Resiliency in the Real World

Why are systems not resilient and who should cop the blame?
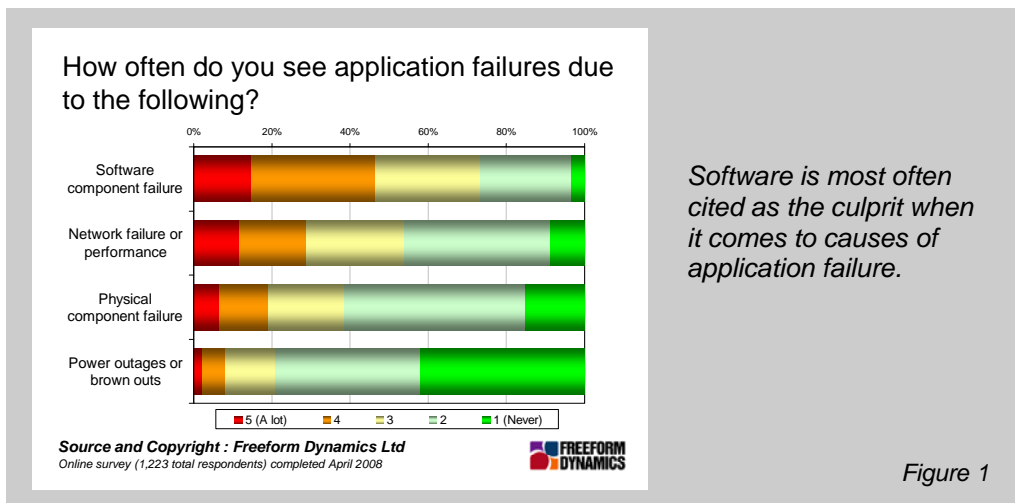
By Tony Lock, November 2008

In a nutshell:

Do IT vendors really understand what is important for organisations when it comes to application availability?

Key points:

- All components essential for application delivery are prone to failure

- Attention to service availability requirements are not considered early enough

- Simple solutions mostly deliver faster recovery after failure rather than preventing failure in the first place
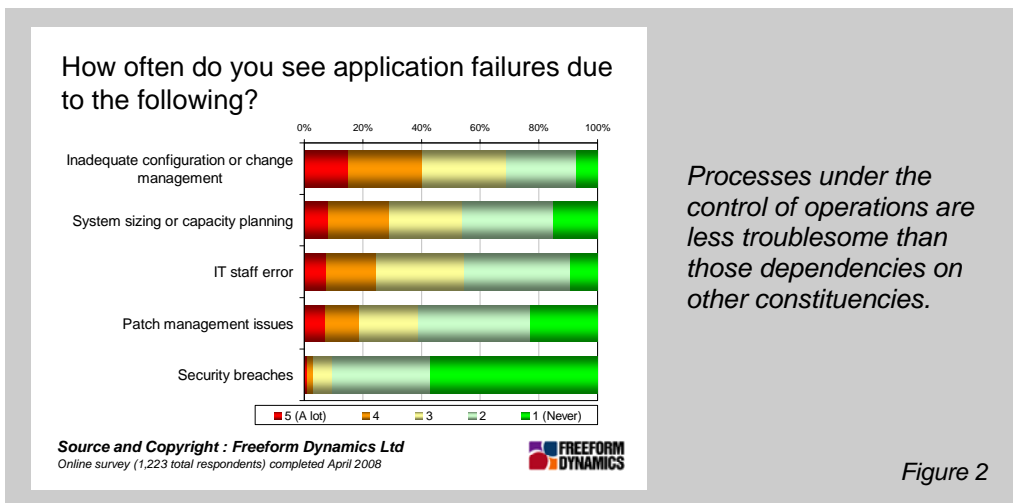
- Are some solutions being overlooked?

A recent report by Freeform Dynamics shows that IT systems fail. What's more, a quick glance at figure 1 shows that they fail far more frequently than one might expect in today's "high availability" environments. Such lack of resilience might be surprising if one just went by the content of press releases from many of the leading IT vendors, especially those in the virtualisation markets. So what's going wrong and who needs to step up and take responsibility? Are IT Pros and business analysts getting something wrong or are the IT vendors selling lots of pups?
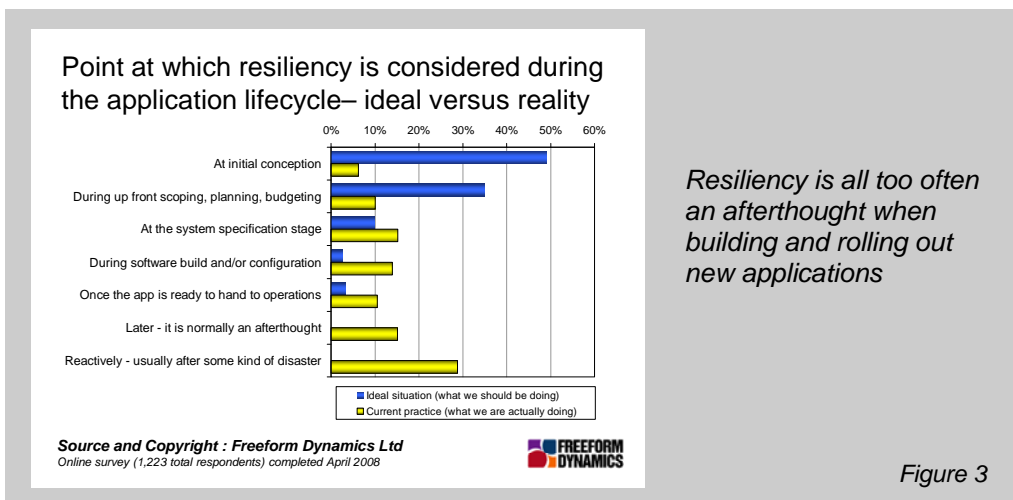

How often do you see application failures due to the following?

Software is most often cited as the culprit when it comes to causes of application failure.

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Online survey (1,223 total respondents) completed April 2008

Figure 1

As we can see from the chart, all components essential for application delivery are prone to failure. Most frequently cited are software failures followed in second place by network failures or performance degradation with the failure of physical components trailing back in third place. Despite much public beating of chests, power outages and brown outs have yet to cause application failure as often as any other three areas addressed. So the inference is that software, hardware and network failures account for the vast majority of systems interruptions.

One thing that is clear is that service disruptions also occur as a consequence of human interventions triggering an interruption to application availability. Figure 2 highlights that whilst hardware, software and networking considerations are important in ensuring service availability it is essential that operational management processes and practices are also suitable to the quality of service desired for each application. It must be said frankly that if the people and process side of system availability is not addressed the chances are that systems will fall over, probably time after time.

How often do you see application failures due to the following?

Processes under the control of operations are less troublesome than those dependencies on other constituencies.

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Figure 2

Altogether then there springs to mind the interesting question of in which area should an organisation seek to add additional resilience to its application delivery? Is it a question of spicing up the software side of things, acquiring better hardware or getting more resilient networking in place? Well naturally enough, in the proverbial ideal world, all three factors would receive more than adequate attention long before an application is due to enter live service thereby allowing its requirements for performance, availability and recovery/protection to be more than adequately delivered. Alas, as we know all too well, this is the real world where, as figure 3 from our research shows, such attention to service availability is not considered early enough in projects.

Point at which resiliency is considered during the application lifecycle– ideal versus reality

Resiliency is all too often an afterthought when building and rolling out new applications

Source and Copyright : Freeform Dynamics Ltd
Online survey (1,223 total respondents) completed April 2008

Figure 3

If we consider the area of employing 'software' based solutions to enhance application availability, a lot of attention, especially from the vendor and channel community, is focused on applying a number of 'virtualisation' technologies to the problem. It is fair to say that the many flavours of virtualisation currently on offer, especially in the x86 server space, are being promoted as an answer to delivering greater service availability. A closer look at such offerings, essentially any of the Operating System/Hypervisor virtualisation technologies or one of the different approaches of application virtualisation solutions available, highlights that the simple solutions mostly deliver faster recovery after failure rather than preventing failure in the first place. A good first step perhaps but it is only now that the effective management of virtualised solutions is beginning to offer higher levels of pro-active availability that such established platforms as the Mainframe manage with ease. It is also worthwhile noting that these virtualisation solutions should not overshadow the need to ensure that the application itself written in a way that enhances availability and that can interoperate with new virtualisation solutions to raise service availability..

As has been mentioned, over the course of the last few years software solutions, especially virtualisation offerings, have rather stolen the limelight when it comes to adding resilience to applications. However it is still very much a fact that utilising hardware platforms that are designed with application availability in mind can also deliver great value. These solutions are frequently overlooked as today there is a tremendous volume of marketing claiming that 'industry standard systems' are good enough. For many applications this is true, but if you need to go that extra step along the road of application resilience, server and storage hardware fault tolerant or resistant systems deserve consideration, especially if keeping applications running rather than simply being able to restart them quickly in the event of failure is an issue.

A serious question needs to be asked of the vendors, namely do they really understand what is important for organisations when it comes to application availability or do many of them actually believe that 'virtualisation' is the marketing storm that solves all problems at once? At the moment it appears so, but beware the signs are now on the horizon that 'Cloud Computing' may soon be proffered as the next answer to application availability, life the universe and everything.

About Freeform Dynamics

Freeform Dynamics is a research and analysis firm. We track and report on the business impact of developments in the IT and communications sectors.

As part of this, we use an innovative research methodology to gather feedback directly from those involved in IT strategy, planning, procurement and implementation. Our output is therefore grounded in real-world practicality for use by mainstream business and IT professionals.

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