Politecnico
di Milano

Managing IT projects within organizations

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The particularities of the banking sector

- Formal and structured management organization with well defined competences and authorisation levels
- Regulated by the Bank of Italy and European bank supervision (reporting to bank of Italy, centrale rischi, banking transparency, etc)
- Other regulations (eg. local UIF, European and international FATF about anti money laundering and terrorism financing and proliferation, etc)

The particularities of the banking sector

- Financial and transactions defined with local and international standards (eg PSD II *payment service Directive,* SEPA *single euro payments area*)
- Business continuity
- Market regulations
- Compliance function to check the bank's conformity with laws, central bank dispositions, market regulations, risk management (financial, reputational and operational), efficient organizational structure

Principal implication on banking projects

- This means that PM faces with
  - High volume of regulatory driven projects
  - Technical details must adhere with standards
  - Constraints are very important
  - Particular attention on risks and security
  - Core banking system locally developed but satellites usually externally provided due to the frequent update of regulations and standards

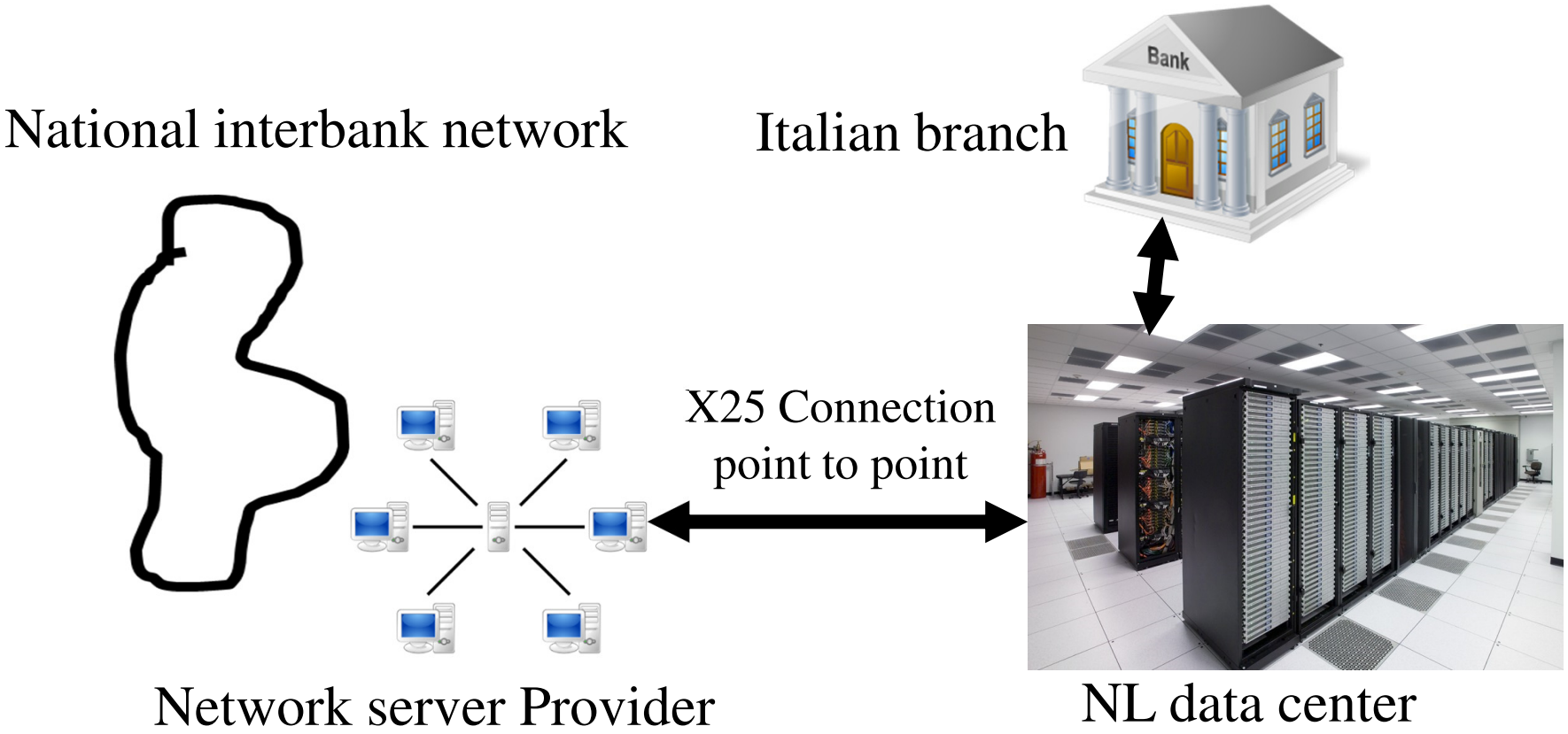
Some real projects in my experience

(details and information are generic because part of the intellectual bank's property)

- Project 1 connection upgrade : upgrade hw and sw of the connection between bank data center hosted in UK and the national interbank network
- Project 2 regulatory reporting : implementation of the reporting to bank of Italy IT applications and integration with the CORE system

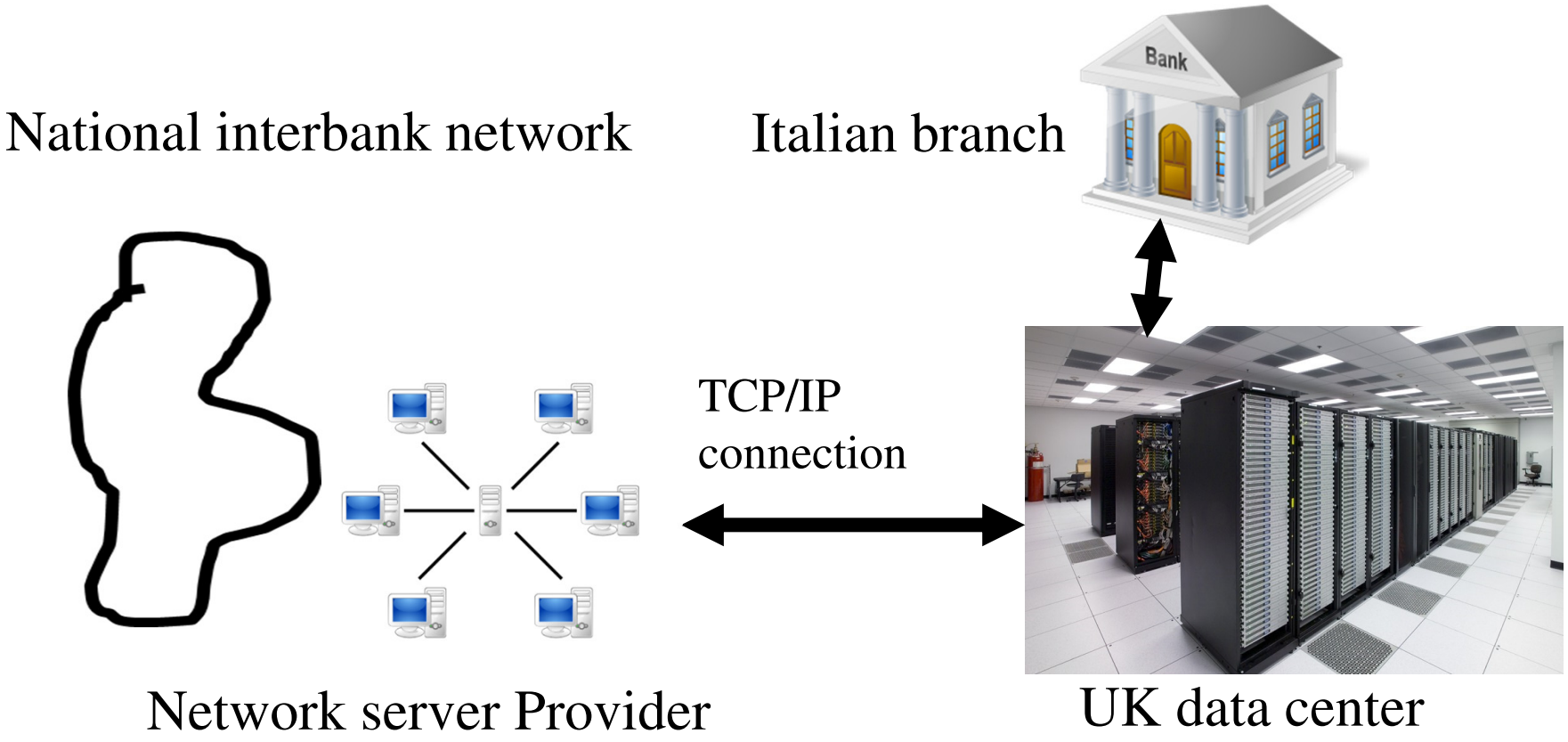
Project 1 connection upgrade

Upgrade connection between bank data center hosted in UK and the national interbank network - before



Project 1 connection upgrade

Upgrade connection between bank data center hosted in UK and the national interbank network - after



Project 1 connection upgrade : initiation

- Defined the business owner as head of the department that was the primary user of the connection
- Project manager defined in IT as this was mainly technology related project > **managing level**
- Additional stakeholder defined as the head of the secondary user dept.
- **Directing level** the management of the branch
- **Delivery level** : physical connection provider, data center engineers, mainframe engineers

Project 1 connection upgrade : planning

Project definition

- the connection is strategic for the branch
- The connection security must be considered at the top of the market (both confidentiality and integrity)
- NL and DC data centers are connected at the moment
- The new connection is mandatory since the above link will be discontinued
- the connection upgrade is mandatory due to technology constraints (IBM will soon not support the existing connection type)

Project 1 connection upgrade : planning

Project justification

- Connection implementation and upgrade mandatory

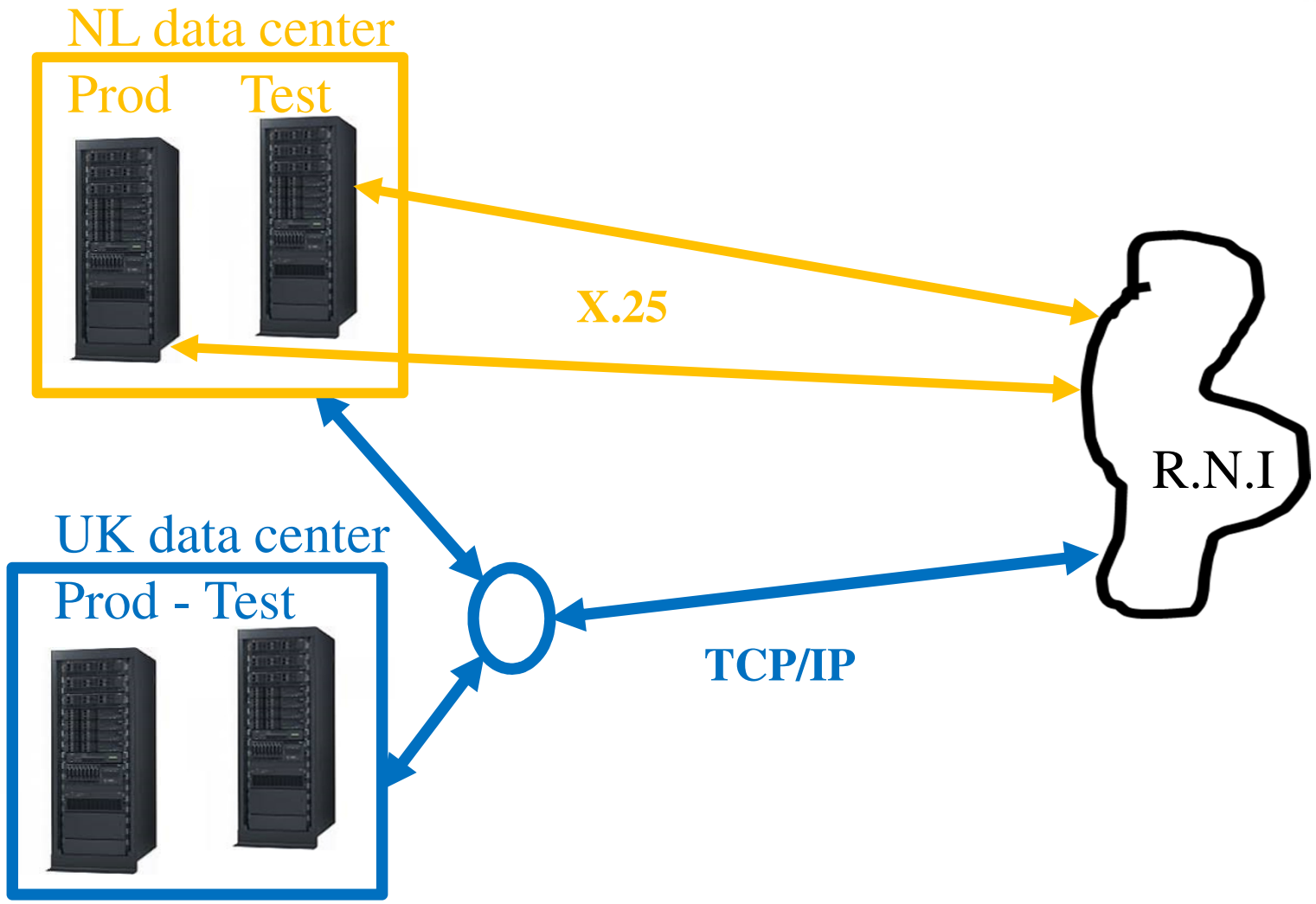
Different scenarios

- Implementation and then upgrade
- Upgrade and then implementation
- Implementation and upgrade in parallel

Benefits

- Technology aligned to the market standards and open to future business requests.
- No separate test connection with TCP/IP

Project 1 connection upgrade : environments



Project 1 connection upgrade : planning

Risk

since this was a strategic connection the risk of downtime during / after implementation and the risk of information loss or stolen has been reported as a major Risk > private secure cabling (with strong authentication and encryption to maintain high level of reliability, integrity and confidentiality) and strong back out procedure for the implementation.

EG1

Project 1 connection upgrade : planning

Constraints and opportunities

- Implementation of X25 technology not possible due to unavailability of networking cards.
- Upgrade and implementation tasks can run simultaneously due to the availability of test environments

Preferred option is to perform the tasks in parallel and deliver them in one shot.

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EG1 Enrico G; 05/12/2017

Project 1 connection upgrade : planning

Communication process

The communication process highlighted as stakeholders the management of the bank, the data center support staff, the provider of the connection and the network service provider of the national interbank network.

Project 1 connection upgrade : wbs

Project 1 connection upgrade

Connection implementation

- Physical cabling provider selection
- SLA, KPI for the new cabling
- Connection implementation
- Connection testing from POP to POP
- DC local network implementation
- NSP local network implementation

Upgrade communication protocol

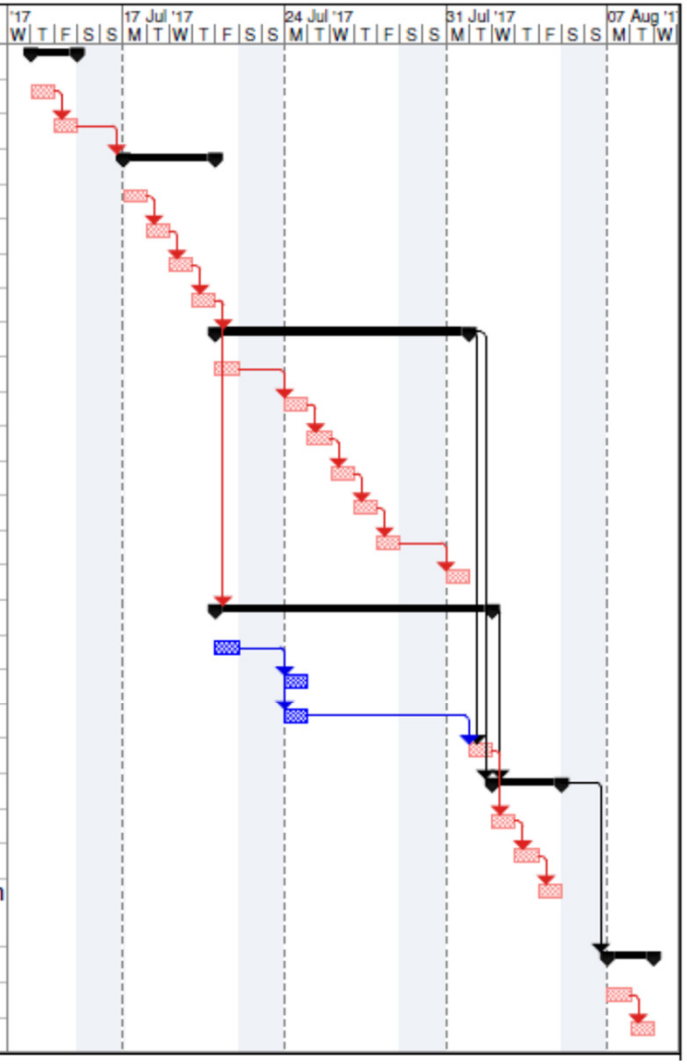
- technical specification
- iSeries test environment setup
- NSP environment setup
- functional testing

System testing and implementation

- user acceptance testing
- complete save old config
- cutover from test to production
- NL to UK connection

Project 1 : baseline project plan

ID	Task Name
1	**Project setup**
2	definition of the project organization
3	overall business case
4	**Poject initiation**
5	project documentation
6	detailed business case
7	project plan
8	backout plan
9	**connection implementation**
10	physical cabling provider selection
11	contract definition for the new cabling (SLA, Kpi's, etc)
12	connection implementation between DC pop and NSP pop
13	testing connectivity from pop to pop
14	backout plan definition
15	data center local network implementation between Iseries and pop
16	NSP local network implementation between Mainframe and pop
17	**- upgrade communication protocol**
18	technical specification
19	Iseries test environment setup
20	mainframe test enviroment setup
21	functional testing
22	**System testing and implementation**
23	user acceptamce testing
24	complete save of the old configuration
25	Cutover from test envrionment to production environment and switch from NL to UK connection
26	**Closing activities**
27	user, techncal and support reference documentation
28	dismissal of NL infrastructure



Project 1 connection upgrade : execution

Connection implementation task

1. Definition and signoff of the cabling contract (SLA, KPI, etc)
2. Physical implementation of the connection
3. Technical test of the implemented connection from the italian network service provider POP to UK data center POP
4. Data center local network implementation and configuration
5. NSP local network implementation and configuration

Project 1 connection upgrade : execution

- upgrade protocol task

1. Technical specifications
2. Bank's test iseries software configuration
3. NSP test mainframe software configuration
4. Functional end to end testing (on old test connection)

Project 1 connection upgrade : execution

- Integration test and implementation task

- end to end functional testing (new connection using the test environment)
- Complete save of the old configuration
- Cutover from test environment to production environment and switch from the NL to the UK connection
  1. Old connection still active for contingency

Project 1 connection upgrade : closing

- Project closing :

- Customer acceptance
- System output procedure with support references for future use (especially in distributed international environments)
- Lessons learned
- After a complete business cycle, dismissal of the NL connection and of the saved operating environments.

Project 1 connection upgrade

Final evidences on the project

- Final Testing the connection has been a very difficult task due to the coexistence of three trunks managed by different providers and methodologies.
- Technical specification for both infrastructure and framework has been implemented without any issue
- The distributed environment can cause communication problems : in this project this has been avoided using a detailed communication process and frequent conference calls for the coordination of some tasks.

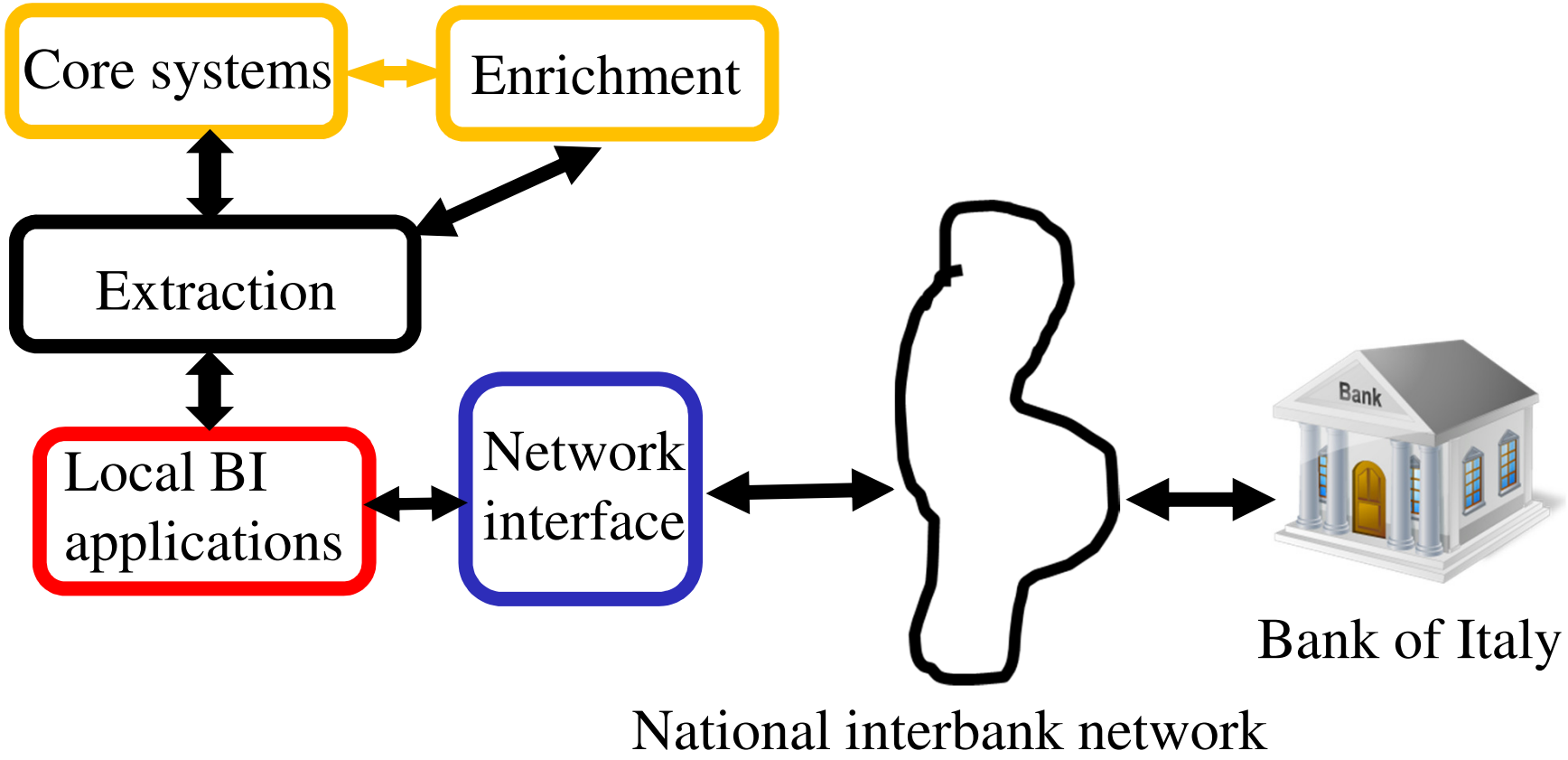
Project 1 – final considerations

- Lessons learned : less mail chains and more calls from the beginning:

  Mails (and in general electronic communications) are useful for reports, checkpoints, documentation, but for coordination and clarifications the direct relationship is more efficient

Project 2 regulatory reporting

implementation of the reporting to bank of Italy IT applications and integration with the CORE system



Project 2 regulatory reporting : initiation

Project initiation

- Defined the business owner as head of the department that was the application user (finance)
- Project manager defined in IT as this was mainly technology related project > **managing level**
- **Directing level** the management of the branch
- **Delivery level** :
  - central IT for the CORE system
  - Local IT for the interfaces with the local applications
  - Reporting application provider

Project 2 regulatory reporting : planning

Project definition

- The project runs in parallel with CORE system replacement project
- Data for the reporting should be derived from the CORE systems
- The reporting application should contain all the processing features on the input information (check, management, etc)

Project 2 regulatory reporting : planning

Project justification

- The CORE system is international so doesn't provide the reporting functionality and cannot be amended

Different scenarios

- Develop in house the reporting system
- Buy a COTS application where convenient
- Outsource the reports processing activity

Outputs

- The system retrieves information from the CORE applications, process them and produces an output according to the bank of Italy definitions and rules.

Project 2 regulatory reporting : planning

Risk

The reporting to bank of Italy is a risky activity mainly of reputational type.

Operational controls should be put in place to reconcile the origin of the information (CORE system) and the output of the process.

Project 2 regulatory reporting : planning

Constraints

- Implementation of the system must be synchronized with the implementation of the new CORE application.
- Historical data should be retrieved and not stored in this system.

Preferred option

- Buy a COTS application for the reports processing (develop in house requires an high level of maintenance effort; outsourcing requires too much constraints on the production process)

Project 2 regulatory reporting : planning

Data mapping between CORE system and reporting application

Extraction of all information from the reports produced with the existing system.

Derive the information from the CORE system : if some components are missing put the information in the enrichment list

If at the end of the activity the enrichment list is not empty a way of store the information in relation with the CORE system must be provided (> the CORE system is centrally distributed and maintained and cannot be changed)

Project 2 regulatory reporting : planning

Communication process

The communication process highlighted as stakeholders the management of the bank, the central IT, the local IT and the provider of the COTS application.

Project 2 regulatory reporting : wbs

Project 2 regulatory reporting system

CORE Enrichment system

- Enrichment Data Base
- Online enrichment programs
- Batch enrichment programs

COTS reporting system

- contracts with external providers
- implementation in test env.
- functional testing

Extraction system

- specifications
- Development
- functional testing

Network interface

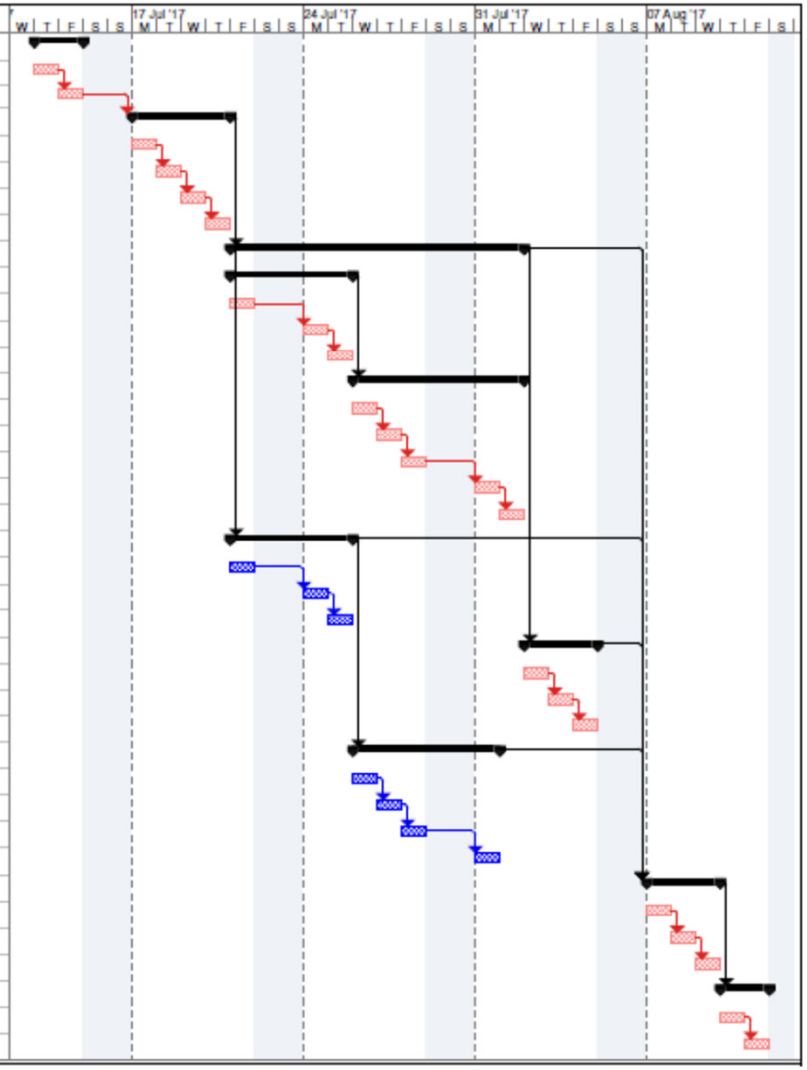
- NSP engagement for testing setup
- specifications
- development
- Functional testing with NSP

User Acceptance testing

- Business using new and old system
- Compare reports produced with old and new system
- Implementation in sync with CORE system

Project 2 : baseline project plan

ID	Task Name
1	**Project setup**
2	definition of the project organization
3	overall business case
4	**Poject initiation**
5	project documentation
6	detailed business case
7	Data mapping between CORE system and reporting application
8	project plan
9	**CORE system enrichment**
10	**Enrichment data base**
11	design
12	implementation
13	technical test
14	**Enrichment online, automatic and batch programs**
15	specifications
16	development
17	technical test
18	Historical data base population
19	Enrichment system functional testing
20	**COTS reporting system installation**
21	technical specification received from the provider
22	Iseries test environment setup
23	functional testing
24	**Develop extraction application**
25	specifications
26	development
27	functional testing
28	**Develop network interface**
32	NSP engagement for testing environment setup
33	functional specufucations
34	development
35	functional testing with the NSP
36	**User Acceptance Testing**
37	Business using old and new system
38	Compare reports produced with old and new system
39	Implementation syncronized with CORE system activation
40	**Closing activities**
41	user, techncal and support reference documentation
42	dismissal of old reporting system

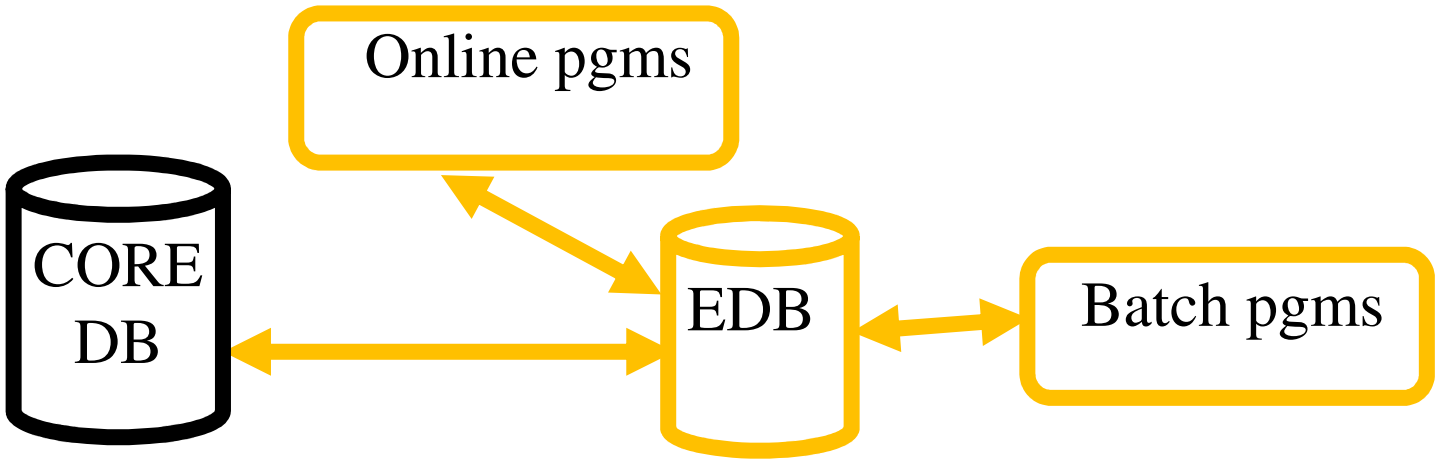


Project 2 regulatory reporting : execution

CORE enrichment system

Overall requirements and constraints

CORE application and data base can be configured but no changed.



Project 2 regulatory reporting : execution

- extraction system

Overall requirements and constraints

- The extraction program must extract data from all CORE and satellite systems, allow for data management and deliver in a standard way to the COTS application
- Must be flexible towards input systems and output files > table driven

Project 2 regulatory reporting : execution

➢ COTS reporting system

Overall requirements and constraints

- It should receive from the Core system the reports and deliver to the NSP system
- The input is almost stable
- The output is flexible (regulator's requirements)
- Avoid to perform local personalizations

Project 2 regulatory reporting : execution

- network interface task

Overall requirements and constraints

- It should receive from the Core system the reports and deliver to the NSP system
- The input and output is almost stable
- It should keep an archive of evidence of when and what has been delivered and eventual feedback from the network

Project 2 regulatory reporting : execution

- User acceptance testing task

  - End to end testing : double user input
  - Double reporting processing
  - Compare outputs
  - Implementation in sync with CORE system

Project 2 regulatory reporting : closing

- Release of detailed user and functional specifications
- Dismissal of the old banking and reporting system.
- Agreed 6 months of after care period

Project 2 – final considerations

- The project manager should look at the future > the reporting system has been implemented in 2000 and dismissed in 2017 for banking activity dismissal
- Importance of detailed documentation : after years it should be difficult to perform incident and change management on a distributed system because organization and people change and so the historical knowledge is normally lost > we supported the system for years, even if the majority of colleagues weren't available any more.