

## Challenge or Problem?

### It depends on where you are standing ...

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**Question:** Do businesses evolve?                      **Answer:** Yes

**Question:** Does this affect IT?                      **Answer:** Yes

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More and more computer departments within businesses are changing from being IT/ICT (Technology based) Departments to IS (Service based) Departments.

IT Departments used to be responsible only for the Infrastructure that supports their business. These include the complex technology based components such as servers, networks, databases, applications, telephony etc.

In the modern paradigm, IS Departments are now also responsible for the service being delivered to the business. This is a *subtle*, but *significant* change.

All computer departments still need to manage the technical infrastructure. They still need low-level monitors to manage the critical components that are essential for ensuring the availability of the technical environment. However, in the context of a service driven organisation, these tools are diagnostic and not indicators of service.

***The move from infrastructure monitoring to service monitoring is quite a cultural shock for IT departments and therefore takes some explaining.***

What is it about the “service” that you want to monitor and measure? Is it the “availability” of the service? Perhaps it is the “quality” of the service. Maybe it is a combination of the two? Who defines what the “service” is? Can we differentiate the component of the service provided by the IS department from the service overall? Are there elements which make up the overall “service” that are not provided by the IS department?

***Let's start by just looking at the IS component.***

Consider a ‘simple’ transaction.

Let us suppose that the Council is responsible for the local theatre on-line booking system and we want to monitor the availability of this, seemingly straightforward service. Well,

behind the scenes, the “on-line booking” transaction will need to access and update the seat allocation system, confirm customer details from the CRM database, request payment details from a third party system across the internet and then tie all of this data together through the appropriate middleware, resulting in a confirmation email to be sent to the person booking the tickets. It now becomes clear that this supposedly simple transaction requires access to and communication between multiple servers and applications across internal and external networks.

***One view is that to monitor the availability of this service you need a complex array of infrastructure type monitoring tools.***

Based on this view, if we are to truly monitor the “availability” of a service it is necessary to map every element of the underlying technical infrastructure to this service, because without this, diagnosing a fault would be extremely difficult. **This is actually a daunting task.**

It is known as a “Bottom Up” approach to service availability, and the project to implement a total infrastructure map can take several man years of effort. The real problem, however, is that the service availability layer is the very last part of the project and so service reporting is a long way off.

Furthermore, does this technique help with monitoring the “quality” of service? Actually it doesn’t help at all!! If all the underlying infrastructure components that constitute the service are available, does this guarantee that the user is getting an acceptable response? ***Sadly, it does not.***

***Another view is that service availability information can be found within the Service Desk.***

Another trend is that Help Desks are becoming Service Desks. This is a change led by the move towards ITIL compliance. The question now is “Do Service Desks monitor service availability”? and if so, “can the Service Desk accurately produce the service availability reports”?

The problem here is that the Service Desk typically relies on the user to notify it that the service is unavailable!! As a result, the information contained within the service desk is subjective and therefore inaccurate.

Availability reports can be produced directly from the Service Desk, and these reports can be generated much quicker than by using a “Bottom Up” approach as described above. However the information is still unreliable as it is still largely based on the “manual” task of a user notifying the system when the service is unavailable.

***The only way to truly understand the quality of any service is to automate the user experience and to record when the quality of service, i.e. the transaction response times, exceeds a defined threshold.***

If you simulate the user experience, this will tell you immediately there is a break in the availability of the service.

This technique is known as a “Top Down” approach. It is actually straightforward to implement and accurate service reports can be delivered after just a few days of implementation.

If you need to report on service availability from the position of “availability” or “quality” (or a mixture of both), the simplest and most cost effective way to do this is by simulating the user experience and monitoring/reporting the results.

In the case of the email service, for example, users expect that their emails will be delivered in a timely fashion, and that incoming emails are forwarded to them promptly. In order to check the availability of the email service, the easiest way to do this is to send an email and record the time it takes to get a response.

***Service Level Agreements are often a mix of service availability and service response times.***

For example, if you go to a web site or Web Application and it takes 20 seconds to respond is it available?

The “technical” answer is yes, as the site is actually available. However, anyone using the “service” would have probably given up before the site has got around to responding!

This means that response times are a key metric when measuring service availability. We have all experienced the situation where a user complains to the Service Desk that the service appears to be running slow. More often than not the Service Desk will then contact the technicians responsible for the network, the servers, the application and the database to try to find someone to take ownership of the problem. Often with all saying that everything looks ok from their perspective.

Here we see another problem with “Bottom Up” monitoring. Unless you simulate the user experience, you are relying on the user to tell you when the service falls below the required standard.

## ***How do you simulate the user experience?***

Obviously this will depend on the service, but mostly this will be the result of automating the running of an on-line transaction, or a web query process.

In most cases the work carried out by the service user is routine, in that it follows a business process which can be easily automated with the use of sophisticated scripting and process mapping tools.

### ***Simulate the user experience!***

By simulating the user experience we can time the response, or even break down the whole transaction into components and time these. This enables us to include response times as part of the service availability process for reporting and alerting purposes. By automating pre-defined scripts to run at constant intervals, it is also possible to see the variance in response times during the day, and over the week, thus enabling trend information to be available for future planning of the service.

## **What is the Solution ?**

### ***The complete solution is a mixture of both “Top Down” and “Bottom Up” approaches.***

This links the alert for poor Service response times, through to the Infrastructure Monitors to determine root cause analysis of the problem. PTC Availability, is a software solution which gives you the best of both worlds. It enables you to build a complete top down, or bottom up solution from scratch or to supplement your existing bottom up solutions with an effective, affordable and easily implementable top down solution.

As mentioned earlier in this paper, the service may also depend on non-IT related components, for example, the service may require that a satisfaction survey is carried out and posted on the web site. Although this is a “manual” task, it could be considered a critical element of the overall service, with failure to complete causing a breach in the Service Level Agreement.

However, since this “manual” task is still routine, in that it follows a predictable business process, this too can be mapped using appropriate scripting tools and included in the “Service Model” as part of the Service Availability Reporting and alerting function.

# Service Availability Monitoring



*PTC Availability includes an array of scripting, process mapping and automation capabilities, plus management reporting features and comprehensive event management components that ensure alerts are raised as soon as service drops below defined levels.*

*There is also a visualisation layer providing configurable web based business dashboards, giving real-time targeted information to key service teams, management and the user community.*

*Furthermore, PTC Availability provides a common platform that can be rapidly harnessed by all levels of IT staff in meeting the ever-increasing service demands of today's organisation.*

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