

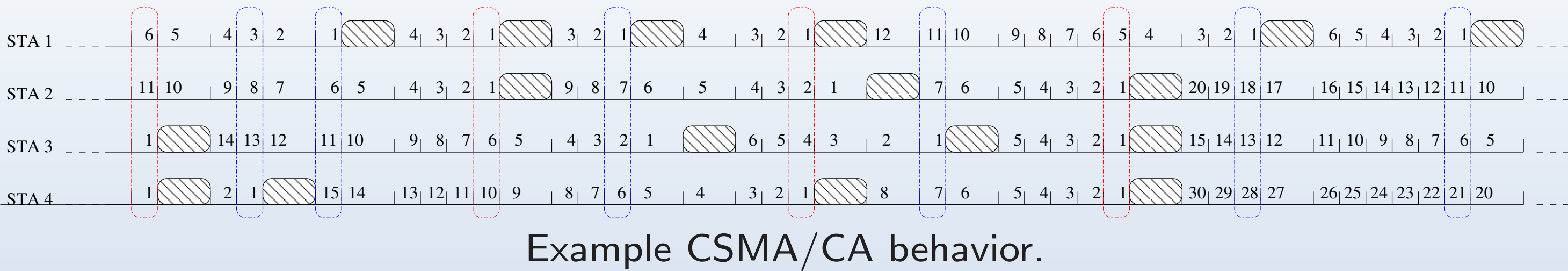
## Motivation

This section states the general problem: coordinate access to a shared medium, in a distributed manner avoiding collisions.

- What is a contention protocol for?: explain that the medium is shared.
- Highlight that it is widely used by current WiFi devices.
- What are the repercussions of a collision?

## CSMA/CA and CSMA/ECA

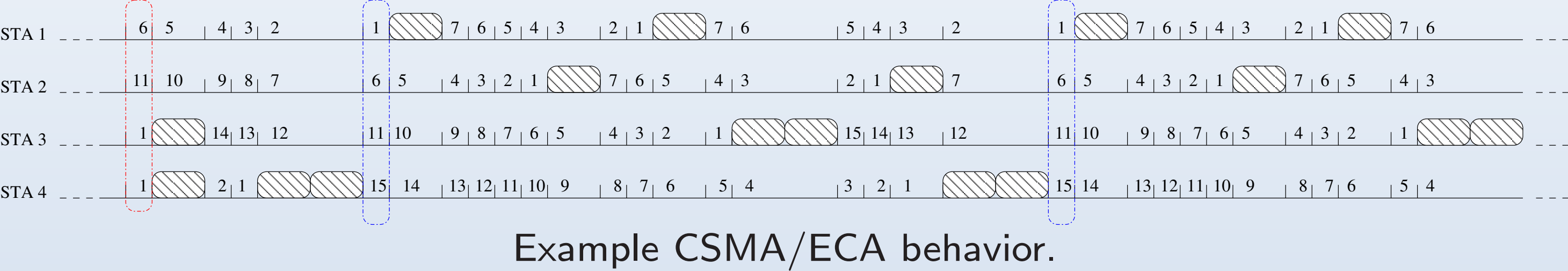
It might be appropriate to detail the behavior of CSMA/CA and CSMA/ECA. A balls and bins figure?



## Ensuring fairness

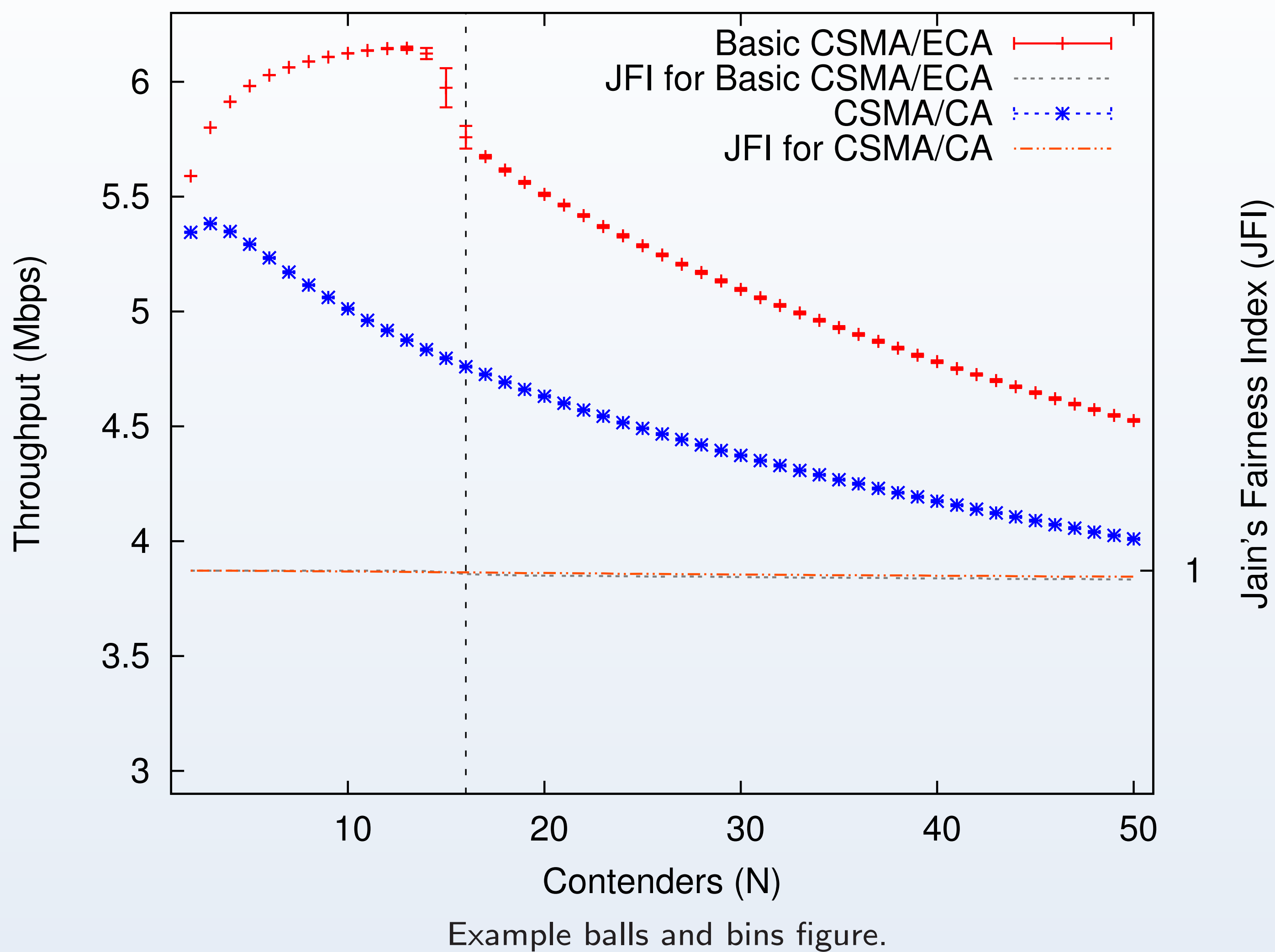
This section introduces the hysteresis and fair share concepts, namely:

- How is it possible to allocated more contenders in a collision-free fash-ion?
- What are the repercussions related to fairness?
- How fair share solves this issue?



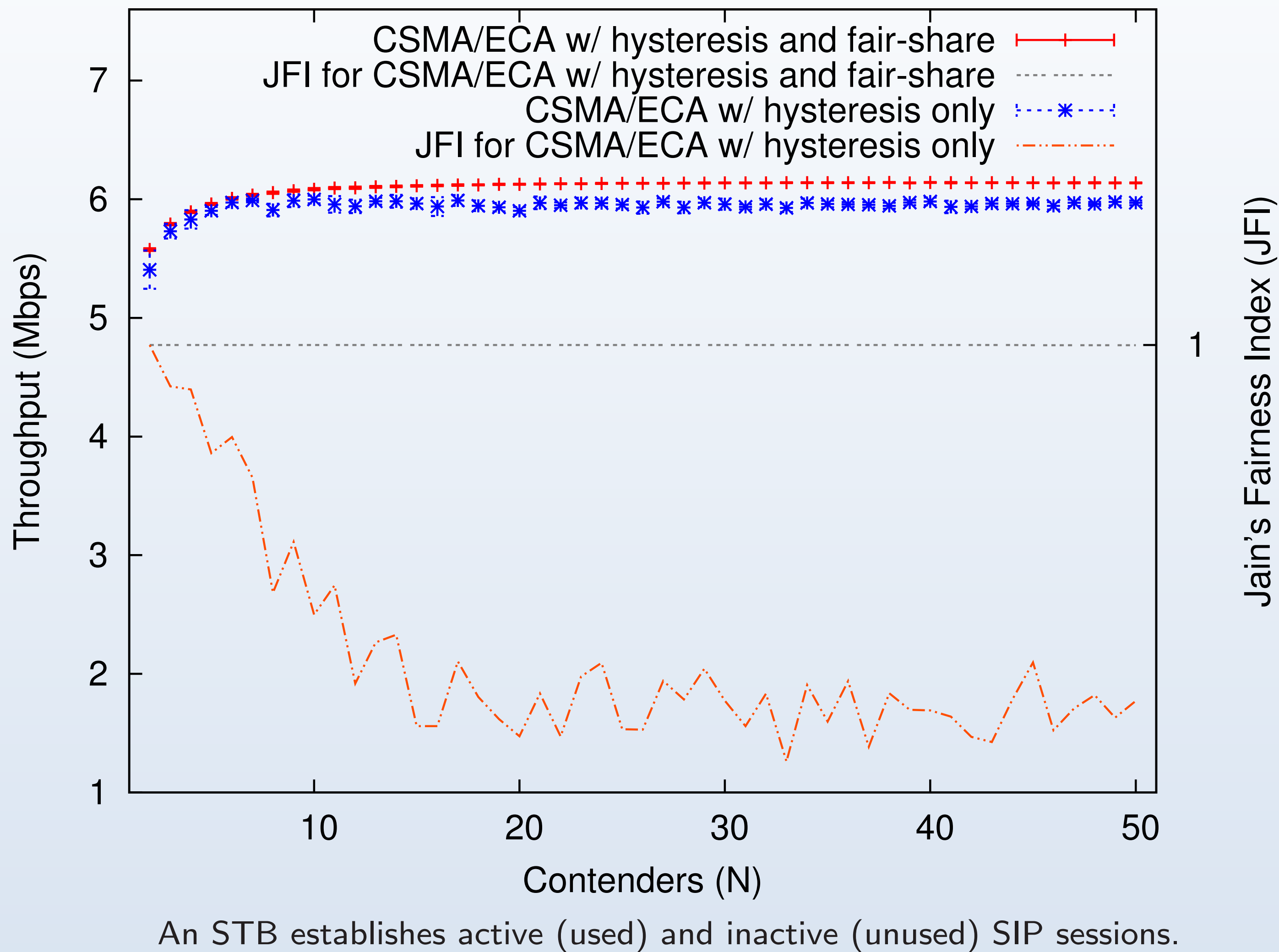
## Throughput and fairness in CSMA/CA and CSMA/ECA

Explaining why the throughput figures look as they do. Also it is worth to mention the fair nature of both protocols.



## CSMA/ECA + hysteresis and fair share

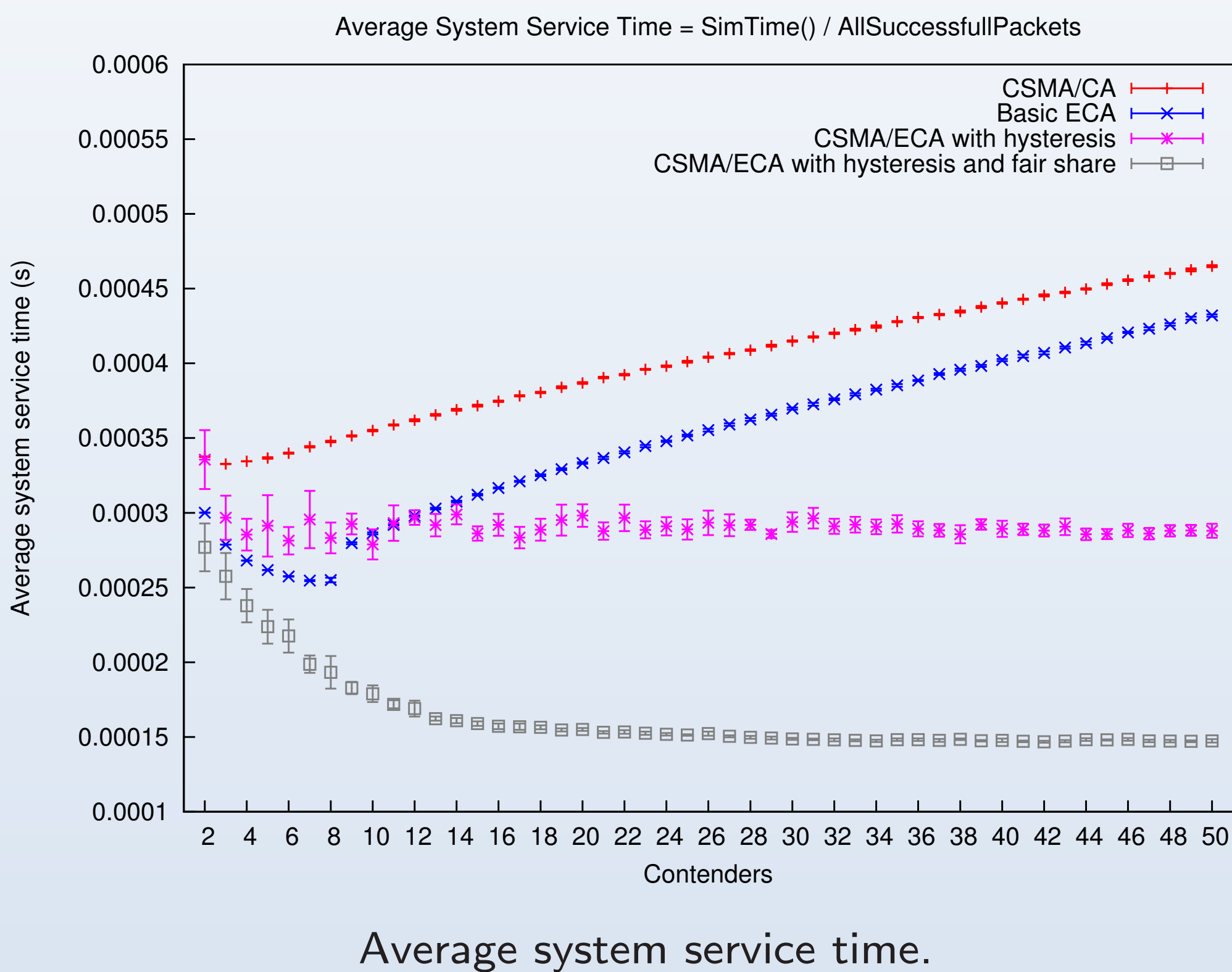
Explanation on how the hysteresis allows us to support many more contenders in a collision-free fashion. And also how fair share corrects the unfairness issue associated with hysteresis.



## Future plans

Some of the future directions of the project:

- Unsaturated scenarios.
- To implement IEEE 802.11e EDCA.
- Wireless MAC Processors.
- Implementation in RFID networks.



## References

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[2] T. Qiu, Z. Ge, S. Lee, J. Wang, J. Xu, and Q. Zhao. Modeling user activities in a large iptv system. In *Proceedings of the 9th ACM SIGCOMM conference on Internet measurement conference*, pages 430–441. ACM, 2009.

[3] T. Qiu, Z. Ge, S. Lee, J. Wang, Q. Zhao, and J. Xu. Modeling channel popularity dynamics in a large iptv system. In *Proceedings of the eleventh international joint conference on Measurement and modeling of computer systems*, pages 275–286. ACM, 2009.