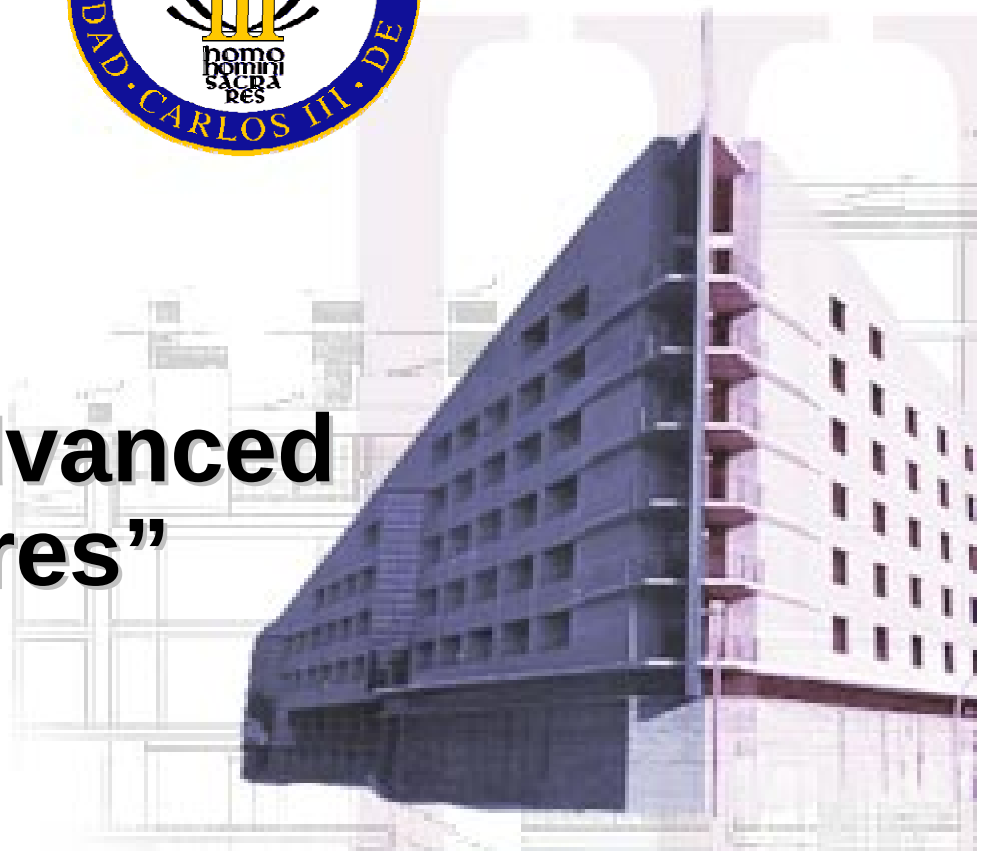


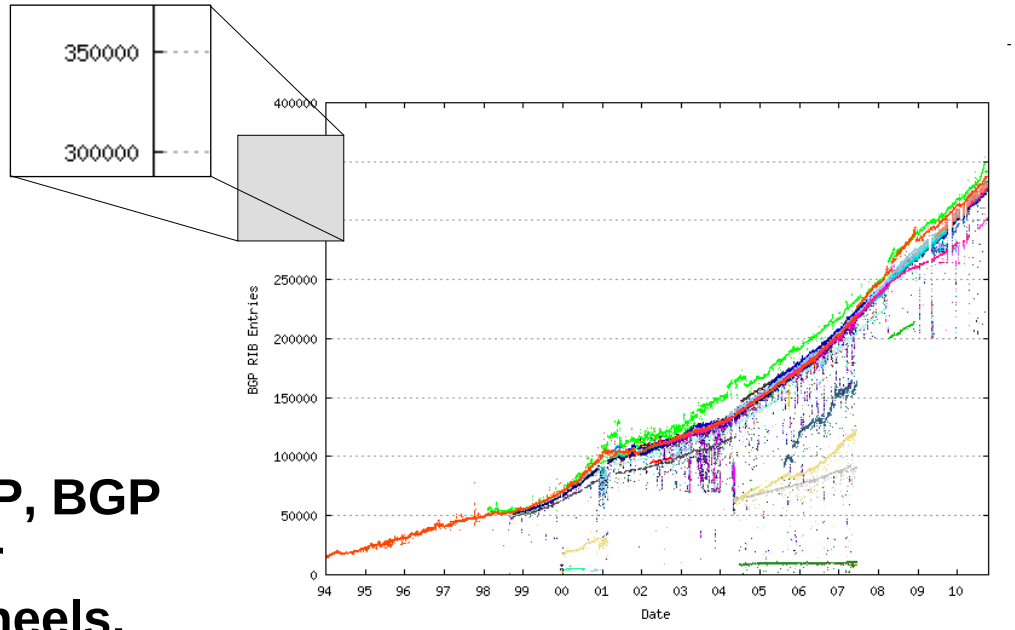
Introduction to “Advanced Internet Architectures”

Starting point

- **This course is RESEARCH-oriented. We expect that you will**
  - **Get familiar with technical literature (research papers)**
    - ✓ **Both with READING and WRITING technical literature**
  - **Be critic with the information you receive**

Topics covered

- Short introduction to reading/writing research papers



Two main research topics

- **Research in Routing**
  - **Interdomain routing**
    - ✓ **Introduction to BGP**
    - ✓ **Advanced topics on IBGP, BGP dynamics, conditions for convergence (dispute wheels, valley-freeness, routing algebras), scalability, …**
- **Research in Denial of Service Attacks**

Administrative information

- **Teachers**
  - **Coordinates: Iván Vidal (ividal@it.uc3m.es)**
  - **Alberto García (alberto@it.uc3m.es)**
  - **Marcelo Bagnulo (marcelo@it.uc3m.es)**
  - **Eduardo Grampín (egrampin@it.uc3m.es)**
- **Material**
  - **Slides, project proposals and assignments… http://www.it.uc3m.es/~ividal/aia**
    - Login: doctorado
    - passwd: e2e+mas
  - **Permanent repository of papers related with the course**
    - ✓ **http://www.it.uc3m.es/~alberto/lecturas**
      - Follow link 'Additional Resources' in '…/~ividal/aia'
      - Same login and passwd as for '…/~ividal/aia'

Pre-requisites

- **Be sure you have a strong basis on**
  - **(Internet) Network layer**
    - ✓ **IP, addressing, routing (distance vector, link state algorithms/protocols)**
  - **Link and transport layers**

- **If this were not the case, read some basic book, such as Computer Networks, A. Tanembaum 4 th edition. Pearson Education. 2002.**
  - **Can be accessed from UC3M/UPC: http://proquest.safaribooksonline.com/0-13-066102-3**
  - **(Many other books can do the trick)**

Evaluation

- **Final assignment (presentation + paper) + peer review + participation in class**
  - **If you attend to less than 80% of the classes, EXAM in addition to the previous part**
- **Assignments**
  - **Write an article, present its main ideas and answer to questions.**
    - ✓ **Format in web page**
  - **The presentation should last for 40 minutes, followed by a 15-minute period for questions**
    - ✓ **Advice: Focus on new material, don't repeat well-known topics**
  - **List of topics available in web page of the course**
    - ✓ **You can also suggest topics CLOSELY RELATED with the course (you MUST ask the teachers for permission)**
    - ✓ **To be assigned a topic, send email to Iván requesting/proposing one (FCFS)**
      - ➢ Starting from now! (although we may include new topics)

Evaluation: peer review

- Review the work of other student (similar to a conference review)
- Structure of the review
  1. Overview of the article.
  2. Evaluate the presentation of the paper (document structure, clarity of the text, necessity of more figures/tables, etc.).
  3. Evaluate the technical soundness of the article.
  4. Indicate the level of detail presented by the author for the covered solutions.
  5. Strong points of the article.
  6. Weak points of the article (what can be improved?).
  7. Other comments for the author.

Schedule

- **Classes**
  - Tue and Thurs, 16:15 to 17:45, Starting lectures today, finishing the 9th of December
    - ✓ Detailed info in the web page
- **Evaluation**
  - Dates for defending the assignments: on January (we will assign dates)
  - Assume a student has been assigned date `D` for the presentation
    - ✓ Paper must be delivered to the teachers and to the peer reviewer by `(D – 1` week)
    - ✓ Peer review of the paper sent to *ividal@it.uc3m.es* just BEFORE the presentation (`D`)

NOTE THAT MISSING ANY OF THESE DEADLINES AUTOMATICALLY IMPLIES FAILING THE COURSE

- Exam (for those not attending to 80% of the classes): date TBD in 31st jan – 11th feb range
- Extraordinary evaluation period: TBD (1 or 2 of September?)

Please, give me your emails!