GMC Interface Build
Business Requirements / Functional Specification
Coates Coin and Bank of Anybank Interface

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1 Introduction

1.1. Document Purpose

The purpose of this document is to:

i) Clearly state the business requirements of the system interface

ii) Provide an unambiguous description of how the interface will meet the business requirements and should be understood by both Business Owners and Group Technology technicians alike. As such it represents the logical design of the interface.

The scope of the document is purely the Interface and does not include any other functional gaps unless explicitly stated. The document does not cover the Lynx User Interface design nor does it cover the design of any back end BOAG systems (for example APS, AEPD) unless this functionality is required to change as part of the new interface.

1.2. Sign-Off and Review

This document will be circulated for review and sign off by the business (Lending Operations), they will take responsibility for ensuring sign off by the relevant areas including the required brands. The document will also require sign off by the relevant technology areas including the brands as appropriate. In addition this will be sent to all other Technology GMC work streams and to Lynx for review.

2 Business Model

2.1 Business Purpose

The business purpose of the Group Mortgage Capability (GMC) programme is to deliver a single multi-bank, multi-brand mortgage application platform to be used by all brands within the BOA Group that sell mortgages. Lynx have been selected as the provider for the generic mortgage application to meet this by provision of the Lynx SUMMIT package.
This specification details the business and functional requirements for interfaces between the Lynx package and other systems and indicates where development is required by BOAG and Coates Application Development.

2.2 Business Process Model

Coates are intending to adopt the BOA/Go West Operational model for mortgage administration. Additionally they are retaining their interface to Coates Online Integrated Network (COIN) which feed other downstream systems and their interface to STB, a statutory and regulatory reporting system (see 3.1.2 Application Model diagram for an overview).

The BACS Interface will be covered in another document when requirements for payments for all brands have been defined and agreed by lending operations.

The front-end systems being provided for Coates are covered in separate Business Requirements/Functional Design documents, which are produced for all brands in scope.

3 Business and Functional Requirements

3.1 Interfaces to be replicated

Coates currently use a Lynx supplied mortgage system which is being replaced by the BOAG Mortgage Capability standard mortgage system, Lynx Interact at the front-end and Lynx SUMMIT at the back-end.

From the current Lynx mortgage system there are two interfaces, which are to be replicated as follows :-

1. Lynx/COIN interface - Transfer of files, which contain Mortgage Account Details, Interest rate details, product details and fees charged.
2. Bank of Anybank Interface – Transfer of a file from Lynx to STB via Coin containing impending loan details.

The main objective is to replicate the existing interfaces so as to minimise the impact on the COIN system and downstream systems when the new mortgage system is implemented.

3.1.1 Business Requirements

3.1.1.1 Functional Requirements

Reqt. Ref Number	Requirement Description
3.1.1.1	**Replicate existing Lynx/COIN Interface** Currently the following 14 files are extracted from the existing Lynx mortgage system and loaded onto the COIN system. **File Name** — **Description** ACF04.SQ — Account Transactions making up a single payment ACF94.SQ — Mortgage Master File ACF95.SQ — Mortgage Accounts by Mortgage Inversion File ACM01.SQ — Mortgage Accounts ACM02.SQ — Product Master File ACM03.SQ — Product Tier Structure ACM06.SQ — Payment Link ACM29.SQ — Repayment Calculation Profile ACT01.SQ — Application Master File ACT10.SQ — Expected Receipts – Detail ACT13.SQ — Mortgage Account Transaction File ACW32.SQ — Account details at Required Date MAM26.SQ — Fee Codes File MAT15.SQ — Fees Charged Against Application File A replicate interface is required to extract the equivalent mortgage details from the Group Mortgage Capability (GMC) Lynx SUMMIT system and produce identical files, in terms of field layout and content, to that produced by the existing interface. During the transition period, these new files, containing new mortgage details, will be merged with the existing files, containing back-book mortgage details, and loaded onto the COIN system i.e assuming that the files can be replicated exactly. For file layouts, see document \\ridubbldfd01\ADFODB\General Teams\Mortgage Platform And Operations\Commence\Current Systems Analysis\Documents for Issue\Coates Current systems analysis V1.2.doc

	For application transition considerations - see section 3.1.3.
3.1.1.2	**Replicate Lynx/Coin/STB Interface** Currently, there is a daily feed of a single file, CTS01, from the Lynx system to the Coates STB system via COIN. This file contains details of impending loan details i.e applications where a mortgage offer has been submitted to a client, but the funds have not yet been advanced. The COIN system makes minor changes to the file and it is then transferred to the STB system where regulatory reports are produced for the Bank of Anybank. A replicate interface is required from the Lynx SUMMIT system to STB. The minor changes made to the file currently done by COIN ('+' sign added to the field CTS01UAMT, field CTS01.STAGE removed, and the population of the date fields CTS01.MDATE and CTS01.SDATE with zeros if they are blank) should be done as part of the conversion of the file into the STB format when the data is extracted from the Lynx SUMMIT database. For file layouts, see document \\ridubbldfd01\ADFODB\General Teams\Mortgage Platform And Operations\Commence\Current Systems Analysis\Documents for Issue\Coates Current systems analysis V1.2.doc For application transition considerations - see section 3.1.3.
3.1.1.3	**Reporting** There are no control reports required. See 3.1.1.7 – Controls and Security.

3.1.1.2 Non Functional Requirements

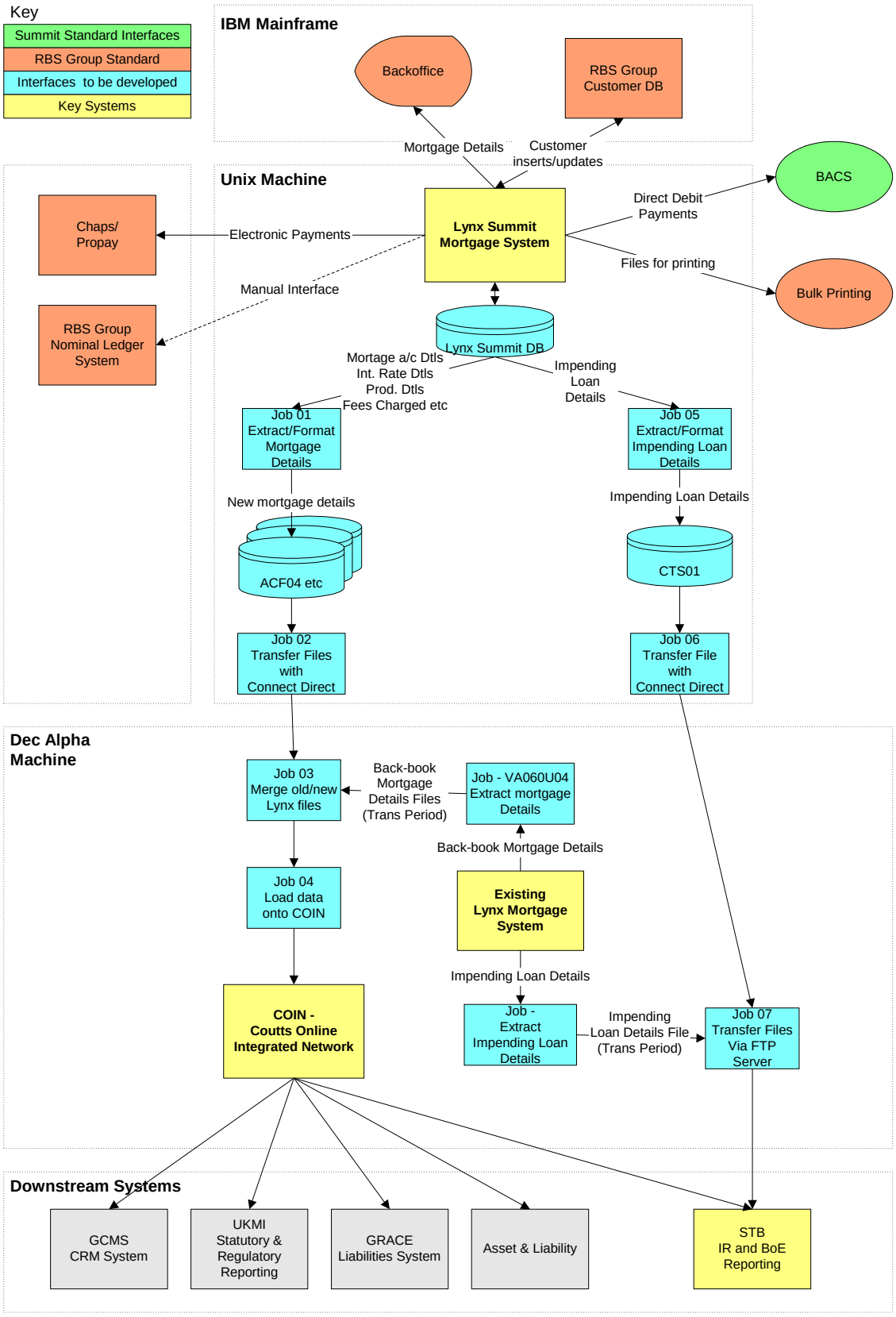
Reqt. Ref Number	Requirement Description
3.1.1.4	**Availability** Lynx/COIN Interface Currently existing Lynx system is available until 20:00, at which time the pre-batch backup is taken, which takes approximately 20 minutes. The jobs VA060U04 and VAC60U03 are the first two jobs run in the existing Lynx system overnight batch processing which between them extract all 14 files listed in requirement 3.1.1.1 above. The approximate run times for these jobs are :- **Job ID** **Approximate Run Time** VA060U04 1 hour 20 minutes VAC60U03 20 minutes Based on the above information, the existing Lynx mortgage system files are available to the COIN system at 22:00 each night. The first COIN job to use the data loaded from the files start at 23:00 approx. This deadline will also apply to the replicate interface. Bank of Anybank Interface The job CT150U01 is used to create the file CST01 on a daily basis and is the last mortgage job to run in the batch schedule. The completion time of the job can vary

	as it is dependent on the completion of the previous 10 jobs in the batch schedule. The runtime of the job is less than 30 seconds. However, the Lynx batch process currently completes by 22:00 each evening, therefore, it can be assumed that the file is available from the Lynx system for further processing by 22:00. This deadline will apply to the replicate interface.
3.1.1.5	**Performance** The programs to extract and load the data from the Lynx SUMMIT system will comply with Reynards coding standards. This will ensure that they perform the required processing efficiently. It is expected that the run times shown above will be reduced as the Lynx SUMMIT system uses an Oracle relational database which is generally more efficient at retrieval and extracting of data than a traditional file based system which the existing Lynx mortgage system uses.
3.1.1.6	**Capacity Requirements** The following table shows the data volumes for each of the 14 files :- **File Name** / **Description** / **Approx records per day** ACF04.SQ — Account Transactions making up a single payment — 902,394. ACF94.SQ — Mortgage Master File — 11,835 ACF95.SQ — Mortgage Accounts by Mortgage Inversion File — 17,706 ACM01.SQ — Mortgage Accounts — 17,981 ACM02.SQ — Product Master File — 710 ACM03.SQ — Product Tier Structure — 710 ACM06.SQ — Payment Link — 11,967 ACM29.SQ — Repayment Calculation Profile — 150.063 ACT01.SQ — Application Master File — 11,853 ACT10.SQ — Expected Receipts – Detail — 886,284 ACT13.SQ — Mortgage Account Transaction File — 2,215,289 ACW32.SQ — Account details at Required Date — 17,706 MAM26.SQ — Fee Codes File — 6 MAT15.SQ — Fees Charged Against Application File — 6,370 Some of the file above e.g product master file, fees code file are relatively static files and will therefore not increase in size significantly. But other files e.g mortgage accounts, mortgage account transaction file will increase in size over time as they are full replacement files of the data on COIN. They will require frequent monitoring so that space problems do not develop.
3.1.1.7	**Controls and Security** To ensure that the data files when received on the Dec Alpha platform are complete and consistent, the following methods of batch file control are being considered by Coates :- 1. Header/trailers 2. Hash totals 3. Trigger files from connect direct. When a trigger file is received this indicates to the receiving system that the file is complete and the next job can be initiated. Control Reports will not be required on either the Unix or Dec Alpha platforms. The connect direct will transfer the file from a Lynx SUMMIT production user on the Unix Machine and send to a COIN production user on the Dec Alpha machine.
3.1.1.8	**Data Retention** On the Dec Alpha platform, the interface files will be backed up as part of the COIN daily and month end backups where the retention periods are currently 28 days for

	the daily tape backups. (To be confirmed by Coates) It is anticipated that the files on the Unix Platform will be retained for about 14 days. This will need to be agreed with the Unix administrator.
3.1.1.9	**Contingency / Alternative Processing** See Application Model for each interface.

3.1.2 Application Model

3.1.2.1 Application Context



3.1.2.2 Application Process Model - Lynx/Coin Interface

Information Type	*Processing*
User	This is a batch interface and is initiated by Lynx SUMMIT job scheduler – taskmaster.
Description of processing	Taskmaster will initiate the following jobs when the pre-condition below is met :- **Job 01** – Extract Mortgage Details from the Lynx SUMMIT database, convert the extracted data to the COIN file format using the data mapping rules[1] and write out the details to the 14 files. **Job 02** – Transfer the 14 files from the from the SUMMIT production user on the Unix machine to the COIN production user on the Dec Alpha machine using the Connect Direct file transfer utility. When the files arrive on the Dec Alpha machine, the Dec job scheduler will initiate the following jobs :- **Job 03 –** Merge the new files with the old files so that a single run of Job 04 below will be sufficient. This job will only be required during the transition period. **Job 04 –** Load the data files onto the COIN database. The development of Job 01 and 02 will be done by Reynards Group Technology Mortgage Interfaces team in Dublin while the development of Job 03 and 04 will be done by Coates Application Development. Note: There are no packed decimal fields on the file layouts for this interface so no conversion is required.
Pre Conditions	1. The Lynx SUMMIT pre-batch backup has completed. 2. The Lynx SUMMIT batch end/start of day has not begun. 3. Extract is direct from SUMMIT database therefore no need to wait on SUMMIT Interface Area population.
Post Conditions	The COIN overnight batch has reached the point of running job MOREFRESH[2] which is usually run at about 23:00. If the files are not loaded prior to this time then the overnight batch will be delayed as this is the absolute latest time.

[1] Data Mapping will be performed on each field within each interface file to establish what the equivalent field or fields are on the Lynx SUMMIT database. These data mapping rules will be used during the development of each extract/format program to identify the source data field on the Lynx SUMMIT database for each of the fields within the interface file.
[2] The MOREFRESH job refreshes the mortgage details on the COIN database with the data from the interface files.

Alternative processing	If the Lynx SUMMIT system is inoperable or one of the exceptional events below delayed the data being loaded onto COIN, then COIN and downstream systems would still be made available to users. A broadcast message would be displayed to the users to indicate that the mortgage data is not up-to-date. This would also apply to downstream systems except for STB which is dealt with in next section. However, if the files are extremely late, the COIN mortgage batch processing would be delayed which in turn would mean that the COIN online application would not be available to the business until the batch processing has completed.
Exceptions	Exceptional events that might possibly occur include :- 1. Insufficient space available to create files extracted from Lynx SUMMIT database. 2. File transfer failure from Unix to Dec Alpha. 3. Job scheduler dependency failure e.g files unavailable within specified time. 4. Insufficient space available to create merged files for load of data onto COIN. If any exceptional event occurs such as one of the above, it will be detected by the job scheduler which initiated it on either the Unix or Dec Alpha platform. Recovery action can then be taken by Operation Support to correct the problem and resubmit the job.
Operational Requirements	Job 01 – 04 should be scheduled to run automatically. The COIN job MOREFRESH should be made dependent on Job 04 – Load the data files onto the COIN database.
Further Information	n/a

3.1.2.3 Application Process Model – Bank of Anybank Interface

Information Type	*Processing*
User	This is a batch interface and is initiated by Lynx job scheduler – taskmaster.
Description of processing	Taskmaster will initiate the following jobs when the pre-condition below is met :- **Job 05** – Extract Mortgage Details from the Lynx SUMMIT database, convert the extracted data to the STB file format using the data mapping rules, apply COIN update alterations (as for existing interface) and write out the details to the CTS01 file. **Job 06** – Transfer the file from the SUMMIT production user on the Unix machine to the COIN production user on the Dec Alpha machine using the Connect Direct file transfer utility. When the files arrive on the Dec Alpha machine, the Dec job scheduler will initiate the following jobs :- **Job 07 –** Transfer the files from the Dec Alpha machine to the FTP Server. There will be a file of Impending Loan Details from the existing Lynx Mortgage System during the transitional period and the new file of Impending Loan Details from the Lynx SUMMIT system to be transferred. The development of Job 05 and 06 will be done by Reynards Group Technology Mortgage Interfaces team in Dublin while the development of Job 07 will be done by Coates Application Development. Note: There are no packed decimal fields on the file layout for this interface so no conversion is required.
Pre Conditions	1. The Lynx SUMMIT pre-batch backup has completed. 2. Extract is direct from SUMMIT database therefore no need to wait on SUMMIT Interface Area population.
Post Conditions	1. At Month end, regulatory reporting on STB is dependent on this interface file. The interface file is required on the second business day after month end at the latest.
Alternative processing	If the interface file is not received by the second business day after month end at the latest then this would be a serious problem as it would cause a delay in doing the regulatory reporting on the STB system. There is no alternative processing to circumvent this.

Exceptions	Exceptional events that might possibly occur include :- 1. Insufficient space available to create files extracted from Lynx SUMMIT database. 2. File transfer failure from Unix to Dec Alpha. 3. Job scheduler dependency failure e.g files unavailable within specified time. 4. File transfer failure from Dec Alpha to FTP Server. If any exceptional event occurs such as one of the above, it will be detected by the job scheduler which initiated it on either the Unix or Dec Alpha platform. Recovery action can then be taken by Operation Support to correct the problem and resubmit the job.
Operational Requirements	Job 05 – 07 above should be scheduled to run automatically. Both files from the existing Lynx mortgage system and Lynx SUMMIT must be made available to STB at the same time as in combination only are the impending loan details complete when loaded onto the STB system.
Further Information	n/a

3.1.3 Transition Considerations.

3.1.3.1 Lynx/Coin Interface

When the Lynx SUMMIT system begins operation, the existing interface from the Lynx Mortgage system to COIN is to remain in place during the transitional period. This is the period when both the old and new systems will be in operation. During this time, there will be two sets of interface files produced, one from the new Lynx SUMMIT system which will contain new mortgage details and the other from the existing Lynx mortgage system which will contain back-book mortgage details. On the Dec Alpha, the files will be merged together creating one set of files and these will be loaded onto the COIN system.

When back-books have been transferred onto the Lynx SUMMIT system, the interface from the existing Lynx mortgage system will be decommissioned, leaving only the replicate feed to the COIN system from the Lynx SUMMIT system.

If an exact replication of the files from the existing Lynx system and Lynx SUMMIT cannot be produced then it may be necessary to make changes to the COIN system or change each of the downstream systems to accommodate the two sets of interface files. This may involve the following: -

1) Change the downstream systems to accept new file formats.

2) Change the downstream systems to accept both the new and old interface file formats while both the existing Lynx system and SUMMIT system exist.

3.1.4 Bank of Anybank Interface

When the Lynx SUMMIT system begins operation, the existing Bank of Anybank interface from the Lynx Mortgage system to STB via COIN is to remain in place during the transitional period. During this time, there will be two sets of interface files produced, one from the new Lynx SUMMIT system and the other from the existing Lynx mortgage system which will be transferred simultaneously to the platform on which STB resides. Two runs of the load procedure into STB will be required. No changes will be required to the STB load procedure.

3.1.5 Influences On Project Success

3.1.5.1 Constraints

The following technical constraints have been identified for this project:

No	Description of Constraint	How will this be managed?	Owner
1.	There should be no impact upon COIN or other downstream systems as a result of replicating the two interfaces.	See Risk 4.4.1	

3.1.5.2 Assumptions

The following technical assumptions about the project have been made in producing this document:

No	Description of Assumption	How will this be managed?	Owner
1.	This Lynx SUMMIT/Coin interface is a replication of the existing Lynx/Coin interface process. No new data feeds will be introduced.	If any new data feeds are required then a change record will be raised and scoped independently.	
2.	The Lynx batch suite will run in a reasonable timeframe, making the interface files available in time, so as not to delay the COIN batch schedule.	Lynx SUMMIT batch timings will be got from the mortgage Configuration team in Dublin. With this information, we will be able to determine at what time the COIN extract/convert job can be run and when the files will be available to load onto COIN.	
3.	The mechanism to transfer files between the Unix machine and Dec Alpha machine and associated contingent machines will be provided via the Implementation work stream design.	This will be managed by Implementation and interfaces team during design phase.	

3.1.5.3 External Dependencies

The following technical external dependencies have been identified for this project:

No	Description of Dependency	How will this be managed?	Owner
1.	Infrastructure Delivery will be available to set-up and configure Connect Direct on the Dec Alpha production and contingent platforms.	This will be the responsibility of the implementation team.	

3.1.5.4 Risks and Issues

The following Risks and Issues have been identified for this project:

No	Description of Risk or Issue	How will this be managed?	Owner
1.	If there are fields within the Lynx/COIN interface files which cannot be mapped to an equivalent field on the Lynx SUMMIT system then this may involve changes to COIN and other downstream systems.	Initially, any gaps in the data mapping will be resolved if possible by software changes to Lynx SUMMIT system which would be carried out by Lynx (This would have to be raised as a gap & go through change control). If Lynx cannot make the data available then it may be necessary to derive it from an equivalent field. In this event, changes may be required to COIN and other downstream systems to allow for this.	
2.	The Lynx systems use Products at the front-end, and Account Types combined with interest and redemption controls at the back-end to define a mortgage product. On completion of a sale, the Product data is transferred to SUMMIT as an Account type and control combination, but the association is not held or recorded by the system.	The Product Code from the Activate DB will be stored on the SUMMIT ACCOUNTS table (the live backend account), and will be maintained when product switches are made etc.	
3.	SUMMIT identifies sub-accounts by the main account number plus a 4 digit sequence number (allocated sequentially within the main account), i.e. effectively giving a 14 digit number. On the COIN system, the mortgage account no. is a 10 digit no and sub-accounts information is required. As this is a key field it would have a significant impact on COIN and also on downstream systems.	Options are being identified and impact of these are being assessed on COIN and downstream systems. The best option will then be selected in consultation with Coates AD.	

4 Glossary

Abbreviation	Full Name
COIN	Coates Online Integrated Network
GMC	Group Mortgage Capability
FTP	File Transfer Protocol – Utility for transferring files between computers.
SIA	SUMMIT Interface Area

Document details

Filename & location – J:\General Teams\Mortgage Platform And Operations\Conduct\Team1\Coates\Coates Interfaces Functional Spec v1.1.doc

Document references -

Date	Version	Details
24 June 2003	1.0	Version 1
04 July 2003	1.1	Changes applied after comments returned by Danny Shanks, Peter Burke and Patricia Lipsett.
10 July 2003	1.2	Changes applied after comments returned by John Page

Key Roles

Role	Name	Acceptance Signature / Date
Interface Build Business Project Manager (Lending Ops)	XXXXXXXXX	
Interface Build Technology Project Manager	XXXXXXXXXXXX	
End to End Design	XXXXXXXXXXXX	
Coates Technology Project Manager	XXXXXXXXXXX	

Circulation for Review

Name	Reason
XXXXXXXX	Application Configuration Work Stream Leader
XXXXXXXXXXXXX	Application Configuration Architecture
XXXXXXXXXXX	Implementation Work Stream Leader
XXXXXXXXXXX	Interfaces ID Project Manager
XXXXXXXXXXXXX	Testing Work Stream Leader
XXXXXXXXX	Migration Work Stream Leader
XXXXXXXXXXX	Business Owner, Coates
XXXXXXXXXXXX	Lynx Supplier Management

XXXXXXXXXX	Lynx Support
XXXXXXXXX	Coates, Business Analyst
XXXXXXXXXXXXXXXX	End to End design team
XXXXXXXXXXXXXX	End to End design team

End of Document