

Australia's Painful Banking Outages

March 2012

February 9, 2012. The National Australia Bank's online banking services suddenly disappeared at 8:20 pm. NAB's eight-million customers nationwide were left without access to ATMs, Internet banking, telephone banking, and credit-card services. Bills could not be paid online. Customers could not withdraw cash from their accounts.

NAB reported that service had been returned to normal at 2:00 am, but the outage continued. At 12:30 pm the next day, the bank issued a statement confirming that it had suffered a total outage and could not predict when service would be restored. However, a short time later, at 2:20 pm, the bank's online services returned to normal. The bank's customers had been left without banking services, cash, and credit/debit card services for eighteen hours.

NAB online application



The NAB online application is currently unavailable.

Our online application is currently unavailable. Please try again later.

This outage continued a series of major outages at Australia's four largest banks over the last two years. The National Australia Bank (NAB), Commonwealth Bank, the Australia and New Zealand Bank (ANZ), and Westpac have all have had their shares of outages affecting ATMs, retailers' POS devices, and online banking. The outages have occurred as these historic banks engage in multi-year replacements of their aging core legacy systems, some dating back to the 1980s. Apparently, these systems have become quite fragile in their old age.

Let us look at the string of online banking failures and the response of Australia's financial regulatory authorities to the consequent loss of confidence by Australians in their rickety banking system.

National Australia Bank

November, 2010

In addition to its retail, corporate, and other banking services, NAB clears payments for many other banks in Australia, including Commonwealth Bank, Westpac, ANZ, HSBC, Citibank, and Bank of Queensland. To perform this responsibility, NAB conducts nightly batch runs on behalf of its partner banks. A transaction-history file showing all payment activity for each bank is generated and is sent to that bank by the end of day.

Early on the morning of Wednesday, November 24, 2010, NAB's partner banks went on high alert when they did not receive their transaction files.¹ Without these files, the banks had no record of the previous day's transactions that affected their customer accounts. Payroll deposits could not be made. Credit-card

¹ National Australia Bank's Customers Down for Days, *Availability Digest*, December 2010.
http://www.availabilitydigest.com/public_articles/0512/national_australian_bank.pdf

payments were frozen. Direct debits for bill paying went into limbo. Interbank payments ceased. The NAB ATMs were down, as were its online banking services. Retailer point-of-sale terminals managed by NAB were useless. Centrelink welfare payments could not be made to the neediest families in the country.

It was reported that someone from NAB's IT department inadvertently uploaded an erroneous file that "corrupted" the system. The conjecture is that the file contained the instructions for managing the batch-processing cycle. It apparently caused many transactions to be duplicated and the batch run to fail.

The problem did not last for hours. It lasted for days as customer accounts were reconciled. Some problems carried over almost two weeks after the incident.

Following this disaster, NAB outsourced some of its data-center operations to IBM. Did that make things better? Ask Westpac. Its unfortunate experience with an IBM-provided data center is described later.

January, 2011

A glitch in NAB's secure login system took down telephone banking at 9 am on January 31, 2011. Fortunately, security was not breached; and telephone banking was restored seven hours later.

April, 2011

Déjà vu. Just five months after its November, 2010, batch processing meltdown, NAB suffered a similar outage. A problem in its overnight batch settlement system caused transaction files not to be delivered to its partner banks. The problem took several hours to fix. Days passed before the bank could catch up on the resulting backlog and reconcile its customer accounts.

NAB's Next Generation IT Platform

To upgrade its aging infrastructure, NAB has embarked on a multiyear upgrade of its systems. The Next Generation IT Platform (NGP) will replace many of the bank's legacy systems in the near future.

In October, 2011, NAB's CEO, Cameron Clyne, reassured NAB's shareholders that the benefits of NGP were coming. Network transformation had been completed, and effort was ongoing on the infrastructure layer. Outage incidents in retail networks and business banking had dropped by over 50%.

Then came February 9th. As described previously, NAB lost its online banking services for eighteen hours. Clearly, the NGP program has a ways to go.

Westpac

March, 2011 - Twice

Westpac has fared no better than NAB when it comes to Internet outages. On March 3, 2011, some customers woke up to find that they could not log on to Westpac's online banking services. The problems were intermittent and seemed to move from customer to customer. Affected customers could not transfer funds, use their credit cards, or get cash from some ATMs. To the surprise of many customers, ATMs that did work delivered more cash than what was in their account, leading to the arrest of two men.

The problem was evidently due to server overload. Westpac reported that its servers were running at 80% of capacity during this time. Presumably, random customer attempts to use its online services were timing out.

Then, just two weeks later, on March 15, 2011, Westpac suffered another outage. None of its customers could log on to its online banking services. Online banking was down for an hour before services were restored.

May, 2011

Data centers can go down for many reasons, from environmental problems to destructive events. On the morning of May 3, 2011, Westpac suffered a major data-center loss due to the former. One of the data center's air conditioning units failed, and apparently there was not enough spare capacity to carry the data center.

Servers had to be shut down as temperatures rose in the data center, causing a prolonged outage of the bank's online banking services and affecting all of its twelve-million customers. ATMs, credit/debit card use, and online banking services disappeared.

ATMs and card services were down for several hours until they were restored by late morning. Online banking took additional time to restore.

Westpac had outsourced its data center to IBM. Questions arose as to why IBM had not provided sufficient cooling capacity in the data center to protect against the failure of an air conditioning unit.

February, 2012

On February 21, 2012, Westpac was once again hit by a severe outage of its online services. Customers could not get cash from ATMs and in some cases not even from the bank's branches. Services were down for several hours.

The bank explained that it was in the process of upgrading its IT infrastructure and that the problem was due to a "home page" issue. Ironically, the bank had just reported record profits while customers were experiencing several IT-related problems.

Commonwealth Bank

December, 2010

On December 14, 2010, Commonwealth Bank customers experienced intermittent outages in their online banking and ATM transactions. Commonwealth stated that the problems were due to an "overdue running of a computer file." It was those customer accounts that required data from the late running file that had difficulty accessing cash through ATMs or transferring funds via online banking.

March, 2011

Again, Commonwealth Bank customers found on March 1, 2011, that they could not transfer funds or pay bills online. Retail POS machines were affected, and scheduled payments were delayed.

However, this time, cash from the bank's ATMs was plentiful – too plentiful for some. The technical problem forced Commonwealth to take its ATMs offline. Its ATMs could still dispense cash, logging the transactions locally in the ATM. Since there was no check of a customer's account balance, customers found that they could withdraw any amount by simply visiting several of the bank's ATMs. Word of this bonanza quickly spread, and there were reports of people queuing up at the bank's ATMs to take advantage of the situation.

Once service was restored and the ATM logs processed, the bank realized that some customers had systematically and deliberately set out to withdraw money that wasn't theirs. It froze or closed the accounts of those customers, including many on welfare, and threatened legal action to recover the "stolen" funds.

June, 2011

Commonwealth again lost its Internet banking on June 16, 2011, for most of the afternoon. Customers were unable to complete bill payments, transfer funds, and initiate international money orders. However, telephone banking remained operational, as did the bank's mobile web site.

Australia and New Zealand Bank (ANZ)

This is getting to be "same old, same old." We'll be briefer.

June, 2010 – twice

On June 16, 2010, both Internet banking and telephone banking were interrupted due to a disk error.



Once again, ANZ left 1.8 million customers without banking services on June 22, 2010. EFTPOS and online banking were down for two hours. Only limited cash withdrawals could be made from the bank's ATMs.

August, 2010

ANZ's third failure in as many months occurred on August 24, 2010. Credit/debit cards could not be used at retail stores for a period of three hours. However, ATMs and the bank's branches continued in operation.

May, 2011

Online services were unavailable for over an hour during the middle of the day. Restoration of services required the rebooting of servers.

Australia's Regulatory Response

The ongoing series of online outages at Australia's banks have finally elicited a strong response from Australia's financial regulatory agencies.

Reserve Bank of Australia

Australia's central bank, the Reserve Bank of Australia (RBA), is cracking down on the operational disruptions of the country's leading banks over the last two years as they undergo multi-year IT transformation projects to replace their aging legacy core banking platforms.

RBA has warned the banks that they will face tougher rules for reporting outages in their retail payments systems, and it is formalizing the requirements for reporting such incidents. It may also insist on additional measures such as investigations into the organization of the bank's retail operations. RBA states that it is particularly interested in uncovering sources of vulnerability in the banks' retail operational processes.

Australian Prudential Regulation Authority

Australia's finance industry regulator, the Australian Prudential Regulation Authority (APRA), has expressed its lack of tolerance for service outages of Australia's banks due to neglected legacy systems.

It understands that it is necessary for the banks to continue to replace aging systems; but APRA will not accept outages due to institutions running outdated, unsupported operating systems, hardware, or software. Nor will it stand for outages caused by running critical systems with single points of failure or by losing critical skills. It warned against cutting IT budgets.

Summary

In today's high-technology world, there is an expectation of high availability and high resilience for critical services such as banking. Institutions today cannot cover up IT failures. There is no place to hide from Twitter and Facebook.

Jorn Bettin, an analyst with Intelligent Business Resource Services, a company providing research and advice to Australian IT managers and business managers, suggests that Australian bank customers for the next decade can expect regular outages of key banking systems. Banks will continue to struggle with system outages as they work to replace their aging, thirty-year old legacy banking systems.

Newer financial institutions will have an edge over the historic banks because they are starting with modern systems. For instance, Tyro Payments, Australia's only independent provider of EFTPOS merchant services, has a record of 100% availability.

Richard Buckle, an industry analyst with his roots in Australia, summed up the situation in a recent blog in which he said that "...nowhere have I seen disruptions arriving on such a regular basis as they are in Australia, and I just have to put it down to extremely poor execution. ... Computer systems are robust and networks are reliable – but as for the current crop of CIOs, you just have to wonder."²

Acknowledgements

In addition to the references previously made, material for this article was taken from the following sources:

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