Warranty Primer

By Eric Arnum
Warranty Week

For the past two years, *Warranty Week* has focused upon warranty professionals, who typically don't need much info about how warranty markets work because frankly, they're the people running those markets. Therefore, until now we've never really tried to provide an "Introduction to Warranty" article. However, these kinds of questions arise frequently enough that perhaps it's time to finally do so.

Your editor is not a lawyer, so please forgive any mistakes of law in this response. But when one uses the term warranty, it can refer to any of three very different types of product guarantees.

The dictionary defines a warranty as a "guarantee given to the purchaser by a company stating that a product is reliable and free from known defects and that the seller will, without charge, repair or replace defective parts within a given time limit and under certain conditions." We'll take that to be synonymous with the product warranty -- what people usually mean when they call something a warranty.

There are two other types of warranties that need to be mentioned. Besides the product warranty, there is also an implied warranty and an extended warranty. At the risk of oversimplification, one could view these as three different but overlapping layers of guarantees:

1. Implied warranty -- basic initial protection against fraud or deception,
2. Product warranty -- typical guarantee that a product is free from manufacturing defects, and
3. Extended warranty -- enhanced coverage including longer terms and/or more services than either 1 or 2.

The implied warranty is nothing but a legal term, so there's not really an implied warranty market. The only people making money from implied warranties are the litigators. The product warranty is the core of the industry, with something on the order of $25 billion per year moving across the balance sheets of American manufacturers to pay warranty claims. Around 40% of these funds are spent on automotive warranty claims -- mostly by the vehicle manufacturers themselves. Around 29% is spent by computer, telecom, semiconductor, and other IT-related manufacturers. Another 17% is spent by the builders of new homes and the manufacturers of the appliances that fill them. And the last 14% is taken up by power plant, aerospace, scientific instrument, and medical device manufacturers.

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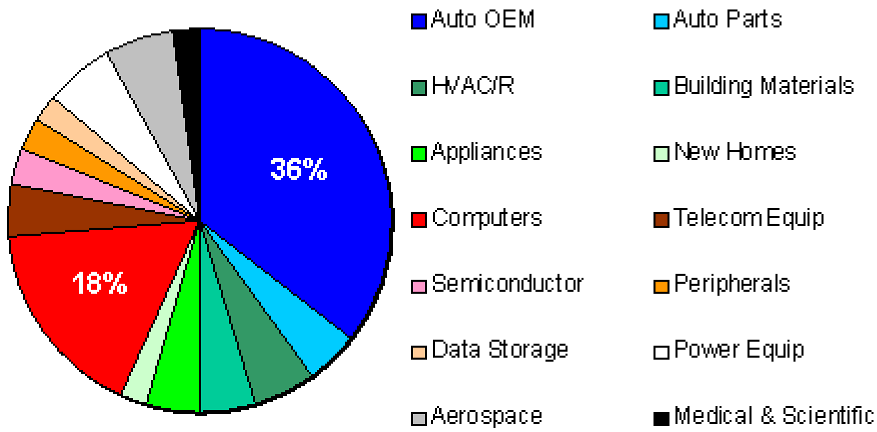
In the pie chart below, the automotive segments are blue, the home warranty segments are green, and the IT warranty segments are red. Steady readers might recall seeing it in a June 22 column that explored these segments in much greater depth.

Warranty Claims by Industry
First Quarter 2004



Source: Warranty Week

One of these days, it will be possible to publish a similar chart for the extended warranty industry. Right now, there's not. For while we can be reasonably sure of the size of the product warranty industry, estimates of the size of extended warranty business have ranged from $2 billion to $4, $7, and even $15 billion. Later this summer hopefully we'll have a better guess. Right now it will have to suffice to say that extended warranties frequently account for 3% or 4% of the revenues of the retailers and manufacturers who provide them. The major industry segments are likely to be the same as outlined above: automotive, homes, and computers, perhaps with the addition of consumer electronics. But even jet engines can have extended warranties.

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The Implied Warranty

In most sales situations within the U.S., a product is covered by an implied warranty, or more specifically, two implied warranties. There is the implied warranty of merchantability, and there is the implied warranty of fitness for a particular purpose. The legal terms differ around the world, as we saw last week in Dr. Ekkehard Helmig's excellent description of the current status of European warranty legislation. But the goal of these implied warranties is the same: to automatically give blanket protection to the buyer against purchases of dangerous, faulty, fraudulent, or sub-standard products.

Implied warranties apply to many items in addition to those also covered by product warranties. Implied warranties usually also apply to foods, clothing, chemicals, raw materials, and other items not typically sold with an accompanying product warranty. For example, dealers of Shell Oil Co. products in the southern states recently discovered that they were pumping sulfur-laden gasoline that allegedly ruined the fuel gauges of thousands of automobiles. Gasoline is not typically covered by a product warranty, but it is covered by an implied warranty of merchantability and of its fitness for a particular purpose. That particular purpose of course is to power an automobile's engine, which it did. But the mixture brewed by the refinery was incorrect, so it wasn't quite merchantable. It also wasn't fit for this particular purpose: to power the engine without damaging its components. Affected drivers are now in the process of making claims against the company.

Various states have automobile "lemon laws" on the books that share a similar goal. They protect the buyer from purchasing a vehicle that isn't fit to drive. Or more precisely, they allow the buyer to obtain a refund if their purchase later turns out to be unfit to drive. In the old days, the typical warranty on a used vehicle was roughly, "if it breaks in half as you're driving it home, you own both halves." Nowadays, that would be called an "as is" sale, which basically means the seller is disclaiming all warranties, implied or express. The buyer assumes all risks, and is responsible for the repair of all known faults. But in some states, there is no such thing as an "as is" sale of a used car by a professional dealership. In other words, the professional seller cannot disclaim the implied warranty, although the amateur seller still can. Also, in some states there is a 30-day period in which professional sellers are responsible for all repair costs, and/or the buyer can obtain a refund after a certain number of repeat failures. And then in other states there is a murky border between what constitutes a professional seller and a private seller. Some crafty sellers, called "curbstoners," will fix and sell used cars off their front lawn, thus avoiding some of the rules and most of the costs of registering a business. But we digress...

There are numerous other examples of the implied warranty. Suffice it to say that implied warranties guarantee that if something is called a running shoe, it can be worn on the feet and it can be worn by a person who is running. Sometimes the implied warranty comes in the form of a salesman's advice. Other times, it is inherent in the product. The implied warranty for food is that it is edible. The implied warranty for clothing is that it can be worn on the body. The implied warranty on an automobile is that it can be driven on the road. And so on.

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The Product Warranty

Then there are express warranties, the most important of which is the product warranty. There is some crossover between a product warranty and a retailer's "satisfaction guarantee" or some sort of 30-day money-back store refund policy. But these can be differentiated neatly by simply asking the buyer *why* they want to return the product. If it's because the product doesn't work, the corrective action usually falls under a product warranty, which will specify the manufacturer's repair-or-replace policy. If it's because it doesn't fit, isn't nice enough, doesn't taste good, or isn't quite what the buyer expected, the return will fall within the retailer's own store policy. There's also some differences between a "full" and a "limited" warranty, but since there are limits on almost all warranties in terms of duration or coverage, this facet of warranty law can be safely skipped.

While gathering quarterly statistics from manufacturers for product warranty claims and accruals, it's always interesting to note which companies stand alone in their respective industries in terms of warranty provision. For instance, while clothing isn't normally warranted, the farming and construction gear sold by LaCrosse Footwear Inc. is fully warranted. Lone Star Technologies Inc. warrants the pipes used on oil drilling rigs, and Euramax International Inc. warrants the metal walls used in the manufacture of recreational vehicles. There are even more surprisingly warranted products in the medical field, particularly in the areas of cosmetic surgery and sexual enhancements, but this is a family newspaper, so we'll leave it there.

We should mention that there is indeed a complex "food chain" behind every warranted product. While raw materials such as steel and aluminum are not warranted, the axles, engines, and doors made from those materials usually are. With passenger cars and light trucks, the suppliers provide a product warranty to their customers: the vehicle manufacturers, original equipment manufacturers, or OEMs. Sometimes the supplier's suppliers also issue product warranties; other times, the components at the small end of the warranty food chain are sold "as is." The OEMs in turn provide a "bumper-to-bumper" warranty to the buyer, but the actual warranty work is usually performed by their authorized representatives: the local neighborhood auto dealerships. The dealerships then bill the OEM for parts and labor, usually at an agreed-upon rate given the nature of the repair. The typical auto warranty claim is just north of $200, and the typical vehicle endures about 2.5 such warranty events during its warranted lifetime.

In the heavy truck industry, each manufacturer might provide their warranties separately and directly to the buyer. Therefore, one truck might have separate warranties on the engine, the transmission, the refrigeration unit, if any, and the driver's cabin. If something breaks, it's up to the buyer to figure out which manufacturer is responsible for the repair. Then it's up to the manufacturer to figure out if they even made the component they're being asked to pay to repair. It's not a question of fraud or counterfeit goods, although those are problems too. It's just the nature of the industry and of the customer, who is highly likely to be capable of swapping components and moving parts from one vehicle to another.

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In the jetliner industry, the customer will frequently perform the labor himself, and will then bill the manufacturer at some agreed-upon rate. The customer also may keep an inventory of spare parts at strategic locations, in an effort to keep the planes flying as often as possible. AOG, the acronym for an airplane stuck on the ground, is a much-feared industry term. Aerospace warranties are typically so complex that at the time of sale the buyer is handed a book full of the various policies, procedures, terms, and contact details. Many times they will swap out a suspected defective component, send the repaired flight on its way, and only then will they take the time to see if was really defective. Time is money. Some airlines will fix certain components themselves, but items such as navigational equipment will usually be sent out to a specialist. It's much the same story with owners of fleets of buses, taxis, and trucks. While they'll change their own oil and tires, they'll send transmissions out to the specialists for warranty work.

In the computer industry, some customers must ship or drop off their defective units at a designated repair center, while others get three- or four-hour on-site emergency repairs. Some customers fix it themselves. Most manufacturers use a network of authorized service centers and/or field service workers. Most recently, organizations such as Computer Repair Systems LLC have stepped in to mediate the assignment of service personnel. Allegedly, one well-known manufacturer was facing complaints that the third-party service people they dispatched showed up for work wearing Iron Maiden T-shirts and nose rings. This new service allows customers to rank these people in much the same way eBay and CNET allow buyers to rate merchants.

Further out in the warranty chain, some retailers of aftermarket parts actually provide better warranties than the manufacturers they represent. For instance, a car battery might be covered by only a 90-day manufacturer's warranty, but the store will enhance the coverage to become a one-year warranty. Therefore, the retailer will assume the cost of repair or replacement during months four through 12. Sometimes the retailer does double duty as the manufacturer as well, as is common in the replacement muffler industry. Other times, the retailer's role in the warranty industry is limited to the sale of extended warranty policies, either on its own behalf, on behalf of the manufacturer, or on behalf of some third party administrator.

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Automotive Warranties

While the warranty on passenger cars is typically provided all-in-one by the OEM, there are really three classes of coverage. There is the powertrain warranty, the "bumper-to-bumper" warranty, and there are parts covered by nothing but the implied warranties. The powertrain -- engine, transmission, axles, etc. -- can be covered by a warranty whose term extends longer than the warranty on the rest of the car. For instance, the longish warranties often cited by Chrysler, Mitsubishi, Suzuki, and Hyundai in their promotional materials are powertrain warranties. While they might last for seven or even ten years, the "bumper-to-bumper" warranties might last for only three or four years.

Why do we put that in quotes? The term "bumper-to-bumper" usually doesn't cover *everything* between the bumpers. For instance, it doesn't cover components that wear out even during normal use, such as windshield wiper blades or brake pads. Some manufacturers also warrant against rust or peeling paint for extended periods, while others assume that steel will rust and paint will peel even during normal use, especially on winter roads or in maritime climates. So the term "bumper-to-bumper" is really not as inclusive as it sounds. It pays to check the terms of the warranty policy before making a purchase.

With passenger cars, the warranties for parts and labor typically run concurrently. It's unusual to see a car with a warranty that states "three years parts, one year labor." What's more typical is to see the warranties also bounded by some mileage limit, as in either 36 months or 36,000 miles. Outside the U.S., of course, the warranties are bounded by limits of thousands of kilometers (megameters?). Interestingly, warranties on vehicles sold outside the U.S. are typically shorter than those sold within the U.S., even for manufacturers such as Hyundai that claim rights to the term "America's Best Warranty."

With home entertainment equipment, different durations for parts and labor warranties are more common. For instance, one might see a television covered by a one-year warranty on parts and 90 days on labor. Given that labor can often be the most expensive part of the repair, it's likely that any repair under such terms during days 91 through 365 will not be worth the cost to the consumer. This factor, plus the relentless advance of technology, has turned most of these products into disposable items. In addition, some manufacturers insist that products be shipped to a faraway location, with the consumer bearing the cost either all the time, or only on repairs begun after day 91. Again, it pays to check the terms of the product warranty before making a purchase.

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When it comes to the sale of business computers and professional telecom equipment, the warranties are typically much lengthier than in the consumer's case. A business laptop might get a three-year warranty, while a consumer laptop might get a one-year or even just a 90-day warranty. Retailers might make up for the gap by offering extended warranties for sale, but let's not get ahead of ourselves yet.

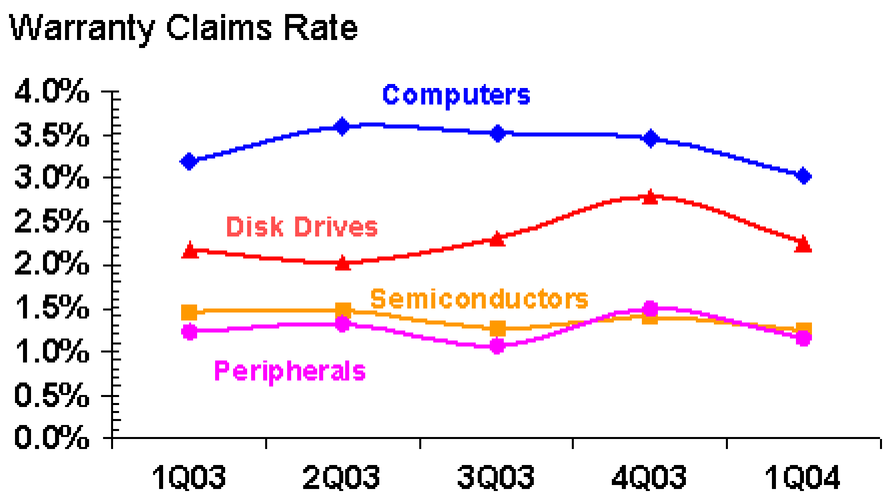
The importance of warranty is different across industries. *Warranty Week* and its readers are corresponding about an evolving theory that warranty claims costs are directly related to the maturity of a given industry, the longevity of its products, and the type of customers it serves. In other words, warranty matters a great deal to industries such as aerospace, automobiles, and air conditioning that can trace their roots back 80 or 100 years. Warranty matters a great deal to companies whose products are expected to last 20, 30, or 40 years, such as elevators, boilers, and airframes. And warranty matters a great deal to companies whose customers are other businesses, such as phone companies, broadcasters, or mass transit systems.

Conversely, warranty matters less in industries that were born only a decade or two ago. Warranty matters less in industries that produce items rarely repaired and frequently discarded. And warranty matters less when the customer is a consumer, unless of course those consumers join together under the banner of a class action lawsuit or under the umbrella of a state or federal law.

OEM vs. Supplier
Overall, manufacturers spend around 2% of sales revenue to honor warranty claims. It's higher in some industries and lower in others. Even within industries, however, different products seem to have different "natural" warranty claims rates. Much seems to depend upon their position within the supply chain. Those closest to the ultimate customer seem to bear the brunt of the warranty claims. While we

have only five quarters of comprehensive data on which to base this theory, the horizontal flatness of the lines in the chart below suggest that each of these products has a different "natural" claims rate around which actual rates oscillate from quarter to quarter.

OEMs vs. Suppliers in the Computer Industry
Warranty Claims Rates,
First Quarter 2003 to First Quarter 2004



Source: Warranty Week

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It's much the same case in the automotive industry, where OEMs such as Ford and General Motors pay multiple times as much revenue as do their suppliers to satisfy claims. For instance, in 2003 Ford reported roughly eight times as much product sales revenue as did Visteon, but it paid roughly 200 times as much for warranty claims as did its supplier. It's much the same situation at GM and Delphi. While GM spends 2.8% of its product revenue on warranty claims, Delphi spends only 0.4%. Part of the problem is supplier recovery, or the lack thereof, but part of the problem is simply an inability of the OEMs to pass on the significant costs of labor and parts shipments. And in some respects, warranty work is something the dealerships have come to rely upon to get them through the lean years.

Warranty Law
For the lawyers among us -- and there are a significant number of attorneys reading *Warranty Week* -- the most important law to consider is the Magnuson-Moss Warranty Act, the federal law governing warranties on consumer products. Named for its co-authors, Warren G. Magnuson (D-WA) and Frank E. Moss (D-UT), the law was passed in 1975, and has been part of the U.S. Code ever since.

The Warranty Act doesn't require product warranties or even implied warranties on consumer goods. But it does specify what disclosures are required of sellers who do provide product warranties, and what disclosures are expected of those who want to disclaim implied warranties. Although it was written decades before the advent of the World Wide Web, it also governs what disclosures are required of online merchants. But it doesn't apply to products sold for commercial use, and it doesn't apply to services (except for the labor involved in the repair of a product under warranty).

The Federal Trade Commission is responsible for administering the law. To do this, the FTC adopted three rules: the Rule on Disclosure of Written Consumer Product Warranty Terms and Conditions, the Rule on Pre-Sale Availability of Written Warranty Terms, and the Rule on Informal Dispute Settlement Procedures. The FTC has posted an online guide that explains these rules in some detail, but suffice it to say that sellers are required to provide potential buyers with an easy-to-understand outline of the available coverage before they buy.

Storefront merchants usually keep copies of the warranties on a shelf in the back room, right next to the elevator maintenance certificates, the health inspector's reports, and all those other documents that are supposed to be available to the public "upon request." Online, the typical dodge for some merchants is to invite the shopper to write a letter and send it via snail mail, requesting a copy of the product warranty. However, some online merchants provide an easy-to-find link to a warranty page, and a few will even email out a full electronic copy of the warranty policy just for the asking. But a few online merchants completely ignore the law, and to date, the FTC has completely ignored them.

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Another much-overlooked aspect of the law forbids tie-ins between a warranted product and its consumable components. For example, a vacuum cleaner manufacturer cannot void a warranty over the use of a third party's filter bags, unless the manufacturer can prove that its own bags are integral to the safe operation of the equipment. And although again the 29-year-old law pre-dates the PC industry, the tie-in prohibition forbids the seller of a printer from prohibiting the use of a third party's ink cartridges. It can, however, discourage the refilling of those cartridges by threatening to void the warranty. This issue is currently at the cutting edge of warranty law. A Canadian chain called Island Ink-Jet is opening kiosks in shopping malls where consumers can drop-off their ink cartridges for refill. It's not illegal, but it may void the warranty.

Other manufacturers and retailers ensure a steady stream of consumable sales by, for instance, prohibiting the use of rechargeable batteries in a warranted unit. If they can demonstrate to the satisfaction of the FTC that this is essential to the safe operation of the product, they're in the clear. In the auto industry, the use of a vehicle for racing -- amateur or professional -- can instantly void the warranty. In the consumer electronics and computer businesses, installing do-it-yourself enhancements or merely opening the unit can void the warranty. And in some instances, the use of a consumer product in a commercial application can void the warranty. Usually, all these restrictions are right there in the fine print.

The Extended Warranty

Then there is the extended warranty. This is perhaps the worst-named component of the warranty industry. Warranties, whether express or implied, are usually granted by the seller to the buyer at the time of sale. The length of a warranty's duration is set at the time a product is purchased, but occasionally because of known defects or product recalls, the manufacturer extends the duration. Extended warranties, on the other hand, are separately-sold insurance contracts that can be purchased at any time, from any party, for any product. Some sellers more properly call their offerings service contracts or service plans, because that is what they are. The product's owner pays a premium for an insurance contract that covers the cost of repairs and service for a specified duration.

This corner of the warranty industry is often the subject of angry consumer advocate reports that draw attention to allegedly unnecessary coverages, deceptive sales practices, unpaid or disputed claims, and so on. Sometimes, the administrator or underwriter of these policies goes bankrupt, leaving consumers with mostly worthless policies. Other times, out of compassion for the customer, the seller steps in -- for instance the auto dealer -- to pay claims for which they are technically not liable. It all depends on whether they want to preserve their good name in the local community.

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Dealers and retailers have the option of selling and administering their own policies, or selling the policies of others such as the manufacturer or a third party administrator. While selling their own policies allows them to keep 100% of the premiums, this also forces them to assume 100% of the risk. Many providers wisely choose to share this risk with an insurance underwriter. It's not uncommon to see product warranty or extended warranty providers take a hit to earnings when claims spike. It's less common to see a company go under primarily because of the weight of claims, but it happens. What's more common is for the self-managing company to sink in a financial mess of its own making, taking their extended warranties with them to the bottom. Hi-fi retailers, department store chains, and auto dealers are most famous for this, but in future years it could begin to happen to some well-known computer makers that self-insure their extended warranty plans.

Laws and customs vary tremendously from state to state, because like all insurance products, they are regulated not at the federal level but at the state level. Therefore, it's illegal in California for out-of-state businesses to sell extended warranty policies over the Internet, while in some other states anything goes. One auto extended warranty company requires all extended warranty disputes to be settled in the courts of DuPage County, Illinois. Don't live near there? Better find a lawyer who doesn't mind the commute. When companies such as Warranty Gold Ltd. went broke and stopped paying claims, consumers in some states found their local Attorneys General or Departments of Insurance unwilling or unable to do much of anything about it. It all depends on the laws on the books in the state, or more narrowly, in the state in which the company claims to be domiciled. Some companies can therefore avoid closer scrutiny by going state-shopping, incorporating themselves in locations with allegedly lax regulations and then getting lawsuits moved or dismissed over jurisdictional issues.

While extended warranties are insurance products, some in the insurance industry would say otherwise. To them, insurance is fire and theft, property and casualty, life and health. Everything else is in the "other" category. They would say that rather than a standard assumption of risk in exchange for a given premium, extended warranties are more like a pre-payment of anticipated repair expenses. For instance, an oil burner might be sold bundled with a "free" annual cleaning. An automobile extended warranty might include "free" oil changes or tire rotations. A computer's extended warranty might include a "free" help line, or even training classes. The reason these repair and maintenance services are free is because the cost is built into the premiums.

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Critics often point out that extended warranties frequently overlap with homeowner's insurance policies, especially when it comes to accidental damage or theft. In Europe, extended warranties frequently feature more insurance-like coverages such as these, while in America the contract is usually a more straightforward coverage of just product defects and failures -- a simple extension of the product warranty for additional years.

Buyers would be well-served to assume they're buying insurance policies. And therefore, at the risk of drawing megabytes of hate mail, *Warranty Week* would advise potential buyers to ask themselves one simple question: would you buy your health insurance from this firm? Would you be shocked if a doctor or hospital didn't accept policies written by Joe's Warranty Company of Florence, South Carolina? At an even more basic level, if they charge half as much as everyone else, why would you expect them to pay claims at all? They charge less probably not because of some magical efficiency of the Internet, but because they pay less in claims. And if they don't pay, you'll have to make a trip to DuPage County to complain. Many times, they won't even disclose their physical address, and will hide behind (800) numbers so you can't even narrow them down to a given area code.

At the other end of the scale are well-established administrators that for decades have worked with top-rated underwriters and honest, hard-working sales agents. But you don't hear much about them, because the local consumer advocates never have a reason to mention their names. So you don't hear much in the mainstream press about underwriters such as the Aon Warranty Group, American International Group, or Assurant Solutions, or about administrators such as NEW Customer Services, ServiceBench, VAC Service, Service Net Solutions, or Warrantech. In the extended warranty business, good news is no news.

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Warranty Software

Finally, there is a whole other branch of the warranty industry that is only lately coming into focus. Both product warranty and extended warranty providers are going to have to perform a lot of data processing, and unless they choose to do so on paper, chances are good that they'll use computer systems. To process warranty claims, analyze trends, detect fraud, and calculate accruals, they can make use of a wide assortment of commercial software. Or they can build their own.

In the past, most companies chose to build their own because frankly, not much was available for purchase. But in recent years, along with the inevitable hype about CRM, ERP, SCM, and other industry buzzwords has come a realization that many software products now include warranty functionality. Sometimes, manufacturers realize that the same product which can analyze the contents of a supermarket shopping cart also can analyze patterns and anomalies in spare part shipments. Other times, software used to sift through top secret signal intelligence can be retrained to analyze product failures by sifting through trouble reports. Or perhaps an existing auto dealer management system gains communications skills that allow it to interact with an OEM's warranty claims processing network. Suddenly, they find themselves being called warranty software vendors.

A few companies such as NAT Inc., Entigo Corp., and Active Web Services have chosen to specialize in nothing but warranty software. They typically concentrate on the processing of claims, and team up with specialists such as the SAS Institute or SPSS for the data analysis. Still other specialists concentrate on fraud detection, which some say comprise a significant percentage of all claims. Some of the service bureaus specialize in the dispatch of service people for the repair of items such as major appliances, and by the way they also process claims for the manufacturer. And a whole range of software suite developers, from huge vendors such as SAP and IBM to smaller companies such as CustomerTrax and ARI, sell multi-function software packages that also do warranty work. But rather than competing with each other, most times they find themselves competing with the inertia created by home-made systems that have been plodding along since the days when mainframes ruled the world.

So there you have it: a 5,000-word essay about how the warranty industry works and who the major players are. Readers please send in your corrections and your grades. We're hoping for a B, which will hopefully turn into an A once the extended warranty section is completed.

Additional Information: