



WELCOME

“Providing SAS with a voice”

Presented by: Mr Pankaj Mistry

Organisation: Barclays Group PLC

Area: Credit Risk Management

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Barclays plc. Investor Relations. Company Information: Barclays Worldwide - Microsoft Internet Explorer

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Address http://www.investor.barclays.co.uk/company/barclays_worldwide.html Go

Company Information

- ▶ Overview/Key Facts
- ▶ Executive Team
- ▼ Barclays Worldwide
- ▶ Credit Ratings
- ▶ Reviews
- ▶ Events Diary
- ▶ Useful Links

▼ Barclays Worldwide

Barclays operates in many countries around the world and is one of the leading providers of co-ordinated global services to multinational corporations and financial institutions.



Barclays operates in the following countries:

4 Hierarchical Menu Trees Created Local intranet

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THE ORGANISATION ...

- Major UK based Financial Services Group
- Employs 75,000+ People
- Largest UK Internet Bank:
 - Over 2 million registered customers
- Year 2000 Financial Highlights:
 - Pre-tax Profit £3.49 billion
 - Shareholders Funds £13.2 billion
 - Total Assets £316.1 billion

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RETAIL FINANCIAL SERVICES... .

- RFS - key component of the Barclays Group
- Objective - deliver value to shareholders by placing the customer at the centre of all activity
- Serves 17 million personal and small business customers
- Woolwich Mortgage Bank - recent acquisition by Barclays
- Barclays - 4th largest UK mortgage lender

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CREDIT RISK MANAGEMENT...

- Optimisation of Asset Quality
- Portfolio under management
£50 billion of secured lending
- Complex Lending Expertise
- Policy Management
- Statistical Analysis / Modelling
- Data Warehousing
- Business Technology Solutions

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THE CHALLENGE...

- Exploit the valuable information in the Credit Risk Data Warehouse
- Leverage customer knowledge by extending data access to the Retail Sales Force.
- This valuable information are the Pre-approved Mortgage Limits (Paml) for circ 3.5 million customers
- Information has to be supplied at the point of customer contact as it will be used in the Sales process to Guarantee Lending

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THE REALITY BITE... .

- Low cost - speedy solution required
- Sales are screaming for tools to help reach mortgage targets
- Long lead time to develop legacy systems
- PCs do not exist in all locations
- Cannot wait for the Group's IP Infrastructure and thin client application strategy - business need is now!
- "MARTINI ACCESS" is essential

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THE SOLUTION ...

- Development of a new application:
“PAML-IVR”
 - Pre-approved Mortgage Limit
Interactive Voice Response
- This solution provides a telephone
based access to the Pre-approved
Mortgage Limits data domiciled in the
SAS Credit Risk Data Warehouse
- This included mobile phones



THE APPROACH...

- New development - not been tried before
- Prototype developed first to prove the concept
- A new Partnership



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THE PROTOTYPE... .

- Development commenced July 2000
- 30 man-days of development
- 10 man-days consumed by Barclays Team
- Prototype Development costs £90,000
- Telephony Equipment - rented
- Live date 22nd September 2000
- 25 users initially - duration 90 days



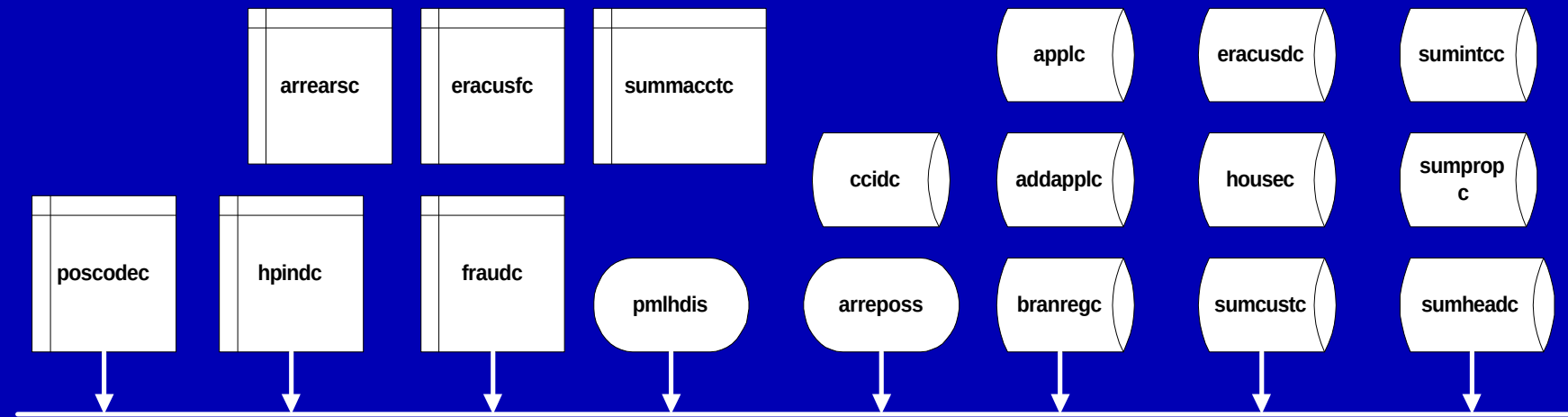
THE TECHNICAL BIT...

The system consists of the following main components:

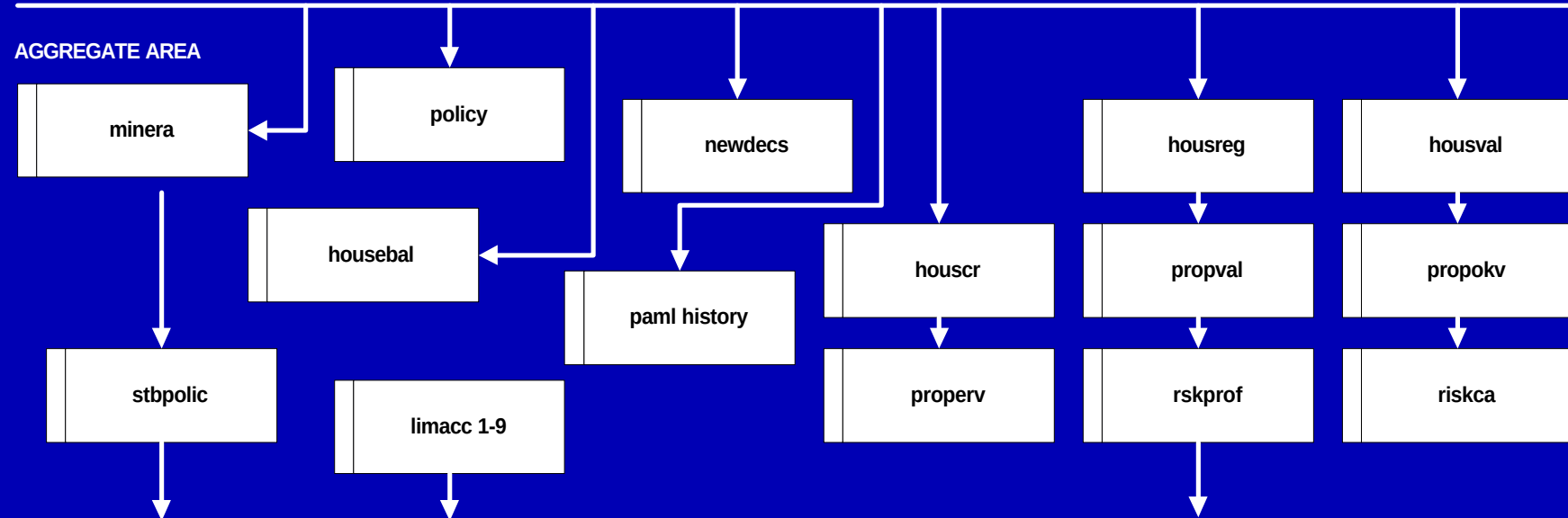
- Telephone lines and hub
- The IVR server and software
- The Telephone Scripting
- The Security Application
- The Data server and software
- The Interface program

DATA MARTS

ENTERPRISE AREA



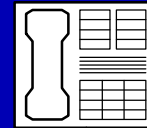
AGGREGATE AREA



PAML-IVR Process Flow (Technical)

**Branch Network -
Sales Force**

Communication method:
standard BT land line or
Mobile phone



Mortgage Seller

30 dedicated telephone lines

**'IVOR' UNIX Server
(Telephony)**

30 Reserved Ports (E1 card)

PERIPHONICS Instant Voice Recognition (IVR) software
(30 copies of the software running - 1 per port)

Audit file recording the various stages of the end to end process

Text file

C program (used as an emulator IVR to SAS)

Reserved Port 6666

Communication
method:
TCP/IP

SQL call in C passed to 'Florida' with parameters for the where clause

**'FLORIDA' NT
Server (Data)**

3 dedicated NT share services (using SAS Share module listening for Comms)

Base SAS 8e & SAS Share software
Tables (SAS data sets):

IVR1

IVR2

IVR3

Communication
method:
TCP/IP

'Florida' tables are refreshed with the latest 'Sheila' tables on a monthly basis

**'SHEILA'
(Live Data)**

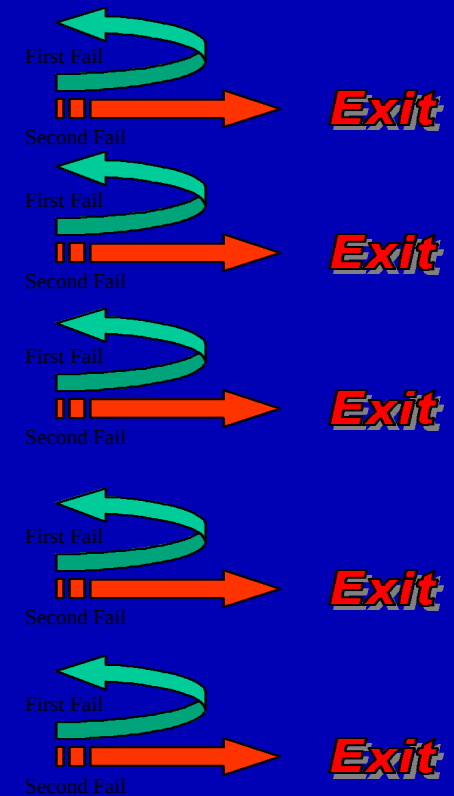
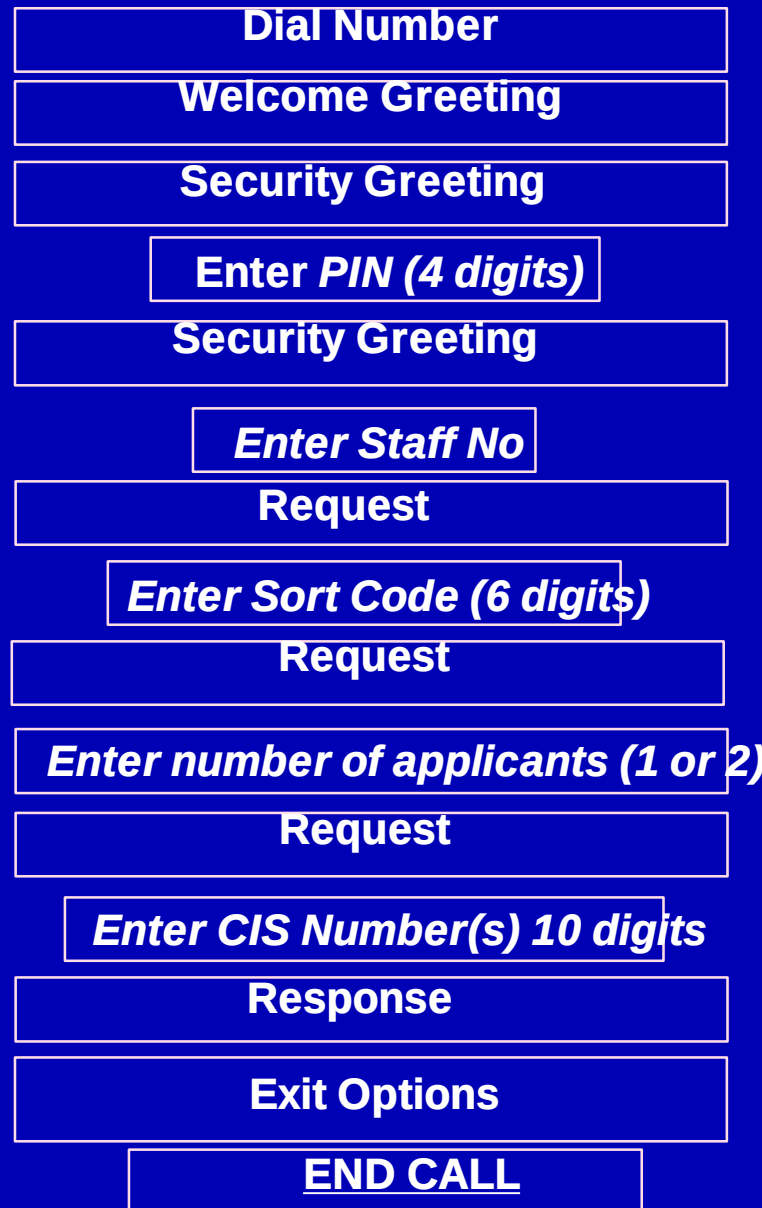
Various SAS modules (Base 6.12)
Tables (SAS data sets):

IVR1

IVR2

IVR3

PAML-IVR CALL FLOW CHART





THE INTERFACE... .

- **This is the technical convergence that was never done before.**
 - Nortel developed a new component, a SQL library with SAS.
 - This component allowed the interface to instruct the SAS data server to retrieve queries.
 - These queries contained the data which was translated by the interface for the IVR server
 - The IVR server transmitted the results down the telephone in voice form

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PROTOTYPE OUTCOME...

- System robust - downtime minimal
- Service 24x6
- Increased Sales identified purely due to the availability of this application to the value of £1 million in 6 weeks
- Customer feedback on experience was positive
- Time savings identified by Sales staff of 15-30 minutes
- Staff insisted that the application is not turned off after prototype period ends
- All costs recovered by November 2000

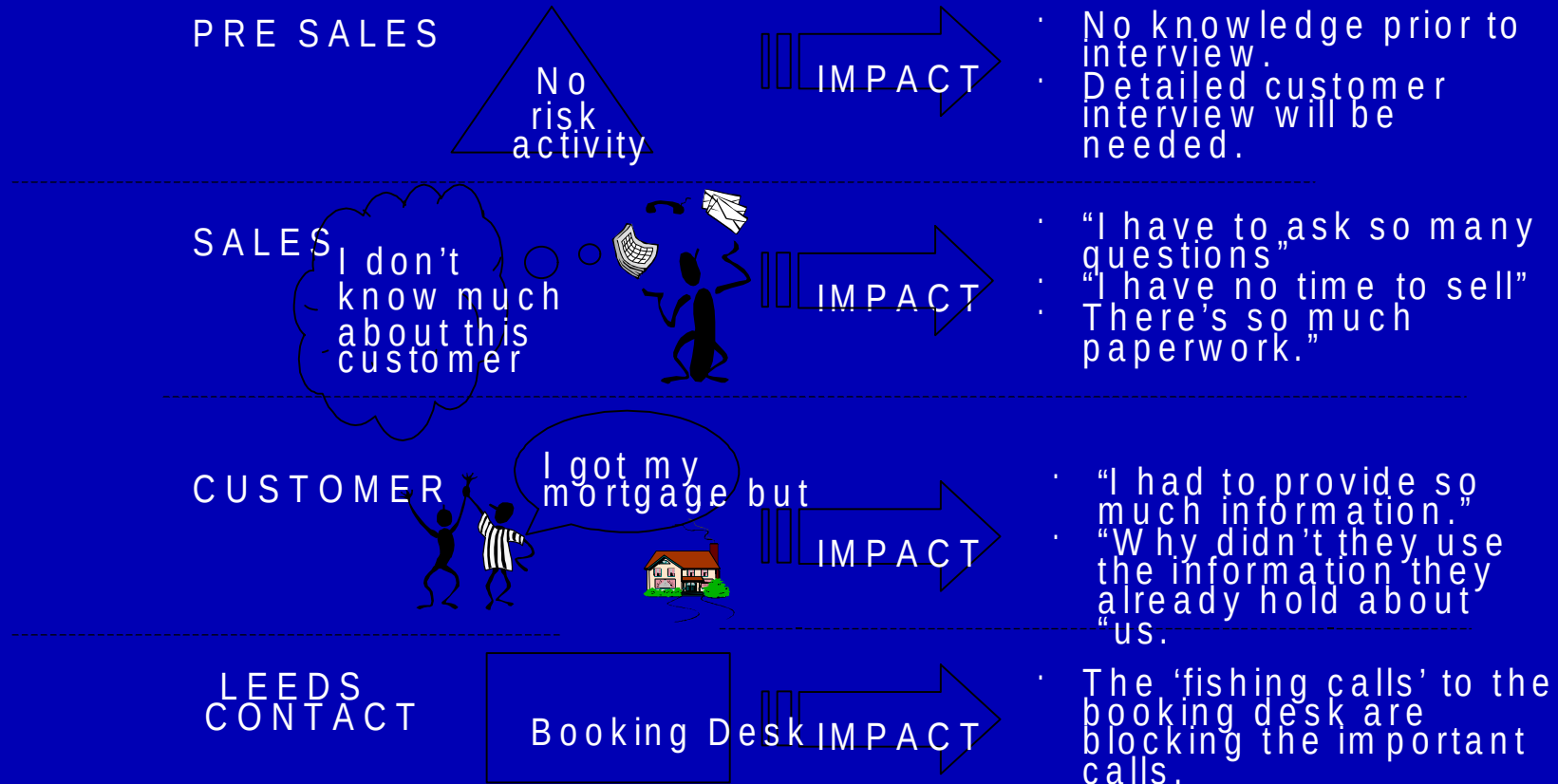


THE NATIONAL SYSTEM ...

- **Project IVoR**

- Additional £160K required to productionise system
- Business case sanctioned on 21st November 2000
- Subsequent Maintenance & Renewals £140K
- Roll-out to 4000 users in the UK
- Projected Break Even in Year 2002

Business Model - Pre P A M L - I V R



PAML - IVR Limit Delivery System Business Model

PRE SALES



Provision of PAML
24 hours a day
6 days a week.



- A new sales tool providing customer information
- Ability to provide PAML to sales.
- A standalone system

SALES



I can give an
immediate
lending
decision



- “I now know the customers limit”
- “I can sell more”
- Much less paperwork

CUSTOMER



What fantastic
service
No paperwork



- “I received an immediate decision”.
- “I was treated as a person”
- “I don’t need to provide evidence”

LEEDS CONTACT CENTRE

Automated
provision of



- Less calls to the Booking Desk..
- Ability to impact the E2E process.



THE BUSINESS IMPACT...

- Roll-out to UK locations commenced 15th January 2001
- By February 2001
 - 2,145 registered users / 29,500 calls
 - 21,951 unique customer records accessed for PAML limits valued at £1.5 billion
- Application rate increased by 5% to 45%, value £567 million
- £70 million of pure sales have been attributed to the introduction of this application as at April 2001 - *source Mortgage Sales Staff*

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TO SUMMARISE...

- Resounding Success!
- Prototype to Production System in 2 months.
- Both Prototype and National System re-couped expenditure in 6 months.
- All feedback positive
- Plans to extend access to Woolwich Network staff and Intermediaries.
- Devising new usage for this application

THANK YOU