



Profitable

Flexible

Reliable

Successful

Professional

Powerful

Date: 26th July 2006

Incident Date: 25th July 2006 08.00hrs – 11.00hrs

Neil Watson, Technical Support Manager, Entanet International Limited.

Introduction:

The purpose of this document is to inform and reassure all customers and partners affected by the outage at our Telford Headquarters on 25th July 2006. The document contains details of the problems experienced as well as the immediate resolution put into place and the longer term work that is currently planned to ensure that re-occurrences will not be possible as well as options currently being investigated to further increase resilience as a result of the failure.

Details of faults:

General Power Failure

At approximately 20.00hrs on 24th July 26, 2006, a 300A fuse (one out of three, on three-phase power) failed due to it being overloaded. The overload occurred due to the extra cooling power needed to cool the data centres, including the new 80-rack data centre.

Within 1 minute of the fuse blowing, our backup generator was brought into service, and full power was restored, with all services being successfully maintained on UPS in the handover to the generator, as expected. This situation was maintained for an extended period before further problems were encountered.

Generator Failure

At approximately 08.45hrs the generator ceased to function and power to all data centres and our HQ infrastructure was lost. For at least the next 15 minutes, all services operated again on UPS until they were totally depleted. The reason for the generator failure has now been attributed to a fault in the temperature gauge, which caused the generator motor to shut down as a precautionary measure. Whilst dire in its circumstances the shutdown of the generator did protect against catastrophic failure of the unit and any associated power surges which may have caused further and possibly extensive damage to both equipment and infrastructure.

The generator itself is rated to run continuously and in the past has functioned well without any problems. The generator is regularly maintained and efforts are to ensure that if necessary it could kick in to power the entire building, including the data centres, indefinitely. As such it would have been difficult to foresee or avoid such a failure.

The combination of both failures and the gradual draining of UPS systems led to a loss of power to equipment located within the data centres within the Telford premises.

Resolution:

Immediate

The use of the generator ensured that power was maintained for as long as possible throughout the early hours of the morning. It was expected that the generator would continue to perform as required until the relevant fuses could be replaced later in the day, thus providing continuous service to all clients. Once apparent that the generator was failing, we endeavoured to get 3rd party engineers on site to resolve any issues. Engineers were present within approximately 10 minutes of our call being placed, however they were unable to quickly rectify the generator issues. Work however continued on ensuring that a new fuse was sourced and installed as soon as viable.



Profitable



Flexible



Reliable



Successful



Professional



Powerful

.../cont

Longer term

Whilst power was restored to all services, it is appreciated that all action necessary should be taken to avoid any reoccurrence of such an issue. It has previously been identified that a power upgrade within the Telford HQ is required; this has been passed to our 3rd party suppliers for action, we are currently awaiting details of when such an upgrade can be performed. We will of course push for the soonest possible date. While 400A fuses will be enough, based on our growth and future power requirements, we hope to have 1,000A fuses in the medium future.

Due to the dire ramifications of power outages and the increasing power requirements in cooling that the unusually good weather has caused, we will be sincerely considering alternative backup options than the traditional ones that we have employed to date. One particularly attractive option that we have begun to investigate is to have two backup generators in place, one acting as a failover for the other (i.e. a 'n+1' backup scenario). This would be in addition to installing and future-proofing the power provisions into the building as discussed above.

Conclusion

Whilst we take this opportunity to apologise to all customers affected by the outage of 25th July 2006, we wish to assure you that we are taking all necessary steps to ensure that further occurrences are not possible. The combination of both power failures is a situation that is exceedingly difficult to predict and avoid, with the back up measures in place usually being suitable to cope with such failures. In this circumstance it was the failure of the back up power system that caused problems to be customer affecting, despite regular tests and maintenance being carried out.

Further to this however we are committed to putting further resilience in place and will ensure that all steps are taken to provide a highly reliable service, with a spare capacity for future growth.