SEATTLE -- In the days before Microsoft Corp. released the hotly anticipated Halo 2 video game for the Xbox game console, some gamers noticed a sudden spike in the number of people being kicked off the company's online game service. That was no coincidence.

With Halo 2 expected to entice a new batch of users to the Xbox Live online gaming community, Microsoft says it got tougher with people suspected of making unauthorized modifications to their Xboxes.

Gamers who modify Xboxes usually do so either to be able to cheat on games or use pirated copies, although some also have made changes so they can use the Xbox for other functions, from running Linux to playing music.

Cameron Ferroni, general manager of the Xbox software platform, says Microsoft is not interested in suing individual users. But the company does want to banish scofflaws from its online service, Xbox Live.

It's hard to know how many of Microsoft's 15.5 million Xbox users have modified their game consoles, although the percentage is believed to be small.

Microsoft has a unique glimpse into the approximately 1 million Xbox Live users' computers because, by virtue of signing up for the service, users agree to let Microsoft gather certain information from their machines.

Ferroni declined to go into specifics on how the company can check Xbox Live users' machines for suspected modifications. He said Microsoft has no way of checking whether players who don't use Xbox Live have modified their machines.

Neil Smith, an intellectual property lawyer with Howard Rice in San Francisco, said there's little legal risk in modifying a game system for relatively benign personal use, such as making players invulnerable.

But it is important to Microsoft to prevent such cheating on Xbox Live, where multiple players can take part in games. Ferroni said the goal is to make sure there's a level playing field.

Smith, who has represented several video game companies, said users face greater legal risk - and companies have more leverage - if a person is modifying the system to play pirated or other unauthorized games. That's especially true if the person is altering their system's security codes or settings.

Microsoft says it has focused its legal efforts on those it believes are manufacturing pirated games or mass-producing Xbox modifications.

Smith said the legality of modifying other people's technology remains hazy.

Other technology companies have grappled with how much can be done to their systems without their...
Earlier this year, Seattle-based RealNetworks caused a stir when it said it had developed software that allows songs purchased from its online music store to transfer to Apple Computer Inc.'s iPod by skirting internal copy protections.

Apple, which has closely guarded control of its music player, responded by accusing RealNetworks of adopting "the tactics and ethics of a hacker."

Other video game consoles don't seem to face as much tinkering for the sake of piracy as the Xbox, said PJ McNealy, an analyst with American Technology Research.

Sony Corp.'s PlayStation 2 doesn't have as complex antipiracy measures, he said, and Nintendo Co.'s cartridge-based games are much more difficult to pirate than the CDs that Microsoft and Sony use.

Analyst Rob Enderle said Microsoft's Xbox is also much more vulnerable to tinkering because its popular built-in hard drive more closely mimics a regular personal computer, whereas the other systems rely on less familiar technology.

"The very thing that made the Xbox a rapid success is also what made it easy to hack," Enderle said.

McNealy thinks Microsoft is right to go after those who are playing pirated games, but he thinks Microsoft might be flattered by some of the other homemade tweaks.

"To modify it to the umpteenth degree is simply a byproduct of the geek culture of the hardcore gamer," McNealy said. "It should be good news for Microsoft that there's that much demand (for Xbox) that people want to spend so much time figuring that stuff out."

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