

Message

**From:** Lesley J Sewell [REDACTED] **GRO** [REDACTED]  
**on behalf of** Lesley J Sewell [REDACTED] **GRO** [REDACTED]  
**Sent:** 02/03/2012 16:10:28  
**To:** Dave Hulber [REDACTED] **GRO** [REDACTED]  
**Subject:** Fw: IMPORTANT - Horizon

We need to craft a board paper ASAP.

Thx

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**From:** Andrew P Jacques  
**Sent:** Friday, March 02, 2012 05:03 PM  
**To:** Lesley J Sewell  
**Cc:** Dave Hulbert; Liz J Tuddenham; Antonio Jamash  
**Subject:** IMPORTANT - Horizon

Hi Lesley,

As per your request, below is an outline of the incident types that have impact the network. We are still reviewing the commercial implication and this information will be available by Monday.

The four major incidents that have impacted the network over the last 7 months have all been independent of each other. But they can be grouped into two areas:

1. Hardware failure within the Fujitsu data centre – 12<sup>th</sup> December 2011 & 1<sup>st</sup> March 2012
2. Software releases into the live environment – 27<sup>th</sup> July 2011 & 1<sup>st</sup> February 2012

The hardware failures have been in two completely separate areas of the data centre on different pieces of equipment. With the first being a disk error and the incident on the 1<sup>st</sup> of March being a Cisco router failing to pass traffic through. The common theme on both issues was that inbuilt reliance of the equipment did not kick in and this produced the impact on the customer experience.

For the software releases, the first incident was due to a ref data change that was not adequately tested and impact the functionality of the pinpad estate. The second incident on the 27<sup>th</sup> July was due to a change that was tested against the horizon environment ok and then was laying in wait to be released. During the period the change was waiting to be released a new version of horizon software was deployed which impact the change when it was released in the environment.

A number of changes have either been put in place or are being investigated to mitigate the risks highlighted by these incidents. Such as more rigorous testing of ref data and evolution of the risk profile of changes and further changes to the monitoring and alerting is being performed or evaluated by Fujitsu in support of the Horizon environment.

A detailed explanation of each incident is provided below for reference

Regards

Andy

**Horizon Service Issue – Wednesday 27th July 2011**

### Overview of Service Issue

Transactions involving PIN Pads were unsuccessful starting from 08:00 on Wednesday 27th July 2011.

Investigations identified a problem with a scheduled overnight Reference Data distribution for PIN Pads. This resulted in the PIN Pads being unable to initialise.

To resolve the issue, Fujitsu identified the fault with the Reference Data. Following consultation with the architect and supporting teams, Fujitsu produced correcting data, tested and delivered an update to the PIN Pads.

Once the Post Masters rebooted their counters (resetting the PIN Pads), banking functionality was restored from approximately 14:30 on Wednesday the 27th of July. Normal banking transaction levels were seen from 15:15 onwards.

### Root Cause

1. A truncated data file as a result of a tooling issue used for the generation of the Reference Data to the live estate.
2. A failure to follow the defined deployment framework process. Validation and test phases were not followed by Post Office Ltd and Fujitsu employees working at BRA01. The normal process would have identified the erroneous data before release to the counter estate.

Alerting events which should have alerted Fujitsu to the issue were filtered by the monitoring system because they are generic and normally of no value (typically 0998 error).

### Improvement activities

Event management has been changed to notify monitoring teams should a large number of 0998 events be generated within a short period of time

A 2nd Pair of Eyes Policy introduced into the Fujitsu Reference Data Team validation process, to add further validation.

A new tool was generated to parse the file, confirm the format is correct and summarise the data contained. This tool will also be used to prevent RDT counter start-up in the event that a bad file is detected.

## **Horizon Service Issue – Monday 12th December 2011**

### Overview of Service Issue

A failure with a Network Persistent Store (NPS) server in the early afternoon of 12th December resulted in some online transactions failing between 12:54 and approximately 14:30.

Loss of banking transactions across the estate, initially impacting between 25% and 33% of transactions (depending on transaction type) gradually worsening between 13:45 and 14:00 then steadily returning to normal transaction volumes by 14:30.

Communications were issued to POL Clients, PO Branches and internal stakeholders throughout the incident. At 12:54 the NPS1 server experienced a system problem and closed. The system is designed to work in this way to safeguard data integrity.

### Root Cause

The initial cause of the incident was a failure in a disk subsystem associated to the Network Persistent Store (NPS).

Alerting on the disk subsystem is in place, and a proactive hot disk swap took place automatically as expected, however subsequent processes were locked and unable to complete transaction requests. This led to a build up of transaction queues and subsequent failures of the BAL services.

The database locks held by the Branch Database (BRDB) associated with NPS001 resulted in blocking within the OSRs and subsequent failure to process messages from branches.

### Resolution action

A PAN manager update has been redesigned to be more passive in it's response to any future failures. This will give the disk adequate time to swap before then switching the bladeframes onto the new disk.

ACE Blade pings received no response – an update has been delivered to the live estate to rectify this.

EMC alerting improved

GREV agents locking issues – A change has been raised to address this – this would reduce the impact to branches if this occurred in the future.

### Horizon Service Issue – Wednesday 1st February 2012

#### Overview of Service Issue

Between 08:00hrs and 11:15hrs on Wednesday 1st February all POCA transactions were unable to complete.

Additionally at 3009 Branches AP, E Top Up and a small number of banking transactions were undertaken that matched to an incorrect token ID. The affected volume represented less than 1% of the days AP transaction volumes.

POCA transactions commenced at 11.15hrs and at 12.00hrs transactions were higher than the monthly average. No other HNG-X Services were impacted.

#### Root Cause

The Live data centre migration to Release 5.5 took place on 29th January. However, the RDT platform was still in a pre Release 5.5 state hence, the data was never exposed to testing on a Release 5.5 platform until it went live.

### Resolution action

Fujitsu have added a check step to the token generation to validate that the first 6 characters of each token mask are numeric. If not, the process must raise an alert and terminate with an error.

Change the AP token mask generation function to use the data appropriate to the latest time for the effective date of the object rather than, at present, using the data that's effective at midnight

### Horizon Service Issue – Thursday 1st March 2012

#### Overview of Service Issue

Between 11:00 and 14:30 on Thursday 1st March at its worst 95% of branch transactions were unable to complete.

The incident manifested around 10:45 with branches experiencing transactions taking longer to process, eventually leading to branches experiencing the transactions timing out completely and then the users being booted from the system.

Actions taken to restore the service saw a return to normal transaction volumes by around 14:30. During the incident, Post Office Branches were able to utilise the Post Office Paystation for the majority of their bill payment and e Top up transactions. They were also able to make a payment to Post Office Card Account (POCA) customers of £20, or redirect POCA and banking customers to any available Post Office ATM's to complete banking transactions.

#### Root Cause

Fujitsu advised that a Cisco unit within the data centre environment began to stop passing transactions through the system.

The issue was made worse due to the hardware not reporting itself as faulty which impacted the ability for Fujitsu to diagnose the fault, Cisco the manufacturer of the faulty unit have been assisting Fujitsu in the investigations.

Resolution action

This is still under investigation, but overnight Fujitsu replaced the faulty unit to insure that the Post Office infrastructure was fully supported as we entered trading on Friday 2nd March.

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