ATM Refresh
Embedding QA,
Improving Quality & Reducing Costs
Or
How to reinvent your BASE24 lifecycle
and save £millions

EBUG
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• The current system
  • Bespoke, host-based application providing ATM acquiring, debit card authorisation and connectivity to national debit switch (LINK)
  • Bespoke, proprietary ATM application for transaction processing and alerting running on Windows/NT
  • SNA Communications
  • No direct connections to VISA or Mastercard
  • IBM crypto-processors

• The new system
  • BASE24-atm, Release 6 Version 9 on HP NonStop Blades
  • Wincor Nixdorf ProCash/NDC ATM Application for transaction processing running on Windows/XP
  • Wincor Nixdorf ProView for ATM monitoring
  • Wincor Nixdorf Platform Security Agent for ATM lockdown
  • IP Communications throughout
  • Thales HSMS
  • VISA EU and BankNet connectivity
  • New PC Cores inside ATMS, along with some EPP upgrades
  • New debit card host application
  • Wincor Nixdorf ProView Analysis for ATM Channel Business Intelligence
The Public Face Of ATM Failure

This cash machine is currently out of order.

This cash machine is not working.

Please accept our apologies for any inconvenience caused.

Please note that the bars at Rock's 230 and 247 and Cafe 849 and 94 accept debit and credit cards.
Customers cash in on 'double your money' ATM

Hundreds of people flocked to a faulty Payzone ATM in the UK city of Hull last week after it started dispensing twice the amount of cash keyed in for withdrawals.

RBS ATM dishes out 'free' cash

Residents of the English market town of Chorley flocked to a Royal Bank of Scotland (RBS) ATM last week after word spread that the unit was dispensing double the amount of cash requested.

Nationwide admits ATM blunder

Nationwide Building Society has been forced to apologise to thousands of customers after a technical glitch led to accounts not being debited when cash was withdrawn from some ATMs in Northern Ireland.

Danske glitch wipes out Northern Bank, National Irish and Sampo ATMs

Danske Bank says a glitch with its IBM-managed payments network resulted in customers of its subsidiaries in three countries being unable to use their cards to withdraw money from cash machines.
Come common assertions:
- BASE24 is difficult to modify and therefore expensive to change and maintain
- The underlying technology, TAL, COBOL, Source Code Release, is what makes it expensive.
- The only way to manage the cost of change in BASE24 is not to implement change

My view:
- The cost of buying software is small compared to the cost of testing, deploying, supporting and maintaining software
- The technology is largely irrelevant in the cost of change – it is the application lifecycle that matters. Most money is spent on synchronising the activities of multiple workstreams and then repeating work in integration when system components change
- The best way to manage the cost of change, and reduce it, is to plan for constant change.

An explanation:
- Software pricing is elastic – it responds to market pressures
- Human behaviour is the biggest driver in the cost of systems maintenance – what they do and when they do it (even more important than where they do it)
- Everything gets better with practice!
Previous Manual Testing Regime

800 test Scripts

23 Man-days to execute…..

….. AT LEAST

... none of which address Windows/XP environment failures from the earlier slide

000s not 00s
What was our test philosophy?

- Accept the scale of the problem!
- Adopt a full Multi-Level Fixer approach to fix and CSM software management
- Embed QA throughout the life cycle – not just at the end
- Virtualise ATM hardware so that the response of the software to hardware failures can be tested exhaustively.
- Provide integrated simulation of all external authoriser entities, such as VISA.
- Automate testing execution, verification and recording, allowing up to 1500 test transactions per Virtual ATM per day. Use multiple Virtual ATMs to generate coverage.
- Focus specialist resources on defect resolution and change management instead of on repetitive test execution
- Start executing the complete test pack immediately on the core product offerings from key suppliers (ACI and Wincor Nixdorf).
- Introduce customisations and new components such as Host Systems gradually as they become available, re-executing the whole pack each time, creating multiple integration testing cycles.
- Simulate the card schemes, Host Systems etc - taking advantage of the rapid testing ability to continually re-execute the whole test pack.
- Accelerate deliverables into integration testing as the impact of a new change can be exhaustively tested against the previously stable base.
- Provide predictability in testing end dates as:
  - the execution of the complete test pack each time finds defects earlier and highlights trends in “new defect rates”
  - Delays in the availability of a component for testing don’t delay the whole integration phase
- All CSMs and local patches produced as MFIX files.
- All standard product fixes applied regularly, frequently and in sequence using MFIX.
- CSMS and local patches reapplied after each fix application and a complete regression test executed.
- 4500 Transaction Test Scenarios in regression suite so far, which are executed in a 12 hour time window
  - This pack includes automation of the execution of VISA, Mastercard and LINK certification testing which is required for go-live, and twice yearly thereafter as part of attestation.
- 1000+ hardware device failure tests for testing the alerting system and the external Wincor Nixdorf helpdesk.
- “Smoke test” of ~360 V-ATM and ~50 LINK and ~50 VISA acquired transactions executed every night, overnight, to identify hidden impacts of introducing changes or defect corrections (run takes about 2 hours compared to 63 man hours of effort to do the same tests manually).
- Execution of the transaction test scenarios also automatically executes and validates ~ 4000 screen validation tests
  - Validates all screen flows for all 4 supported languages
  - this pack can be run explicitly too, for approval by the Business in UAT.
• Simulated ATM hardware on desk top
• Drives REAL ATM software in virtual ATM
• Transactions processed by BASE24
• Alerts processed by ProView
• VISA, LINK, Mastercard, Barclaycard, Cards simulated by VersaTest or real systems when available, for issuer and acquirer traffic

All simulators programmatically compare results and record outcomes in HP Quality Centre which is the Bank’s strategic tool for test management

• All of our tools vendors are in the exhibition area
How can we exploit this investment?

- This environment will permit the **rapid** but **complete** re-test of the system in BAU, resulting in a faster Time To Market for new changes, while reducing risk compared to the current model.
- The simulated ATM can be configured to behave like any ATM supplier’s hardware and therefore demonstrate the multi-vendor capability of any application to be deployed by the Bank.
- This environment can be extended beyond the UK ATM network to any self-service or transaction processing system in the group worldwide, increasing the ROI of the original project.
- Reconfiguring the VersaTest system allowed the Bank to complete a BASE24 stress test on the HP NonStop Blades, providing full confidence in the deployment of the first BASE24 NonStop Blade deployment to go live in EMEA.
- The BRIDGE:Test tool is also being used for developing training material for branch staff for new procedures and for UAT Testing by business users in the Branch network.
Questions?
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Barclays ATMR Testing Partners
VersaTest Issuer Simulator

BRIDGE:Test ATM Test Tool

And test automation experts

And test automation experts

Atm Domain Testing Skills