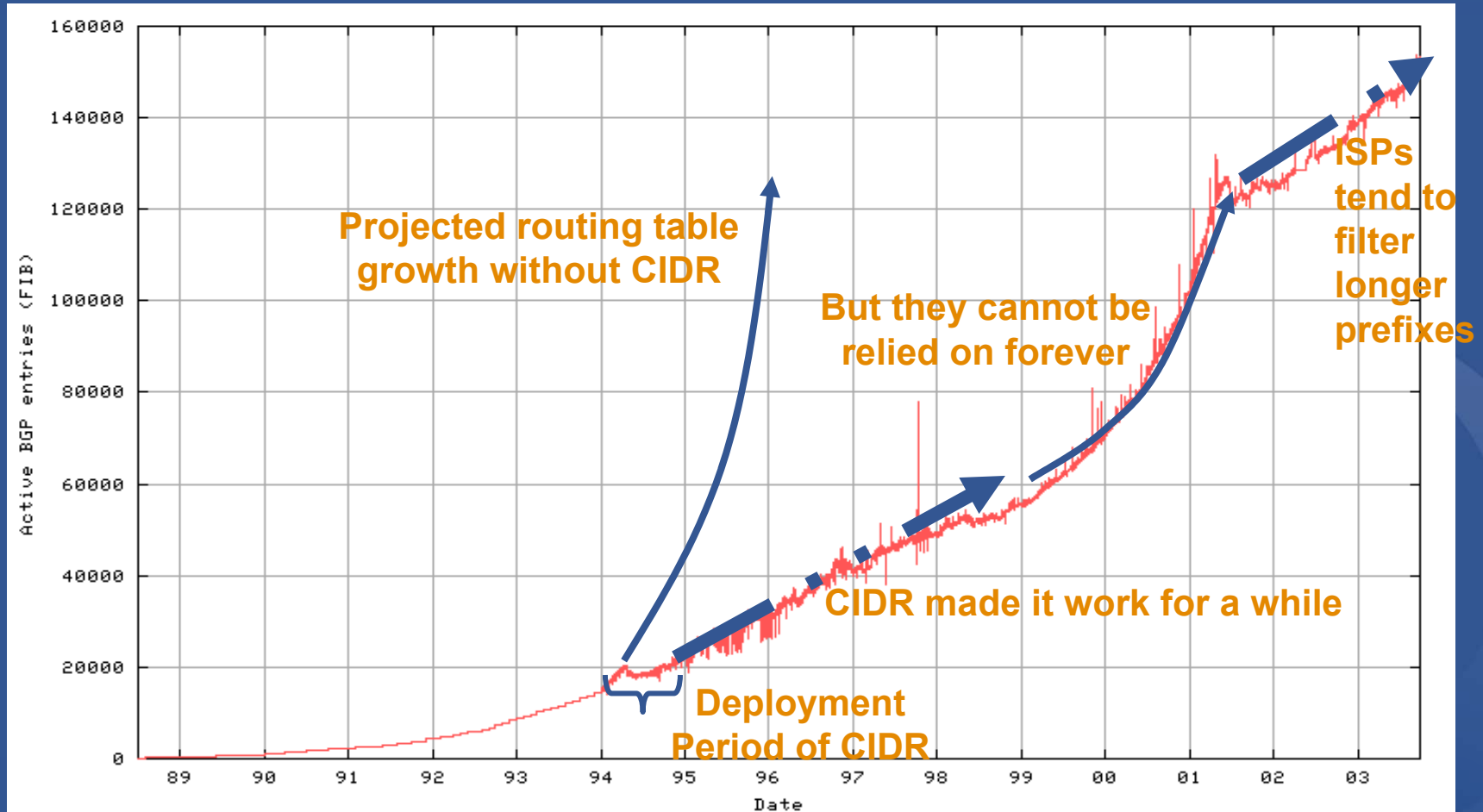
# Why do we need policies?

## - Global IPv4 Delegations





# Growth of global routing table



<http://bgp.potaroo.net/as1221/bgp-active.html>

last updated 29 Sep 2003

# APNIC policy environment

## *“IP addresses not freehold property”*

- Assignments & allocations on license basis
  - Addresses *cannot* be bought or sold
  - Internet resources are public resources
  - ‘Ownership’ is contrary to management goals

## *“Allocations and assignments based on demonstrated need”*

- Detailed documentation required
  - Assignment should maximise utilisation

# Initial IPv4 allocation criteria

- 1a. Have used a /22 from upstream provider
  - Demonstrated efficient previous address usage
- OR
- 1b. Show immediate need for /22
  - Can include customer projections & infrastructure equipment
2. Detailed plan for use of /21 within a year
3. Renummer to new space within 1 year

# Small multihoming assignment policy

1a. Applicants currently *multihomed*

OR

1b. Demonstrate a plan to *multihome within 1 month*

2. *Agree to renumber* out of previously assigned space

- Demonstrate need to use 25% of requested space immediately and 50% within 1 year

# APNIC16 policy update

*16<sup>th</sup> APNIC Open Policy meeting took place the 19<sup>th</sup> – 22<sup>nd</sup> August, Seoul, Korea*

- Policy development proposal **consensus**
  - **Prop-001-v001**: Revised policy development process
    - Text proposal on ML 1 month before meeting
    - ‘Comment period’ on ML 2 months after meeting
    - Final endorsement from EC
- IPv4 policy proposal **consensus**
  - **Prop-006-v001**: Historical resource transfers
    - Allows transfers from ‘historical’ to ‘current’ status
    - Recipient must be an APNIC member
    - Address space subject to current policy framework



# APNIC16 policy update

- IPv4/IPv6 policy proposal
  - **Prop-011-v001**: Revised IXP assignment policy
    - Definition amended, restriction on routing lifted
    - Further discussion required for remainder of proposal
- IPv6 informational proposal
  - Create a guidelines document to explain existing IPv6 policy

# Come to the next APNIC Meeting!



17th APNIC Open Policy Meeting  
23-27 February 2004 Kuala Lumpur - Malaysia

with

## APRICOT 2004

Kuala Lumpur, Malaysia, 18-27 February 2004

*2<sup>nd</sup> round Fellowship application: 11-17 Jan 04*

- Participate in policy development
- Attend workshops, tutorials & presentations
- Exchange knowledge and information with peers
- Stay abreast with developments in the Internet
- View multicast online
- Provide your input in matters important to you

<http://www.apnic.net/meetings/>





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**Thanks and Questions?**