

## feature story

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### Standards Uproar Leads to Working Group Overhaul

BY KATHY KOWALENKO

The move this year to suspend the IEEE working group developing the latest version of high-speed broadband Internet access was rare, but not unprecedented. It forced the IEEE Standards Association's Standards Board to take a hard look at who is on its working groups and to tighten procedures to ensure that IEEE standards are developed in a fair and open process.

The working group, IEEE 802.20, was formed in 2003 as an offshoot of the IEEE 802.16 standard activity, often referred to as WiMax, the technology enabling fixed wireless broadband access as an alternative to cable and DSL. The proposed IEEE 802.20 standard would do that but with a twist: it would support broadband wireless for laptop computers and other devices used in fast-moving vehicles such as cars and trains.

Originally, the IEEE 802.16 working group wanted its standard to support such mobile access as well. But some members didn't want to build the feature on top of a standard created for a fixed application—hence the emergence of IEEE 802.20.




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**Activities of the working group for the proposed IEEE 802.20 standard—a version of WiMax—were suspended in June.**

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Intel, Kyocera, Motorola, Qualcomm, and other giants with stakes in the market all had representatives on the new working group, which numbered roughly 175 people. Members of working groups are expected to vote as individuals and not represent their companies' interests. But charges flew from the very beginning that members' votes were driven by company loyalties. A disputed 2003 election of officers for the group led to allegations that consultants who had failed to disclose their affiliations with major industry players had participated.

In the third quarter of 2005, individuals affiliated with Intel and others feared that the group's decision to cut the technology submission phase from six months to one month would not allow them sufficient time to prepare their proposals. What's more, when they tried to get the group to consider their proposals they were repeatedly voted down. By last January, the working group had narrowed its deliberations to a joint proposal from Qualcomm and Kyocera that could become a competitor to IEEE 802.16e, in which several companies, including Intel, have a big stake. IEEE 802.16e, an amendment to 802.16, addresses mobility and calls for operation at just below 6 gigahertz, while 802.20 supports access at bands around 3.5 GHz.

Employees of Intel and Motorola on the working group filed appeals with the Standards Board, challenging the group's procedures. Qualcomm officials in turn accused Intel of using procedural maneuvers to delay the adoption of the standard.

**CEASE AND DESIST** In June, the Standards Board stepped in and suspended all activities of the group until it could conclude its investigation, citing "irregularities," as evidenced by the multiple appeals. In September, after hearing from about 20 individuals, the Standards Board concluded that additional steps had to be taken. Standards Board Chair Steve Mills, an IEEE member, noted, "We believe there was the possibility of [company] dominance in multiple forms, and the working group was in a state where it was difficult to make progress because of the interactions of the various players."

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**The IEEE 802.20 proposed standard would let laptop users connect to the Internet from trains and other fast-moving vehicles.**

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The Standards Board took drastic action to get 802.20 moving toward a consensus: it removed the working group's top four officers in an effort to "provide clearly neutral leadership and to eliminate perceptions of possible bias." In October, the board named Life Member Arnold Greenspan as the group's new chair. At the time this issue went to press, the group's activities were set to resume on 12 November and the Standards Board was seeking candidates for the remaining officer positions.

**FAIR DISCLOSURE** The board also tightened the requirement that members of the working group disclose their affiliations with any company that employs, pays for, or sponsors their participation in the group. In the past, members were not required to state such ties so explicitly.

The IEEE 802 Executive Committee, a body that oversees the various IEEE 802 working groups, will work with the new chair and officers when they take their positions to make sure that no single organization dominates the standards-development process.

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## The IEEE is taking additional steps to help ensure the standards process remains FAIR AND OPEN

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"The board doesn't have a problem with several people from one company on a working group," Mills explains. "It only becomes a problem if someone is being hurt as a result of that involvement. We aren't saying companies can't have multiple people involved; what we're saying is that they can't do it for the purpose of dominating the work." Members of a working group each have a single vote, regardless of their affiliation.

In addition, the working group's ballot body was dissolved and will be reconstituted by the group's new leadership. The ballot body is responsible for voting on each draft of the standard before it goes to the final approval stage, the sponsor ballot. Each vote determines how close its members are to a consensus. If voting members disagree with the document, their concerns have to be resolved and the document revised. Members keep voting and revising the document until the draft receives the required number of "yes" votes. The document then moves to the sponsor ballot phase.

IEEE 802.20 has already gone through the first round of working group balloting. Now it's up to the working group, under the guidance of its new officers, to decide where in the process to resume its work.

How long the release of the IEEE 802.20 standard could be set back is uncertain. The standard had been on track to be completed by the third quarter of 2007. Now the completion date depends on whether the working group decides to continue with the current version of the document or go back to an earlier stage.

Mills notes that it wasn't clear that the process was indeed set back. "We were going to have to consider the allegations of dominance and irregularities at some point, because they were an indicator of a lack of consensus," he says.

"If we had waited until the end of the process as it had been proceeding, we might have had to start over from the beginning, and we would have been doing that at a later date," he continues. "One of the reasons for acting now was to try to avoid that kind of delay at the end of the process."

**WHAT WENT WRONG?** Economic pressures impacted the working group right from the start, according to Mills.

"It appears that problems emerged because there was enough interest in the potential economic value of such a standard," he says.

Mills sees three factors at play when it comes to standards development: technology, economics, and politics. Each factor can underscore the others, and when they collide as happened with IEEE 802.20, problems crop up. The Standards Board wants to mitigate those problems.

"In light of the growing economic and political stresses in today's global standards-development environment," Mills says, "we are taking additional steps to help ensure the standards process remains fair and open while recognizing the desire of companies to be involved."

Those steps, which affect all the working groups, include tightening up procedures to make it clearer what is expected of the working group, identifying the working group members' affiliations, and ensuring that no single organization dominates the process.

"The IEEE 802 brand has real commercial value," Mills concludes, "and we want to protect the integrity of that brand."

