P802.3ar Congestion Management Task Force

Closing Plenary Meeting Report

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World Wide Packets

San Diego, California

Reflector and Web

- List subscribers: ~200
- To subscribe to the Congestion Management TF reflector send an email to:

  listserv@ieee.org
- with the following in the body of the message:

  subscribe stds-802-3-cm <first name> <last name>
- Congestion Management TF web page URL:

  http://www.ieee802.org/3/ar/

Progress since March 2006

- **May 2006 Interim, Beijing**
  - **Addressed concerns raised in Denver**
    - **D1.2 additions**
      - ***Empty clauses filled out***
      - ***Surrounding Pascal added***
      - ***Rate limiting mechanism improved***
      - ***MAC options annex added***
    - **Revised PAR, 5 criteria to reflect current scope**
    - **Revised TF objectives to reflect current scope**
  - **Resolved comments on 802.3ar/D1.2**

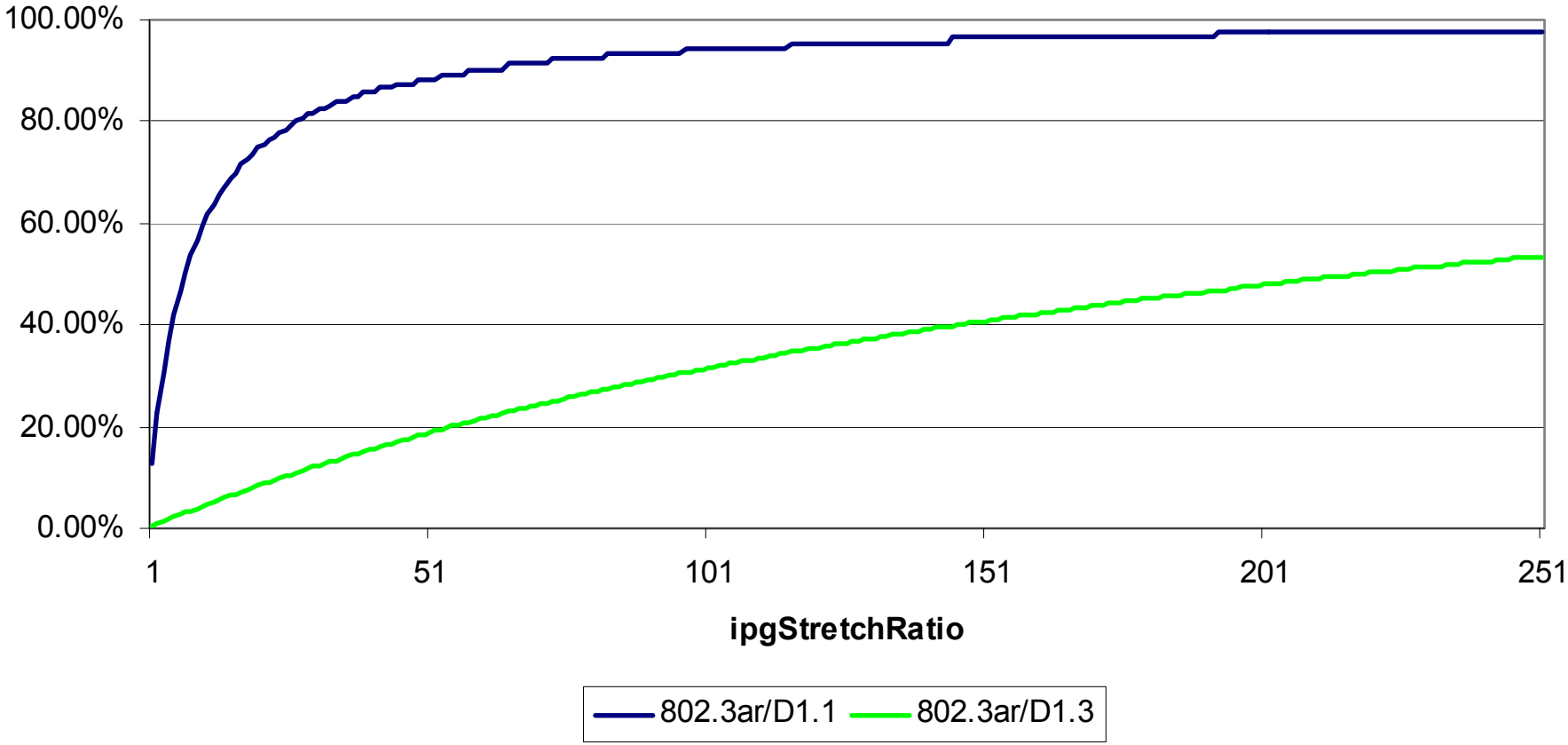
- **July 2006 Plenary, San Diego**
  - **Resolved comments on 802.3ar/D1.3**

802.3ar TF Objectives

1) Specify a mechanism to limit the rate of transmitted data on an Ethernet link
   - Capable of 1% or better granularity over the range of 10% to 99% of link rate.
2) Preserve the MAC/PLS service interfaces

Revised by IEEE 802.3ar TF on 16-May-2006

Granularity of ipgStretch (1)



802.3 WG Motion #__ (San Diego)

- Request 802.3 WG approve P802.3ar TF objectives
  - http://www.ieee802.org/3/ar/public/0605/802.3ar_revised_objectives.pdf
- M: K. Daines S: H. Barrass
- Y: _24_ N: _10_ A: _27_
- >= 75%
- Fails

PAR title

- Information technology –

  Telecommunications and information exchange between systems -- Local and metropolitan area networks – specific requirements Part 3: Carrier Sense Multiple Access with Collision Detection (CSMA/CD) Access Method and Physical Layer Specifications Amendment: Enhancements for Rate Limiting

PAR scope

- To specify IEEE 802.3 MAC parameters and minimal augmentation of MAC operation and management parameters of IEEE Std 802.3 to provide rate limiting.

PAR Item 5.3

- Is the completion of this standard dependent upon the completion of another standard: No

5.4 Purpose of Proposed Standard

- This project will enable accelerated deployment of Ethernet into emerging applications that require improved delay, delay variation and frame loss characteristics in the presence of known bottlenecks.

5.5 Need for the project: PAR purpose (14a)

- Ethernet networks are being used in an increasing number of application spaces that are sensitive to frame delay, delay variation and loss. Study Group presentations have shown that Ethernet networks can experience higher throughput, lower delay, and lower frame loss by performing rate limiting. Rate limiting is an effective technique to reduce buffer requirements when there are known/fixed bottlenecks in the networks. This will improve Ethernet in its growing number of applications.

5.6 Stakeholders for the project

- Network equipment, network silicon, media converter, and NIC manufacturers and users

802.3 WG Motion #__ (San Diego)

- Request 802.3 WG approve revised PAR title, scope, 5.3 (dependency), 5.4 (purpose), 5.5 (need), 5.6 (stakeholders):
  - http://www.ieee802.org/3/ar/public/0605/802.3ar_revised_PAR.pdf
- M: K. Daines S: B. Grow
- Y: __ N: __ A: __
- >= 75%
- Passes/Fails

5 Criteria/Broad market potential

- Broad set(s) of applications
- Multiple vendors, multiple users
- Balanced cost (LAN vs. attached stations)

- Ethernet networks are being used in an increasing number of application spaces that are sensitive to frame delay, delay variation and loss. Study Group presentations have shown that Ethernet networks can experience higher throughput, lower delay, and lower frame loss by performing rate limiting.
- Rate control is an effective technique to reduce buffer requirements and to reduce frame delay, delay variation and loss when there are known/fixed bottlenecks in the networks.
- During the discussion of the WG 802.3 motion to initiate this study group, 23 people from 16 companies indicated that they plan to participate in the standardization effort. This level of commitment indicates that a standard will be developed by a large group of vendors and users. During the study group and task force meetings, there have been up to 35 people representing 16 companies in attendance.
- A standard to support rate limiting will respect the balance of cost between LAN and attached stations.

802.3 WG Motion #__ (San Diego)

- Request 802.3 WG approve revised Broad Market Potential criteria
  - http://www.ieee802.org/3/ar/public/0605/802.3ar_revised_5_criteria.pdf
- M: K. Daines S: T. Mathey
- Y: _19_ N: _11_ A: _27_
- >= 75%
- Fails

802.3 WG Motion #__ (San Diego)

- Move that 802.3 WG withdraw the IEEE P802.3ar PAR and return it to NESCOM, by authorizing the WG chair to fill out the appropriate form and presenting it to 802 EC
- M: T. Dineen S: H. Frazier
- Y: ___ N: ___ A: __
- >= 75%
- Passes/Fails
- Motion to postpone until the November 2006 plenary session at the discretion of the 802.3 WG chair
- M: D. Cunningham S: G. Thompson
- Y: _38_ N: _5_ A: _3_
- > 50%
- Passes

Future meetings

- **IEEE 802.3ar Interim**
  - ***Co-locating with 802.1***
    - ***26-29 September, 2006, York, UK***
    - ***802.3ar: Tue & Thu evening***
    - ***URL: http://www.ieee802.org/1/meetings/***

- ***IEEE 802 Plenary***
  - ***12-17 November 2006, Dallas***

Thank you!