Upgrading or Replacing the POS System

If you're considering an improvement to the backbone of your store-operations infrastructure, here are some issues to keep in mind.

In the 2006 NRF/AMR *Research Retail IT and Budgeting Study,* 60% of surveyed retailers reported plans to improve or replace their current POS systems. This is of course fairly easy to put off—in the 2005 survey, nearly 90% of surveyed retailers said they were going to make a POS upgrade, something that obviously didn't happen—but it seems likely that over the next 12 months or so, a great many retailers will decide that the time has come to address their point-of-sale capability. Factors driving this decision include:

Market pressure. Competition, both in terms of price and of widespread product and assortment overlap, is forcing retailers to differentiate by improving the customer experience. Both customers and retailers differ on what exactly constitutes an enhanced shopping experience, but high on everybody's list is convenience—making the shopping experience faster and simpler through speedy checkout, rapid processing of credit and gift cards, and (where appropriate) self-checkout. All of those, plus a whole host of CRM functions, require the presence of an up-to-date, high-performance POS system.

Internal data requirements. Retail operations are increasingly dependent on enterprise-wide tools such as ERP, performance management, forecasting, inventory control, supply chain management, loss prevention, etc. Rapid, timely, fine-grained sales data is essential to the proper functioning of any of these systems, as is a direct infrastructure linkage between the point of sale and the back office. If the POS system can't accommodate these requirements, it limits the speed and effectiveness of the entire operation

Store operating costs. A significant number of retailers, while aware of these market and infrastructural issues, have postponed POS system upgrades in order to deal with Y2K precautions (some have been deferring it for a decade or even longer), Sarbanes-Oxley compliance requirements, enterprise-wide systems implementations such as inventory or supply-chain management, or other more pressing issues. In the meantime, POS systems have continued to age, and require increased maintenance. According to the NRF/AMR Research study, the single largest reported jump in 2006 IT operating costs over 2005 was a 12% increase in hardware maintenance, most of it for store systems, and most of that for point of sale. The increased cost of maintaining these older systems have become a drag on corporate and store-level IT budgets.

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Things to keep in mind

If the time has come for you to do something about your POS system, whether making a major upgrade or simply replacing it, there are some factors you need to consider as you make your decision.

Upgradability. Both the external (market demand) and internal (data systems integration demand) performance requirements affecting the choice of a POS system are in a state of ongoing development. Tomorrow or a year from now, the system may need not only to be able to do something it can't do today, it may be required to do something you haven't even thought of today. (Not all that long ago, for example, self-serve checkout was widely derided as a gimmick with no future.) It's not incumbent on retail managers to guess what the POS system may need to do in the future—which is good, because they've got their hands full as it is. It is incumbent on them, however, to make sure the system they invest

software from more than 50 different vendors. In such an environment, it's essential that all the different components "play nice" together; at the software level, the POS system must integrate smoothly with everything else.

Move to central data management. It also needs to do that at the platform level, because retail is moving more and more away from standalone, gather-batch-and-report systems and toward centralized data management. In such an environment, the POS terminal isn't just a box for collecting sales data and performing individual transactions, it's also a portal. It doesn't have to have the functionality of a server (though there are POS systems that

in today can be upgraded to meet those needs as they emerge.

Product life cycle/stability. At the same time, a POS system changeover is usually a multi-year proposition. (Industry average for a large chain is about eighteen months, but longer periods are not unusual.) Just because you can upgrade the system doesn't mean you want to have to upgrade it in the middle of an implementation. Make sure the manufacturer guarantees a life cycle long enough to get everybody up, running, and stable on the same product before you start altering it.

Ease of integration. Even a single retail store now uses a multiplicity of systems; one rapidly growing chain, for instance, recently reported that each new store requires the installation of hardware and/or

double as the main store-level computer), but it does need to have sufficient processing speed, memory, etc. to interact efficiently with the central system.

Cost. Finally, the POS system, like every other part of the IT infrastructure, represents an investment. The return on that investment doesn't loom as large in this connection as it does in some others—you can have all sorts of exciting abstract arguments about, say, ERP, but try running a store without a cash register and see how far you get. Nonetheless, POS system cost has to be budgeted for, justified, and subject to comparison between one offering and the next.

The question is, how? "Total cost of ownership" is a

somewhat over-hyped concept, and can be somewhat difficult to establish for one component of a multi-system, multi-vendor environment. It is, however, a real issue. To make a realistic assessment of the investment involved in a POS system, retailers need to understand and evaluate the costs of:

- Procurement: what you pay for the hardware and software.
- Implementation: what you pay to get it installed, running, stabilized, and integrated with your other systems—and what you pay to get everybody trained to use it.
- Lifecycle management: what you spend to maintain, support, and enhance it, including the cost of

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training staff on upgrades. Some of this, as we discussed above under "Upgradability," is unknowable—things they haven't invented yet. A lot of it, however, is either predictable based on the vendor's track record with older systems, or it's right there in the service contract.

Purchase strategies

Unlike, say, a business intelligence or accounting tool, which is a piece of software running on whatever server is appropriate, a POS system investment inherently involves both hardware and software. The basic ingredients are the POS software, the platform (i.e., computer) the software runs on, and peripherals—scanner, cash drawer, keyboard, printer, monitor, etc.—that plug into the platform.

This creates a number of purchasing options:

- You can buy the whole package from one supplier, either as a proprietary system (hardware and software specifically designed to work together) or as an open system.
- You can buy a complete hardware system (platform and peripherals) from one vendor and software from another.
- You can buy the platform from one vendor, POS software from someone else, and mix and match peripherals from yet other vendors.

There's no "right" answer here; under the right circumstances, any one of those strategies can work very well. The only thing you might want to avoid is a locked-in proprietary system in which the hardware is incompatible with all other software, and vice versa. Given the degree of systems integration required in today's retail environment, and the speed at which external and internal demands on POS systems are evolving, you should probably opt for a combination that will provide the maximum in functionality, stability, and system openness.

The platform question

In platforms, the maximum available openness comes from the use of a device featuring open, universally compatible hardware and operating system—in other words, something very much like a Windows-based PC. There are some solid arguments in favor of such an approach:

- Unit cost. Because the architecture and operating system of a Windows-based platform are standardized, the purchase price does not have to reflect the development costs inherent in any piece of custom hardware. For this reason alone, unit costs are likely to be significantly lower.
- Ease of integration. The IT backbone of any modern retail operation is a network of Windows-based or, at a minimum, Windows-compatible data servers. A PC-like platform can interface transparently with such a network.

There are some cogent potential arguments against this approach as well. The primary ones:

- Fragility. Equipment in a retail environment is likely to be subjected to at least occasional rough treatment. You can't have the POS refusing to work because somebody bumped into it.

- Limited ability to handle peripherals. Some POS peripherals, such as receipt printers, require a 24-volt power source as well as a data connection. The average PC is not equipped to meet this need.
- Product lifetime. When do you replace the operating system and peripherals on your PC? When you buy a new one. Do you have a choice? No. Both hardware and operating system are prone to unpredictable mandatory upgrades. Also, PCs typically have a short life cycle, 18 to 24 months.
- Support and maintenance. Everybody reading this is a PC user with his or her own collection of horror stories, so there's no reason to belabor this point. If there's a problem with the POS system, a retailer needs one source of support, and he needs the source of support to actually fix it.

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Best of both worlds

Given all this, it would seem logical to give strong consideration to a POS platform possessing the strengths described above but not the weaknesses. This would be a PC-like system hardened to withstand the rigors of a retail environment and to provide a longer product lifecycle. It would, have, for instance, such features as:

- A guaranteed five-year product lifecycle, with a minimum one-year overlap between platform upgrades.
- The ability to handle multiple powered peripherals through USB or Serial powered ports (modified).
- Oversize cooling, so as to allow the unit to operate in an ambient 40° C (104° F) environment. (Most standard business PCs are engineered to withstand 35° C—95° F.)
- A high-wattage, auto-sensing power supply to ensure that all devices attached to the platform had adequate power to function. It would be able to withstand power surges up to 2000 volts, so as to protect both equipment and data.
- Gold-plated connectors to provide better wear and corrosion resistance.
- Poly-fused, automatic-reset power ports to help protect the system board from power surges or accidental hot-plugging.
- Higher endurance temperature-rated capacitors.

- A steel chassis, extensive on-board monitoring and alerts, and extreme environmental and shock testing.
- Tailored manufacturer partnerships with major POS software and peripherals vendors.
- A large manufacturer installed base/track record in major retail environments, and extensive retail experience.

HP as POS supplier

One platform supplier that meets these criteria is Hewlett-Packard. The company's heavy-duty rp5000 POS platform, which was introduced in 2003 and has found wide acceptance in the market, has been supplemented by the recent release of the enhanced rp5700. In addition to the open-architecture platform (running on Windows XP Professional, Vista Business 32Edition, Microsoft WEPOS, FreeDOS, and certified for Linux, depending on customer requirements), HP supplies POS software and a full line of its own peripherals: touchscreen monitor, cash drawer, barcode scanner, thermal receipt printer, magnetic strip reader, and POS keyboard.

HP also has solutions partnerships with more than 20 leading POS software and peripherals vendors, which enables its retail customers to configure a system with just about any imaginable capability.

In addition to its POS systems, HP offers retail-specific solutions in headquarters infrastructure (HP servers and storage are in use in major retail operations around the globe) and partnerships with major enterprise applications companies (merchandising, payments and returns management, CRM, business intelligence, and others). The company can supply, integrate, and support a total retail infrastructure, from front office to servers, storage, networking, and management software.

If you'd like more information on HP POS systems—system specifications, support, customer case histories, solutions partners—please visit www.hp.com/go/POS or email your questions to POSinfo@hp.com

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