802.3 NGE BASE-T SG
Potential Timeline and Challenges

Yong Kim (ybkim at broadcom com)

Contents & Observations

- Potential Fastest and nominal schedule
- Potential challenges
  - Acknowledge multiple alliances and incompatible products serving this need already.
- Tale of two standards, lessons from…
  - 10BASE-T and 10BASE-F – both had multiple companies with incompatible products… one served the market, and the other didn't.

Recap – Why Now (from CFI)

Next Generation Enterprise BASE-T Access

Why Now?

- The application is imminent!
  - Enterprise Access Points transitioning to 802.11ac ~2 Gb/s speed in the next 12 months, and near ~4Gb/s speed for high end Wave 2 APs.
  - Cost and power sensitive for nearer-term deployment
- Industry has recognized the need & possible solutions
  - Switching & PHY silicon under development
  - The market needs an interoperable, open standard to avoid fragmentation and poor user experience.
  - Launch of Consortiums targeting this market highlights the need.
- The Ethernet Ecosystem has been very successful
  - Open and common specifications
  - Ensured Interoperability
  - Security of development investment

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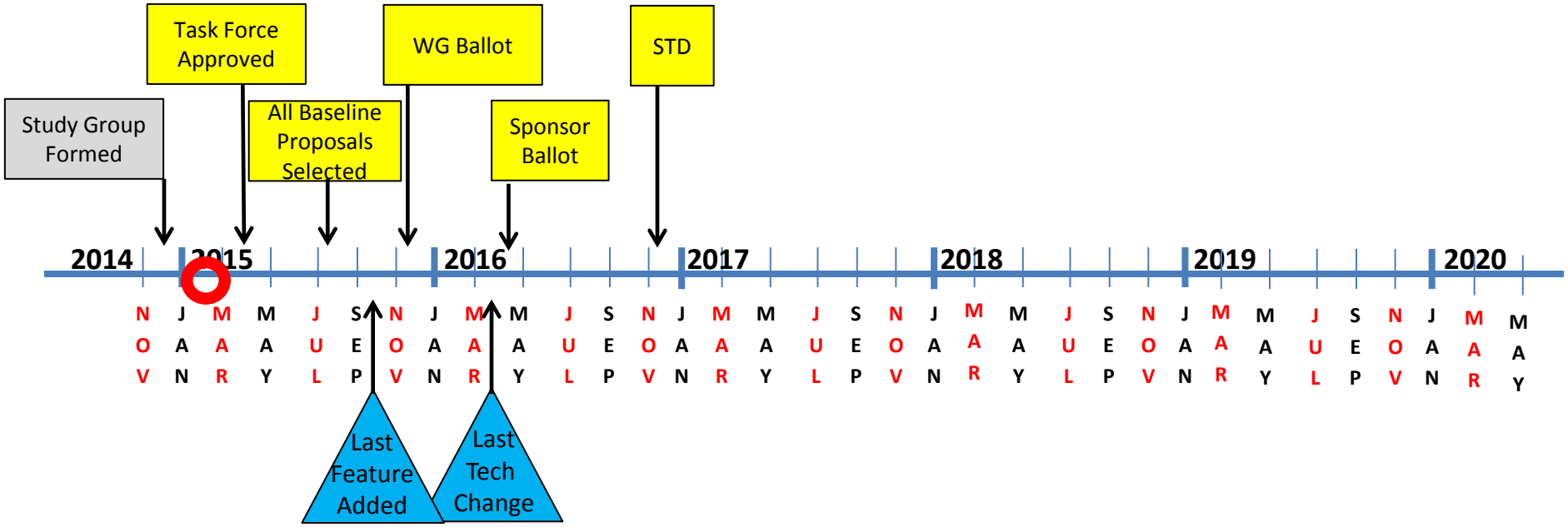
NGE Access BASE-T Potential Timeline

FASTEST Possible Timeline – one can dream ☺, and VERY MUCH achievable



Assumptions (minimum duration)

Study Group – one Plenary cycle

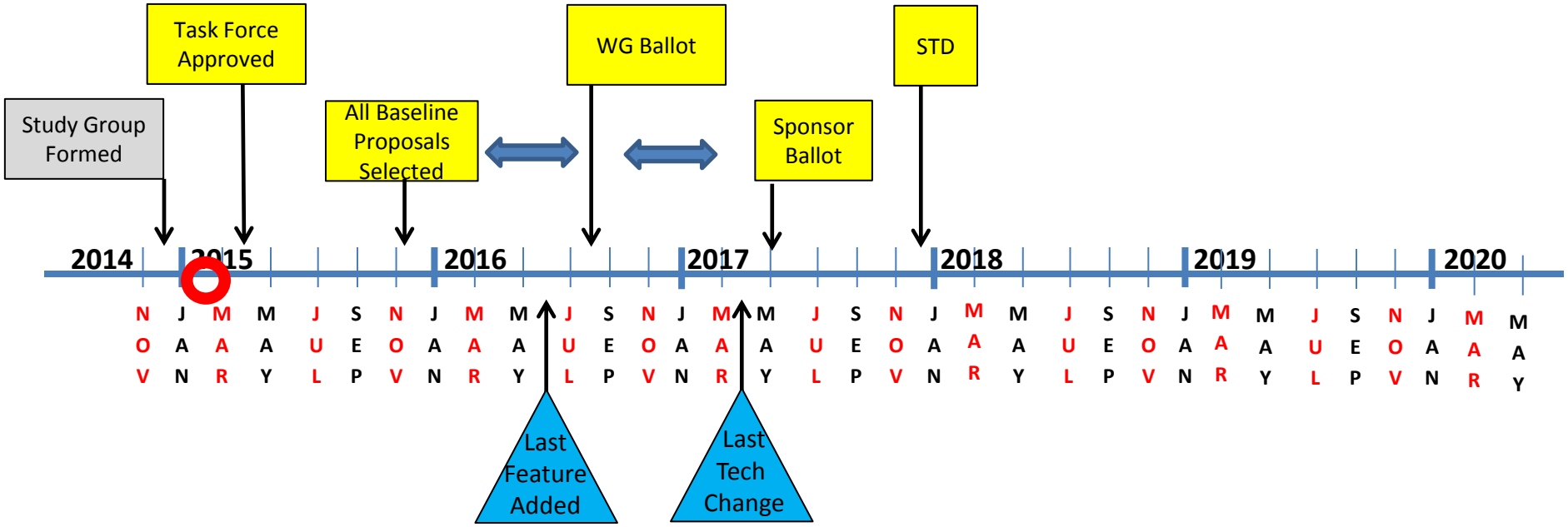
Task Force Draft – Two Plenary cycle to produce TF Draft, including more than one interim between plenaries. Baseline over one Plenary cycle.

WG Ballot – One plenary cycles, one re-circ

Sponsor Ballot – Two plenary cycles, one re-circ

NGE Access BASE-T "Nominal" Timeline

Nominal Timeline -- Timely contributions, reasonable consensus



Assumptions (Nominal duration)

Study Group – one Plenary cycle

Task Force Draft – Two Plenary cycle to basline, one additional to produce TF Draft.

WG Ballot – Two plenary cycles, one (or two) re-circ

Sponsor Ballot – Two plenary cycles, one re-circ

Potential Challenges

- The Good
  - Degree of consensus on objectives, urgency, and desire for one standard based solution.
- The Bad
  - Multiple solutions exist already and (presumed to be) non-interoperable.
- The (Potential) Ugly
  - Consensus toward one standard based solution, where consensus is defined to be 75%+, in timely fashion.

Lessons from the past.

"Those who cannot remember the past are condemned to repeat it." - George Santayana

- Reaching far back in 802.3 history
  - 10BASE-T (1987~1990) ➔ 3 years, one PHY
  - 10BASE-F (1986~1993) ➔ 8 years, three PHYs
  - Both had multiple and incompatible products serving respective needs prior to 802.3 standards efforts.
  - Technical feasibility was not a major concern (multiple existence proof) in both cases (one less than the other).

Tale of two standards

- Caveat – The summary below is presenter's personal assessment, and does not reflect any opinion of IEEE 802.

- 10BASE-T
  - 5+ comprehensive proposals ➔ 2 compromise proposals ➔ one adopted baseline.
  - [Not too popular at the time, but] drive toward consensus on a reasonable timeline, and adopted procedure to achieve.
  - Serve the market in reasonable time (~ 3 years), and helped to avoid fragmentation.

- 10BASE-F
  - 4 comprehensive proposals ➔ 3 proposals ➔ "deadlock" ➔ all 3 became standards.
  - Drove toward consensus w/o timeline objectives in agreement.
  - Grossly failed to serve the market in time (~8 years).
  - Installed base of fragmented solutions and 100 Mbps (TX, T4, FX) solutions in parallel made this project grossly irrelevant (one solutions to a given problem).

Observation and Recommendation

- Observations
  - NGE BASE-T feasibility is not in question (existence proofs), and a contribution to SG, http://www.ieee802.org/3/NGEBASET/public/mar15/Souvignier_ngeabt_01_0315.pdf
- Recommendations
  - Drive toward consensus on a fastest possible timeline, and provide support to achieve it.
- And if the recommendation is desirable,
  - Bring forth contributions and proposals as soon as able.
  - Recap from Stated Urgency in CFI – 802.11ac is being deployed now!

    "Contribute early, contribute often"
  - Discuss timeline that serves the market.
  - Nothing prevents us to make progress on the FASTEST timeline.
    - Technical feasibility --well known ; Consensus – to be achieved.