

# [ Outage Report ]

## Problem Description

Data Centre Affected	Greenwich Server Room 1
Severity	Urgent - complete outage

At 00:33 we were alerted by our monitoring that site temperatures were increasing.

```
2012/02/04 00:33 WARN gmt-sw1 Temp WARNING: Chassis Temperature Sensor: 46 Grad C normal!  
2012/02/04 00:38 WARN gmt-sw2 Temp WARNING: Chassis Temperature Sensor: 45 Grad C normal!
```

At 00:55 these temperatures breached our thresholds and we immediately began receiving calls from customers who had also noticed the temperature increase on their equipment.

```
2012/02/04 00:55 CRIT gmt-sw1 Temp CRITICAL: Chassis Temperature Sensor: 50 Grad C normal!  
2012/02/04 00:55 CRIT gmt-sw2 Temp CRITICAL: Chassis Temperature Sensor: 50 Grad C normal!
```

The on call engineer began the emergency procedure by contacting Greenwich for an update and posting a notification on our NOC at [www.noc.c4l.co.uk](http://www.noc.c4l.co.uk). Further C4L support engineers then joined the on call system to help with the volume of calls.

Please see the following notifications posted on our NOC as events unfolded:

### Greenwich Issue Feb 4, 2012 @ 1:27

Greenwich are experiencing very high temperatures and it has been reported that a site evacuation has been performed. We have contacted and reported this to Greenwich who have escalated accordingly.

We will provide further updates as soon as Greenwich respond.

### Update 04/02/2012 - 02:17

We have received unconfirmed reports that there is an air conditioning concern in server room 1. Greenwich have called in all possible emergency contacts. There is no ETA regarding an official response but we shall do our best to provide updates as soon as we hear more.

### Update 04/02/2012 - 02:24

Greenwich have confirmed that there has been an air conditioning failure in server room 1. The site has been fully evacuated and the London Fire Brigade are on site. Greenwich haven't reported any outbreaks of fire, though have confirmed that temperatures are very high and some machines have powered themselves down.



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**Update 04/02/2012 - 02:46 (connectivity was lost at 02:21)**

We appear to have lost connectivity to Greenwich. We'll have pulled in as many contacts as possible to resolve. Greenwich have been informed to check all racks and power on as soon as possible. Please check here for updates.

```
Feb 04 02:21:54 <SysBot> [GS1] Krypton %OSPF-5-ADJCHG: Process 1, Nbr xxx.xxx.xxx.xxx on
Vlan1306 from FULL to DOWN, Neighbor Down: Dead timer expired
Feb 04 02:22:15 <SysBot> [THN] Phoenix %OSPF-5-ADJCHG: Process 1, Nbr xxx.xxx.xxx.xxx on
Vlan1308 from FULL to DOWN, Neighbor Down: Dead timer expired
```

**Update 04/02/2012 - 03:00**

Greenwich have isolated power to server room one. We are pushing for power to be restored but as of yet there is no ETA.

**Update 04/02/2012 - 03:14**

We have heard that air conditioning and electrical engineers are due to arrive in 15 minutes.

**Update 04/02/2012 - 03:20**

Greenwich have advised customers not to travel to site as this could impede works currently being carried out by Greenwich staff and third parties. We have been assigned a dedicated on site engineer and first priority to attend to each rack and power on any device that is off as soon as the all clear to enter has been given.

**Update 04/02/2012 - 03:25**

For the safety of all customers, please do not attend site until Greenwich advise otherwise. Greenwich are very aware of our concerns and shall respond to instructions we provide as soon as they are able to do so. We are handling a number of incoming calls and may not be able to respond immediately. We shall return each call, but if you could also log tickets at support.c4l.co.uk we shall provide updates as soon as possible.

**Update 04/02/2012 - 03:36**

Greenwich report that the air conditioning and electrical engineers are now on site.

**Update 04/02/2012 - 03:50**

Greenwich are planning to chill the room in around 25 minutes time. This process will last about 35 minutes after which our assigned dedicated engineer will attend each device in each rack and perform full power cycles.

**Update 04/02/2012 - 04:20**

Room temperature has now been reduced. Greenwich are now working on the restoration of power. We shall provide updates as soon as Greenwich respond.

**Update 04/02/2012 - 05:26**

Connectivity has been restored to our routing devices.

```
Feb 04 05:25:13 <SysBot> [GMT] gmt.sw2-4948 %OSPF-5-ADJCHG: Process 1, Nbr xxx.xxx.xxx.xxx on
Vlan1308 from LOADING to FULL, Loading Done
Feb 04 05:25:13 <SysBot> [THN] Phoenix %OSPF-5-ADJCHG: Process 1, Nbr xxx.xxx.xxx.xxx on
Vlan1308 from LOADING to FULL, Loading Done
```



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### Update 04/02/2012 - 05:34

Greenwich are in the process of checking each device to ensure power and connectivity. Please contact support.c4l.co.uk if you are still experiencing connectivity issues.

### Update 04/02/2012 - 06:08

Greenwich have released an interim Reason For Outage which will be sent to all affected customers.

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### Update 1

Date	04/02/2012
Time	06:08

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The following is a copy of the information we received from Greenwich immediately after power was restored.

At approximately 00:20am, an electrical failure in one of the air conditioning down flow units triggered the fire detection system in the BIS Greenwich Data Centre Server Hall 1. The fire alarm was activated to evacuate the room and the electronic power distribution units isolated power to the remaining down flow units in preparation for the argon fire suppressant gas release.

In response to the fire alarms, the BIS staff switched the fire suppression control panel to Manual to facilitate manual inspection of the server hall. Whilst no fire was confirmed by this inspection, temperatures began to rapidly increase over a period of 20 minutes and BIS engineers observed a significant number of IT devices going into thermal shutdown. The London Fire Brigade arrived and, following an initial inspection, instructed BIS engineers at site to isolate IT power to the server hall 1 at approximately 1.00am for safety reasons. Following the emergency power down, the Brigade completed a detailed inspection of the facility and, once it had been declared safe, it was handed it back to the BIS Operations Director, who was on site, at approximately 02:30am.

The air conditioning equipment was then inspected by electrical engineers to confirm it was safe to restart the AC plant. The air conditioning was restarted at approximately 3.15am. BIS engineering management and senior engineers began to arrive on site from 03:30am and isolated the cabinet PDUs ahead of restarting the main UPS. The temperature in the server hall steadily decreased until it was safe to restart the primary UPS at approximately 04:15am.

BIS engineers then proceeded to work through the facility, reinitialising power to each cabinet in turn to avoid damaging PDUs as a result of individual "in rush" start-up power. By 05:30am most colocation cabinets had been powered up and the BIS engineering teams are continuing to work to fully restore their managed service customer environments in response to the emergency shutdown.

A full report will follow in due course.

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### Update 2

Date	10/02/2012
Time	10:29

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We received the following report from Greenwich

Event: Greenwich Server Room 1  
Greenwich Server Room 1 Outage  
Date 4/2/2012 Time 00:18am to 6.00am

At 00:18am, the fire alarm system protecting BIS Greenwich Data Centre Server Hall 1 was activated by smoke being sensed in the room. This generated a 1st stage FIRE alarm, which in turn caused an evacuation of the room. The mechanical services power distribution boards (E-PDU`s) isolated power to the air conditioning down flow units in preparation for a possible argonite fire suppressant gas release which would occur upon 2nd stage fire alarm.

In response to the fire alarm, the security guard switched the fire suppression control panel to Manual to facilitate his visual inspection of the server hall. Whilst no fire was confirmed by this inspection, smoke could be smelled in the room.

Temperatures began to rapidly increase over a period of 20 minutes and BIS engineers en route to site were advised via remote alarm monitoring that a significant number of IT devices were going into thermal shutdown. The London Fire Brigade arrived and following an initial inspection, instructed BIS engineers to isolate all power to Server Hall 1 at approximately 2.15am for safety reasons. Following the emergency power down of the UPS`s and mechanical system power supplies, LFB completed a detailed inspection of the facility. Once the site had been declared safe, it was handed it back to the BIS Operations Director, who was on site, at approximately 02:30am.

The fire alarm system was then reset and the air conditioning equipment was inspected by maintenance engineers, who confirmed it was safe to restart the AC plant. The air conditioning was restarted at approximately 3.15am. BIS engineering management and senior engineers began to arrive on site from 03:30am and isolated the cabinet PDUs ahead of restarting the main UPS. The temperature in the server hall steadily decreased until it was safe to restart the primary UPS at approximately 04:15am.

BIS engineers then proceeded to work through the facility, reinitialising power to each cabinet in turn to avoid damaging PDUs as a result of individual "in rush" start-up power. By 05:30am most collocation cabinets had been powered up and the BIS engineering teams continued to work to fully restore their managed service customer environments in response to the emergency shutdown.

Support teams continued to work over the course of the following days to assist non-managed service customers with any devices which had failed to restart correctly.

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### Update 3

Date	10/02/2012
Time	11:52

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We are aware some customers were not contacted correctly during this outage. This is undergoing a review internally with the Technical Operations Manager. The customers who were not contacted correctly are being dealt with by account management teams however if there are any customers who feel they are not getting the answers they need please let us know immediately and we will assign the necessary team member to you.

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This issue is now considered resolved and we expect no further problems with this facility.



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C4L sincerely apologises for any disruption to services caused by this outage. If you have any further questions with regards to the outage report or the events surrounding it, please don't hesitate to contact us on **+44 (0)1202 299 799 option. 3**

**C4L Technical Team**



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