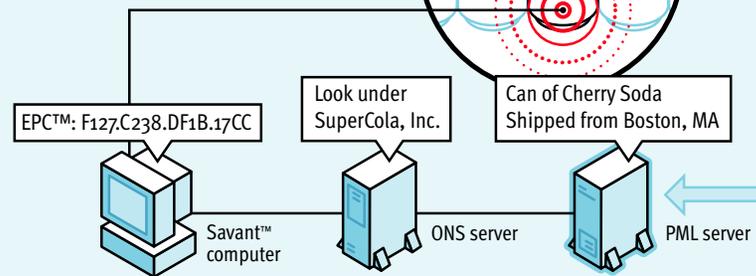With the new EPC™ Network, computers will be able to "see" physical objects, allowing manufacturers to track and trace items automatically throughout the supply chain. This technology will revolutionize the way we manufacture, sell and buy products. Here's how it works:

1.
Each item contains a tiny microchip which includes a radio antenna and a unique identifier, called an Electronic Product Code (EPC™). This Radio Frequency Identification (RFID) tag costs about five cents to make.

2.
The item can now be automatically and cost-effectively identified, counted and tracked. Cases and pallets can also carry their own unique tags.

3.
As pallets leave the manufacturer, an RFID reader positioned above the loading dock door beams a radio wave that "wakes up" the tags.

4A.
The tags broadcast their individual EPCs™ to the reader, which rapidly switches them on and off in sequence, until all are read.

4B.
The reader sends the EPCs™ to a computer running software called Savant™. Savant™ sends the EPC™ over the internet to an Object Name Service (ONS) database, which produces an address. The ONS matches the EPC™ to another server, which has comprehensive information about the product.

4C.
This server uses PML (Physical Markup Language) to store data about manufacturers' products. Because it knows the location of the reader sending the query, it knows where the product was made. If an incident involving a defect or tampering arises, the source of the problem can be tracked and the products can be recalled.

EPC™: F127.C238.DF1B.17CC

Look under SuperCola, Inc.

Can of Cherry Soda Shipped from Boston, MA

Savant™ computer

ONS server

PML server

5.
If the unloading area contains an RFID reader, there's no need to open packages and examine their contents. Savant™ provides a cargo list, and the pallet is quickly routed to the appropriate truck.

10 pallets of Cherry Soda

Cherry Soda, send to truck 34

6.
SpeedyMart tracks the shipment through its own Savant™ connection. As soon as it arrives, retail systems are updated to include every item. In this way stores can locate their entire inventory automatically, accurately and at low cost.

Cherry Soda for aisle 2

Need more Cherry Soda

7.
Reader-enabled "smart shelves" can automatically order more product from the back room or the manufacturer. With such a system, the need to maintain costly "safety volumes" in remote warehouses is eliminated.

SPEEDYMART