

Pet care providers hope an open platform will allow readers to identify any RFID tag embedded in a pet, leading to wider adoption of pet-tagging.

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Tags: [Standards](#), [Innovation](#)

Nov 10, 2005—Legislation approved by the [U.S. House of Representatives](#) on Oct. 28 and the [U.S. Senate](#) on Nov. 3, and now awaiting President Bush's signature, could make it easier for pet hospitals and shelters to use radio frequency identification to reunite pet owners with their lost animals. Millions of pets in the United States have RFID tags embedded under their skin, but the tags (which animal hospitals and shelters call microchips) do not all operate at the same frequency, nor are they readable by all RFID interrogators (readers) used by vets and shelters.

The [provision](#) is included in [House Report 109-255](#), accompanying the [2006 Agriculture Appropriations Bill \(HR 2744\)](#). If President Bush signs it, the legislation would require the [Animal and Plant Health Inspection Service \(APHIS\)](#)—the branch of the [U.S. Dept. of Agriculture](#) charged with protecting and promoting U.S. agricultural health and safeguarding the wellbeing of domestic animals—"to develop the appropriate regulations that allow for universal reading ability and best serve the interests of pet owners." This would ensure that any lost pet could have its implanted tag read and be linked to its owner through a national database.

"We're excited and delighted, and [we] hope this legislation will resolve a long-standing problem," says John Snyder, senior director, companion animals, for the [Humane Society of the United States](#). "The biggest user of microchips is the animal shelter community. It tags and scans thousands of animals each year, and lack of interoperability [between tags and readers] has been a major annoyance for many years."

According to animal hospitals and pet advocacy groups, lost pets with implanted tags are sometimes euthanized before they can be reunited with their owners. This happens when facilities holding the animals are unable to access readers with the appropriate protocol required to read the tag.

In the United States, tags transmitting at 125 kHz are the most common, though some companies have entered the U.S. market in recent years offering 134.2 kHz tags and interrogators compliant with the ISO 11784 and 11785 standards for animal identification. In order to make use of the tags, which pet owners pay for, tag and reader vendors have given an estimated 70,000 RFID interrogators to shelters, animal control officers and veterinarians in the United States since the tagging of pets first became commonplace.

All of these interrogators can read 125 kHz tags. Some are designed to read both frequencies, but in certain cases they do not, which means shelters and vets might need to have multiple readers on hand to identify a pet's ID; otherwise, a lost pet with an unreadable tag might not be identified and reunited with its owner.

[Banfield Pet Hospital](#), based in Portland, Ore., operates a national network of pet care centers. In January 2004, it began offering a pet tagging and registration service using 134.2 kHz ISO tags. It also distributed an unsubstantiated number of 134.2 kHz interrogators to shelters so officials would have a means of reading the tags. In March of 2004, a dog with a 134.2 kHz tag was euthanized in a Virginia shelter because the shelter did not use the proper reader and, thus, did not find the dog's tag. The shelter reportedly had one of the Banfield 134.2 kHz readers, but did not use it on the lost pet. Banfield placed its tagging service on hold in May 2004. A spokesperson says that while the euthanization of the dog in Virginia was not the main reason Banfield stopped tagging, it did highlight a lack of awareness among shelter staff about the use of 134.2 kHz tags and readers.

The two major vendors of 125 kHz tags and readers for pet ID in the United States are [AVID Identification Systems](#) and [Digital Angel](#). AVID encrypts the data it encodes to its pet ID tags. If a lost pet implanted with an encrypted AVID tag is brought to a shelter or vet, most readers will read the tag's encrypted ID number but won't be able to decrypt it unless the reader has a special algorithm. This forces the shelter or vet to contact AVID and provide it with the encrypted ID. AVID then provides the decrypted ID number so the shelter or vet can look it up in an AVID-operated database to locate the pet's owner. This workaround is problematic because it requires shelters and vets to spend extra time identifying pets.

In 2004, a number of nonprofit pet welfare organizations, including the Humane Society, the [American Society for the Prevention of Cruelty to Animals](#) (ASPCA) and the [American Humane Association](#), formed a group called the [Coalition for Reunited Pets and Families](#). The group began requesting that RFID manufacturers and vendors provide shelters, animal control officers and veterinarians with interrogators able to identify all tags, regardless of frequency and encryption. As such, one reader could quickly and easily identify any tagged pet anywhere in the country.

The coalition pushed for the inclusion of the APHIS directive in the appropriations bill, which was supported by U.S. Congressman Henry Bonilla, a Texas Republican and chairman of the Agriculture Appropriations Subcommittee. Congressman Greg Walden, a Republican from Oregon, also supported the directive. So did Banfield, which hired Mark Cushing, a partner with [Sonnenschein Nath & Rosenthal](#), to lobby for the bill on his client's behalf.

The legislation language does not specify what standard will be used. In fact, it doesn't specify that an ISO standard be used—although its original language did include a specification for the ISO 134.2 standard. Rather, it supports "the microchipping of pets for identification under a system of open microchip technology in which all scanners can read all chips." It also directs APHIS to "take into consideration the effect such regulation may have on the current practice of microchipping pets in this country." APHIS, therefore, could rule that all readers must be able to read all tag protocols and encrypted tags, or it could go further and require that all parties tagging pets and/or identifying lost pets use ISO 11784 and 11785 tags and interrogators capable of reading both 134.2 kHz and 125 kHz tags.

Banfield says it supports the adoption of 134.2 kHz ISO 11784 and 11785 tags and interrogators, but it also has a vested interest in tags and readers that comply with that standard because it might reintroduce its tagging service some time in the future. Used widely for pet identification in Canada, Europe, Australia and parts of Asia, 134.2 kHz tags are also utilized in the United States for identifying wildlife, fish, zoo animals and livestock. Advocates of the 134.2 kHz tags note that pet owners who relocate or travel to other countries might need either to have their pets tagged with ISO-compliant 134.2 kHz tags or, if another type of tag is already implanted, to bring their own reader with them to the border crossing so they can show officials that the animal is tagged.

Cushing believes there are no issues within the appropriations bill that might result in a veto, and that President Bush is likely to sign it in the coming days. When he does, Cushing notes, APHIS will have 90 days to report on its progress regarding the development of appropriate regulations, as directed by the bill.

If APHIS requires the use of open standards, Cushing says, then "the adoption of tagging pets will grow exponentially among pet owners because [vendor competition around a single standard] will force prices to fall, and pet owners will feel secure that no matter where their pet might get lost, the nearest vet or shelter will be able to read its tag."

Cushing adds that currently, having an ID tag injected into a cat or dog can cost pet owners up to \$100, but that doing the same thing using a standards-based tagging system could lower that cost to as little as \$15, because price competition will drive prices down. In some cases, this fee includes registering the pet into a national database. When it doesn't, the registration—which pet owners might have to do on their own, and which they often forget to do—can add another \$10 or \$15 to the total cost. Some vendors reportedly offer tagging services for as little as \$15.

Banfield estimates there are 164 million pet cats and dogs in the United States, less than 5 percent of which are tagged. By contrast, he says, 25 percent of the dogs and cats in Great Britain are tagged. The Coalition for Reunited Pets and Families reports that 47 percent of lost dogs in the United Kingdom are returned to their owners through tag identification. However, of the estimated 8 million to 10 million pets that become lost each year in the United States, only a fraction are reunited with their owners through RFID tag ID.

The major RFID tag and reader vendors in the pet-tagging market have initiated a number of U.S. lawsuits against each other. Currently, only AVID and Digital Angel interrogators can decrypt the AVID tags. Digital Angel president Kevin McGrath says his firm developed an algorithm of its own, rather than using AVID's algorithm, to enable its reader to decrypt AVID tags. [Crystal Import](#) located in Birmingham, Ala., distributes ISO 11784 and 11785 pet ID tags and readers manufactured by [DataMars](#), the Swiss company that created the tags Banfield had been implanting in pets. Crystal Import is suing AVID and Digital Angel,

alleging that they are infringing antitrust laws. AVID, meanwhile, is suing DataMars for patent infringement.