



**Databorough**

# **Next Victim of the AS400 Brain Drain**

**Steve Kilner**

Have you ever put the words *documentation* and *urgent* in the same sentence? I bet not, but I bet I can convince you that you should.

IT people with decades of AS/400 systems knowledge are *leaving in large numbers*, whether from retirement, layoffs, career changes – sometimes planned, *sometimes unplanned*. Naturally, they are taking their knowledge with them.

Can you put a price tag on how much that loss of knowledge will cost you? You actually can estimate it – it's something you should know! Here is a [guide to calculating the value of employee knowledge](#).

And here is the surest proven way you can protect yourself against that loss of value: ***Document your system! Protect its value!*** In all seriousness, this is really a matter of professional diligence.

Typical AS/400 applications represent past investments, and replacement costs, of millions of dollars. Whether embedded in the application, or in the minds of employees, ***application knowledge is an enterprise asset that needs to be both fully protected and fully utilized.***

Besides fully protecting that valuable knowledge, how can you fully utilize it? Here are four compelling, common sense things AS/400 IT managers should be doing:

- Stop the isolation of System i applications!
- Control your Business Rules!
- Make your decisions rational, quantifiable and fact-driven!
- Recover your application design and reuse it!

Let's look at these in more detail:

- 1. Stop the isolation of System i applications!** As experienced people leave, and as businesses add other, “modern”, systems, the System i applications increasingly become regarded as *obscure, esoteric and unknowable*. For many companies, however, these legacy applications contain critical business rules and data – but the enterprise knowledge of them dwindles with each passing year. IT managers need to educate and communicate application knowledge to their new staff, outsourced resources, users and management to preserve and protect this valuable corporate asset.
- 2. Control your Business Rules!** One of the most valuable aspects of your legacy asset is the codification of *business rules that control thousands of processes* in your company. Do you know where they are? Do you know if they are consistent? *Can you tell anyone what they are?* Leading IT management consultants such Gartner Group and IBM place great value on the investment that companies have made in developing their business rules. Are you proactively in charge of this asset?
- 3. Make your decisions rational, quantifiable and fact-driven!** When you plan your legacy application projects are your estimates and task breakdowns based on *quantifiable information* about your legacy application code and design? Do you account for more or less complexity in your existing system when planning design, programming and testing? How much

subjectivity is in your process? How many metrics?

- 4. Recover your application design and reuse it!** Over many years of ongoing development and maintenance, application architecture naturally erodes to the point where it is no longer optimally designed. In most AS/400 shops, there is no explicit application design documented anywhere - it is implicit in the code. The business rules, data model, complexity metrics and architecture of your legacy application should be fully driving all projects for maintenance, integration, reengineering and replacement. They were when the application was built. Why no longer? Do you have this information at your fingertips so that you are sure to automatically incorporate it into all such projects? And really, *is your own management process designed around this core information?*

It is not uncommon for aging systems to fall into deeper and deeper states of disrepair. This is a serious, sometimes negligent, waste of money. It is the responsibility of the IT managers in charge of these systems to preserve, and hopefully, increase their value.

When viewed as a corporate asset, as suggested by Gartner, IBM, etc., legacy systems often have substantial value to an enterprise, often measured in millions of dollars. Such a measurement can be made against the past expenditures to develop the software, or the future expenditures that would be required to replace it.

Another way to measure value, though more difficult to quantify, is to look at what the system contributes to the enterprise. For this there are three essential domains:

- Current contributions
  - Functionality and data for business operations
  - Functionality and data for external systems, and their support of business operations
- Future contributions
  - Extensive, proven information for the reengineering or purchase of future, replacement systems - that information typically being in the form of architecture, data models and business rules.

There are multiple ways that legacy systems provide value to an organization. Protecting and utilizing that value is a core responsibility of IT managers, and documentation is an essential tool for doing so.

**"Measuring programming progress by lines of code is like measuring aircraft building progress by weight."**

**- Bill Gates**