

# Internet Future

Internet Services Unit

King Abdulaziz City for Science and Technology

Riyadh, Saudi Arabia

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# Outline

- ✓ ISU-2 Site
- ✓ Connectivity Alternatives

# ISU-2 Jeddah Site

- ▶ Objectives:
- ▶ Backup in case of failures:
  - ✓ International link failures.
  - ✓ ISU equipment failures/maintenance: routers, switches, servers, internal wiring.
  - ✓ STC equipment failures/maintenance: ISU-STC local loop, internal switches, PVC problems, etc.
- ▶ Load sharing
  - ✓ Take off load from main site.
  - ✓ With one STM-1 at each site, better balancing is possible.

# ISU-2 Jeddah Site

## ▶ Benefits:

- ✓ Solid Internet infrastructure to meet future expansion needs
- ✓ Makes mission critical applications possible
- ✓ Reduces user complaints

# New Architecture

Internet

SEA-ME-WE 3

155

Jeddah



SAUDI  
ARABIA

High-speed pipe

Internet

~~Flag system~~

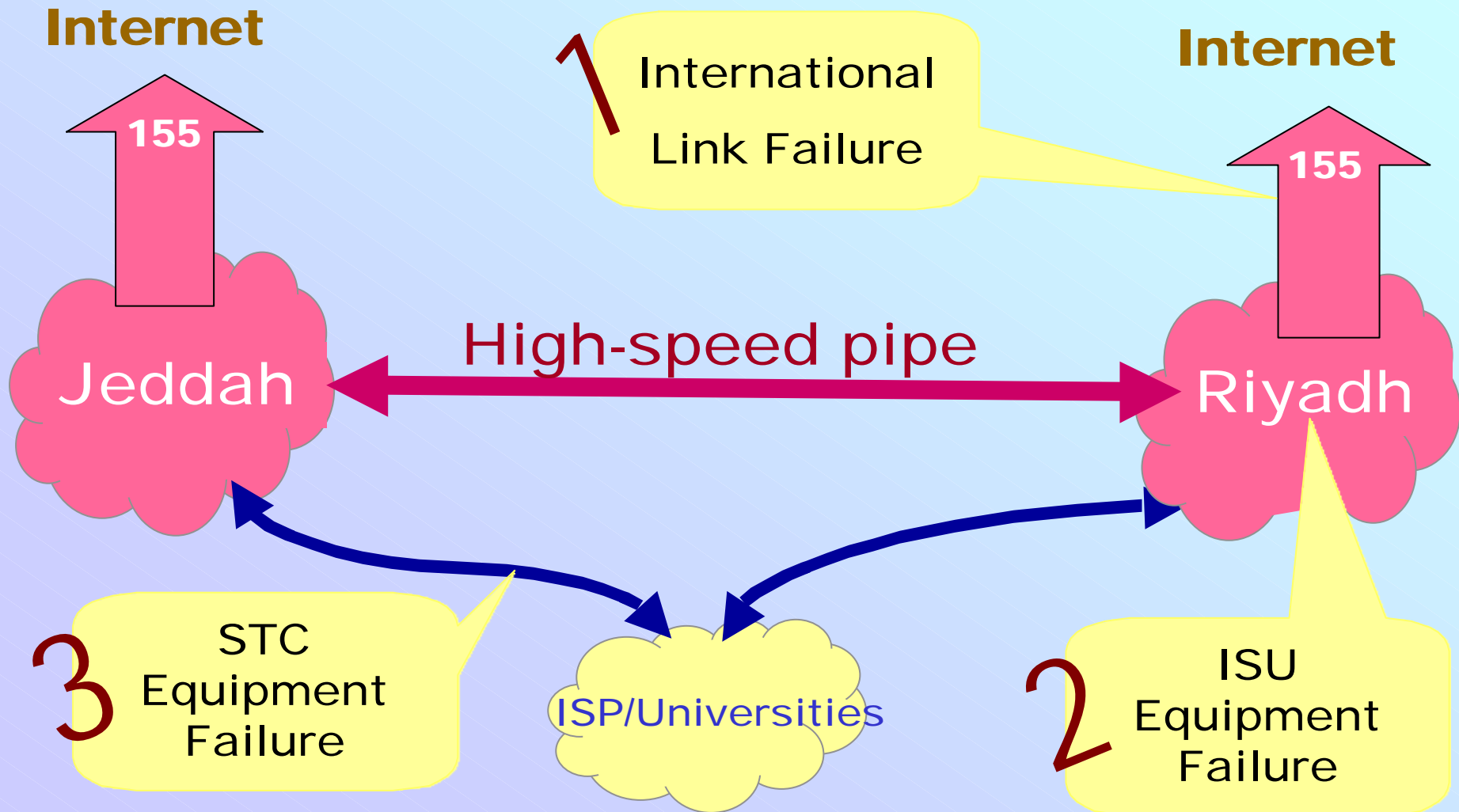
~~155~~

~~Riyadh~~

ISP/Universities

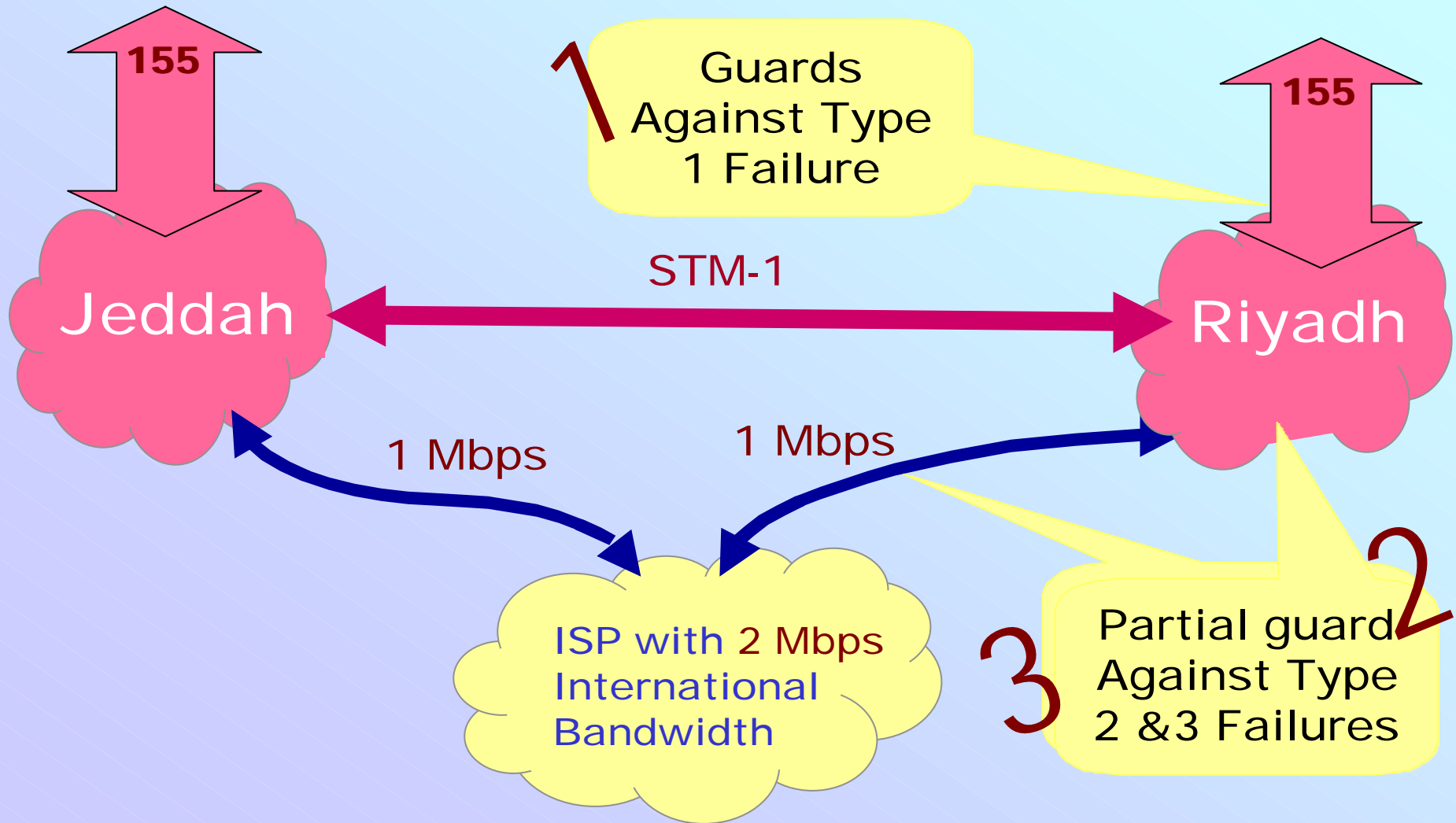
# New Architecture

## Types of Failures



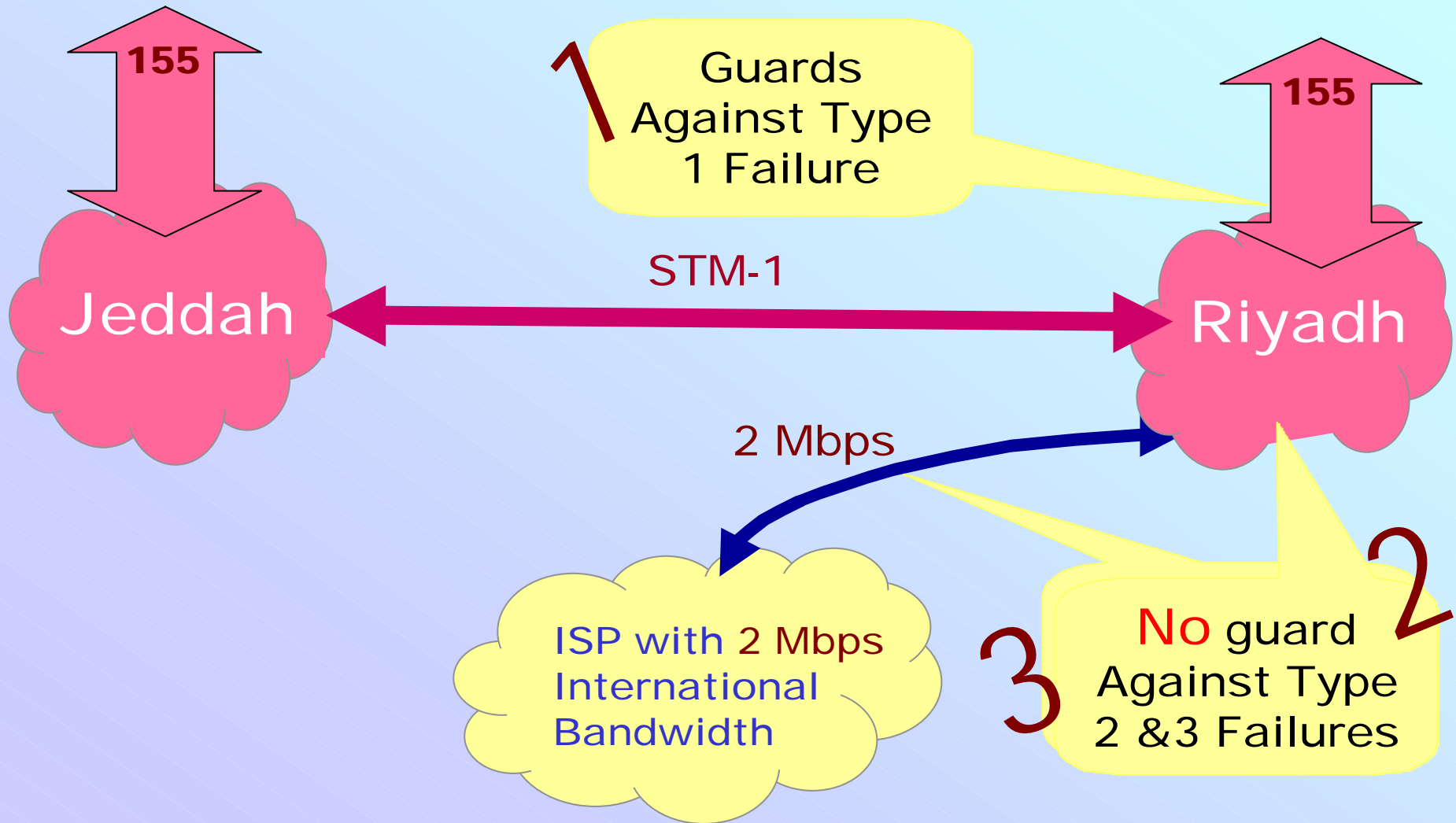
# First Phase

ISP divides its international bandwidth between the two sites



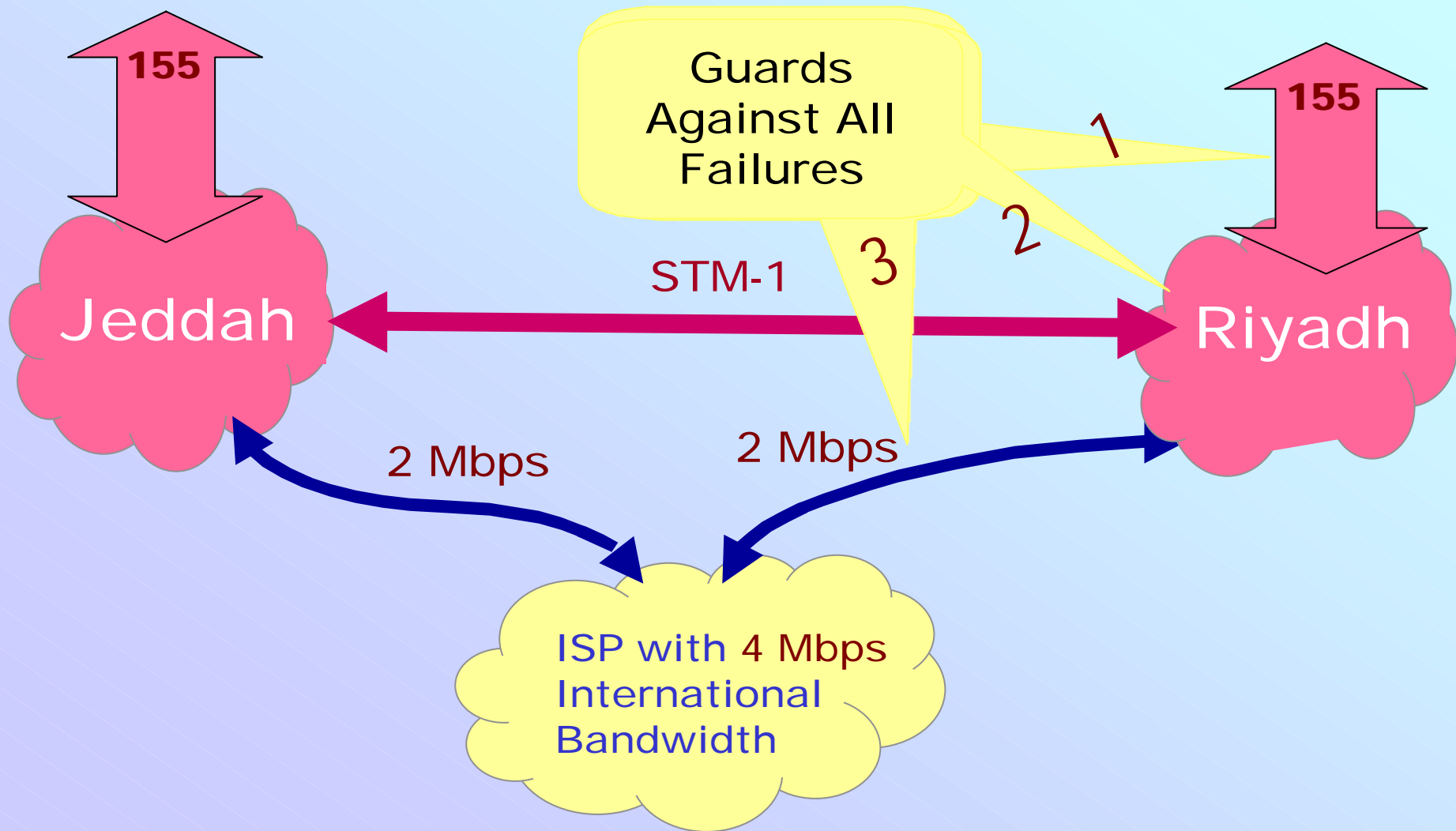
# First Phase

ISP connects to a Single Site

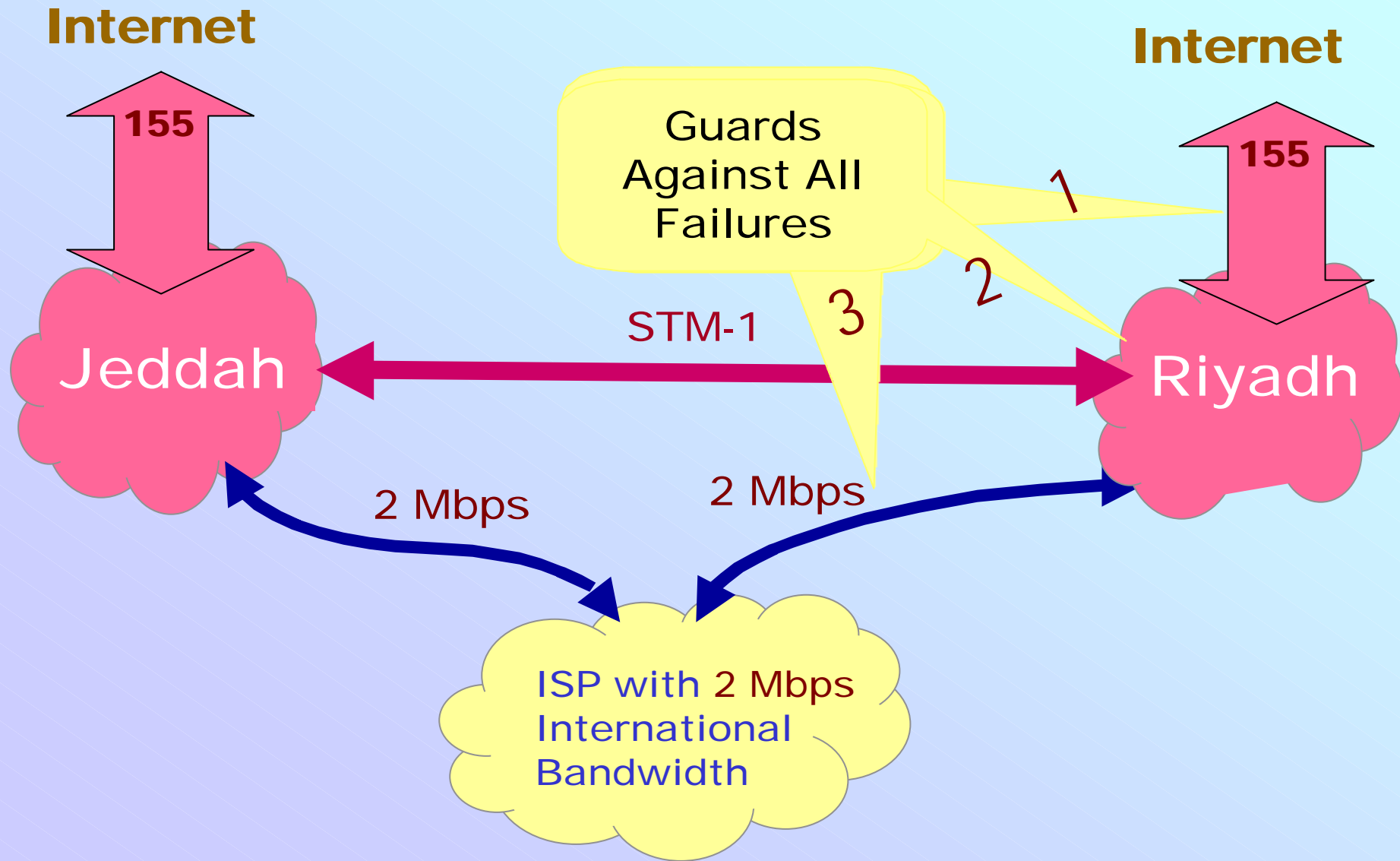


# First Phase

ISP Buys Double Bandwidth



# Second Phase



# Saudi Internet Infrastructure

## *Connectivity Alternatives*

- ▶ Royal Decree dictates two major items:
  - ✓ Internet traffic must be made suitable for Saudi society, i.e., filtering of traffic is required.
  - ✓ Any kind of connectivity must be done through STC.
- ▶ Any alternative must not violate these two items.

# Saudi Internet Infrastructure

## Benefits of Existing Setup

- ✓ ISP gets access to two Internet Access Points (ISU-1 and ISU-2).
  - ✓ Unbeatable fault tolerance
- ✓ ISP gets cheaper bandwidth than doing it on its own, economies of scale.
- ✓ Fiber bandwidth much better than Satellite bandwidth
- ✓ Filtering is too complex to be left for ISPs
  - ✓ Not possible that EVERY ISP will do it correctly.
  - ✓ Involves many tasks, many technical fixes, specific software/hardware requirement
  - ✓ Who is accountable for filtering failures?