



AS4 POC Follow-up

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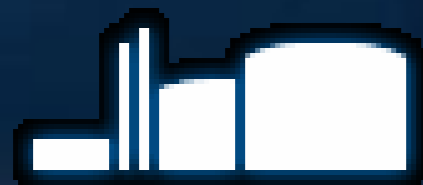
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AGENDA

- **About SNAM**
- **A brief overview of the last POC**
- **State of open points**
- **SNAM's point of view about AS4**
- **SNAM's data exchange scenarios**



Leader in Europa nel sistema
delle infrastrutture del gas



RIGASSIFICAZIONE



TRASPORTO



STOCCAGGIO

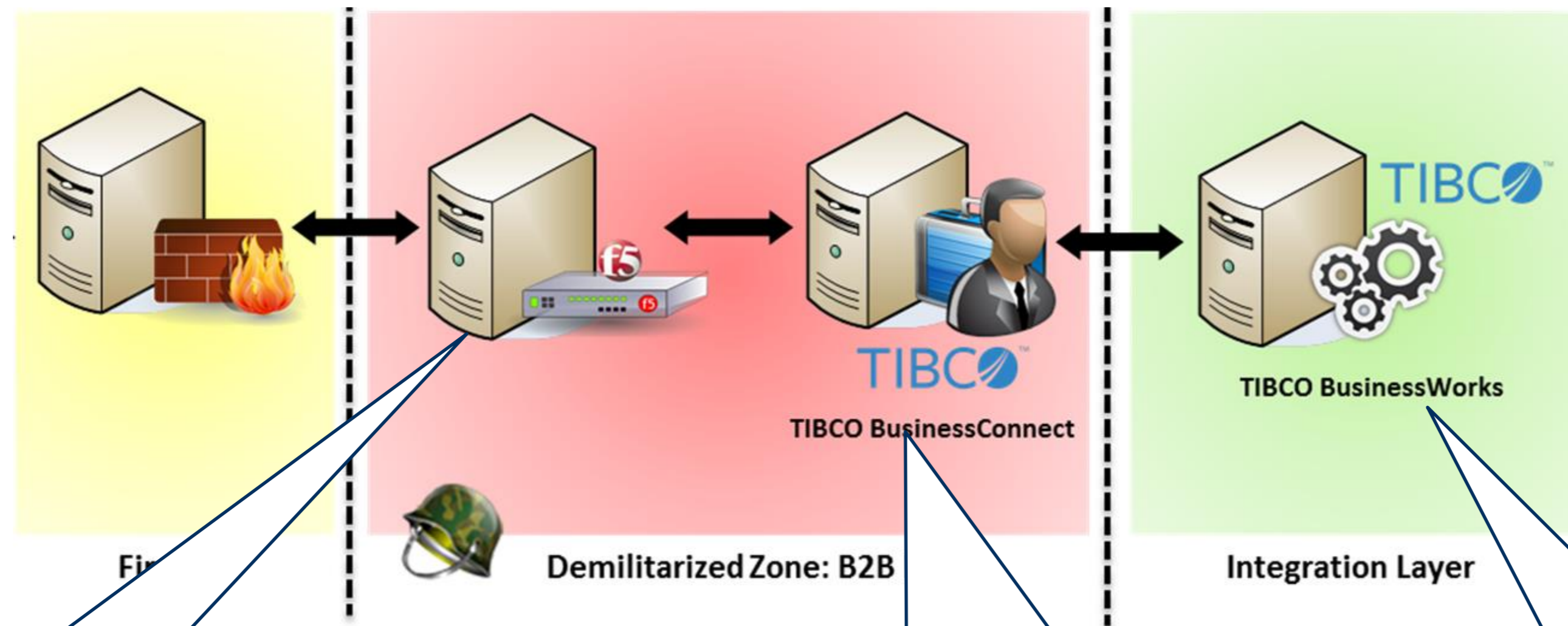


DISTRIBUZIONE

- Snam is **leader in Europe** in the construction and integrated management of natural gas infrastructure.
- At European level Snam is one of the main operator in terms of regulatory asset base (around 24.7 billion euro of RAB at year end 2014).
- In Italy, acting as an **integrated group of gas infrastructures**, the company transports and dispatches natural gas, regasifies liquefied natural gas, distributes and stores natural gas through four operating companies.



What we've done: the POC



F5 HW LoadBalancer

- SSL/TLS Encryption enabled.
- Certificates installed.

TIBCO BusinessConnect 6.1.0

- Plug-ins installed:
 - ebMS 3.0
 - ebXML 6.0.1
 - Services plug-in 6.1.0
- TSO profiles configured.
- XSDs installed.


TIBCO BusinessWorks 6.1.0

- New BW processes developed and deployed.

Open point from the last workshop

We encountered a couple of issues:

 **ISSUE #1:** RSA-OAEP and AES 128 GCM not supported by TIBCO.
STATE: Tibco supports the standards from Q1 2015.

 **ISSUE #2:** IX.509 specifications are too tight Key size of 4096 bit is not supported by the CA used by SNAM (Actalis).
STATE: Found another vendor (es. Digicert).



Now we are fully compliant!

SNAM's integration technologies portfolio

Mail
REST SFTP AS4
Manual WebServices
HTTPS Front-End
Upload JSON
SOAP Web
HTTP

SNAM's point of view about AS4

- SNAM is working actively towards the adoption of AS4.
- From our point of view, AS4 is a B2B standard:
 - Sound
 - Reliable
 - Future proof
- There's a cost of setup, but once implemented, it assures scalability and flexibility:
 - *If I should change something in the message content (e.g. new version of EDIG@S), I work on the attachment and not on the channel...*

SNAM's data exchange scenario: ENTSOE



Functional description:

- Snam is integrated with PRISMA and the TRANSPARENCY PLATFORM.
- Everyday we send and receive data about nomination, CMP, tariff, bids, etc...

Integration technology:

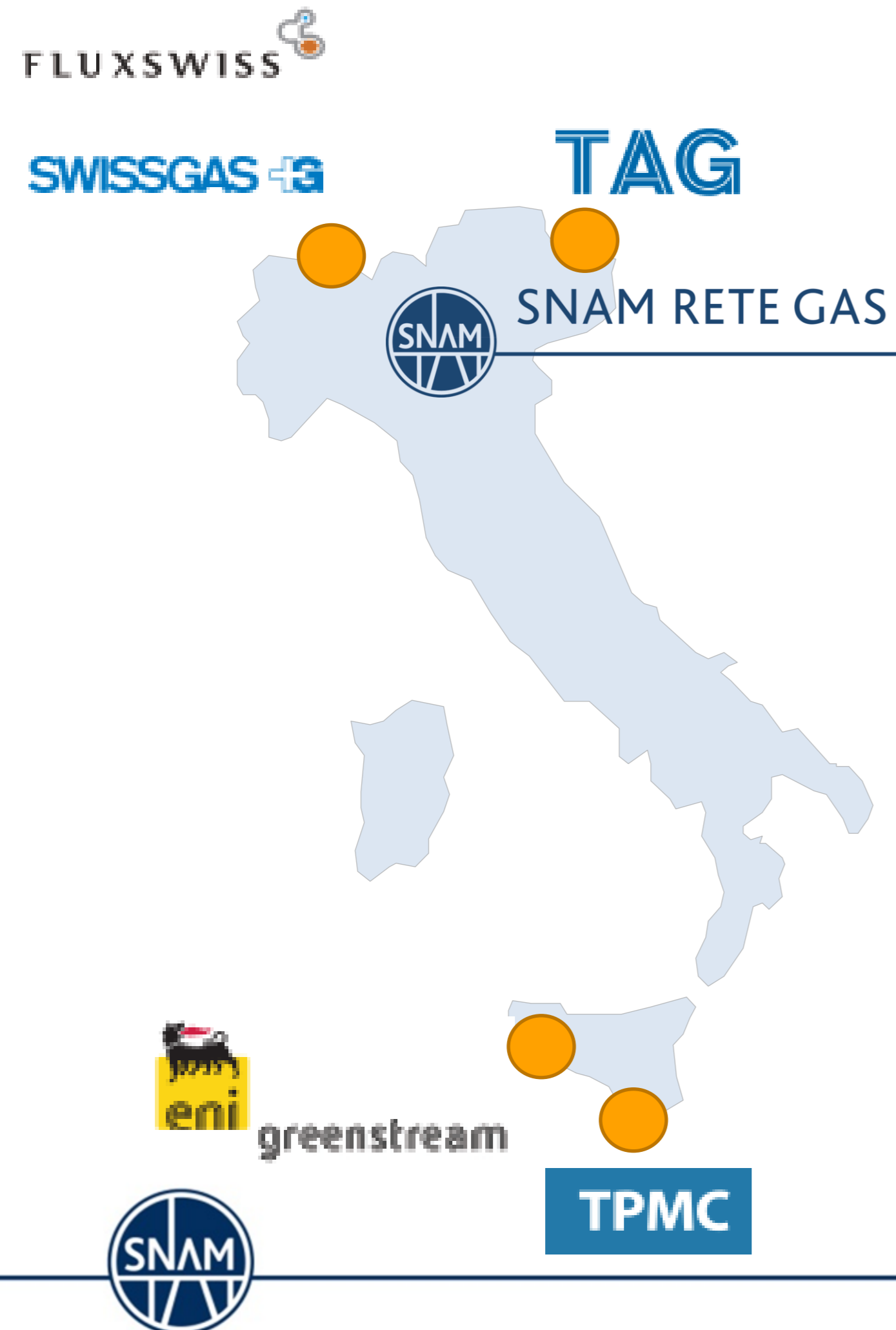
- Web-services (via SOAP), API via HTTPs PUSH, SFTP as fallback.

Upgradeable to AS4?

- Possible and desirable.



SNAM's data exchange scenario: other TSOs



Functional description:

- SNAM is integrated with other TSOs for matching operations.

Integration technology:

- Mail and manual upload.

Upgradable to AS4?

- Possible in accordance with counterparties.

SNAM's data exchange scenario: GME



Functional description:

- Snam exchanges data with GME (the Italian agency for economic management of the gas market) for commercial gas transactions.

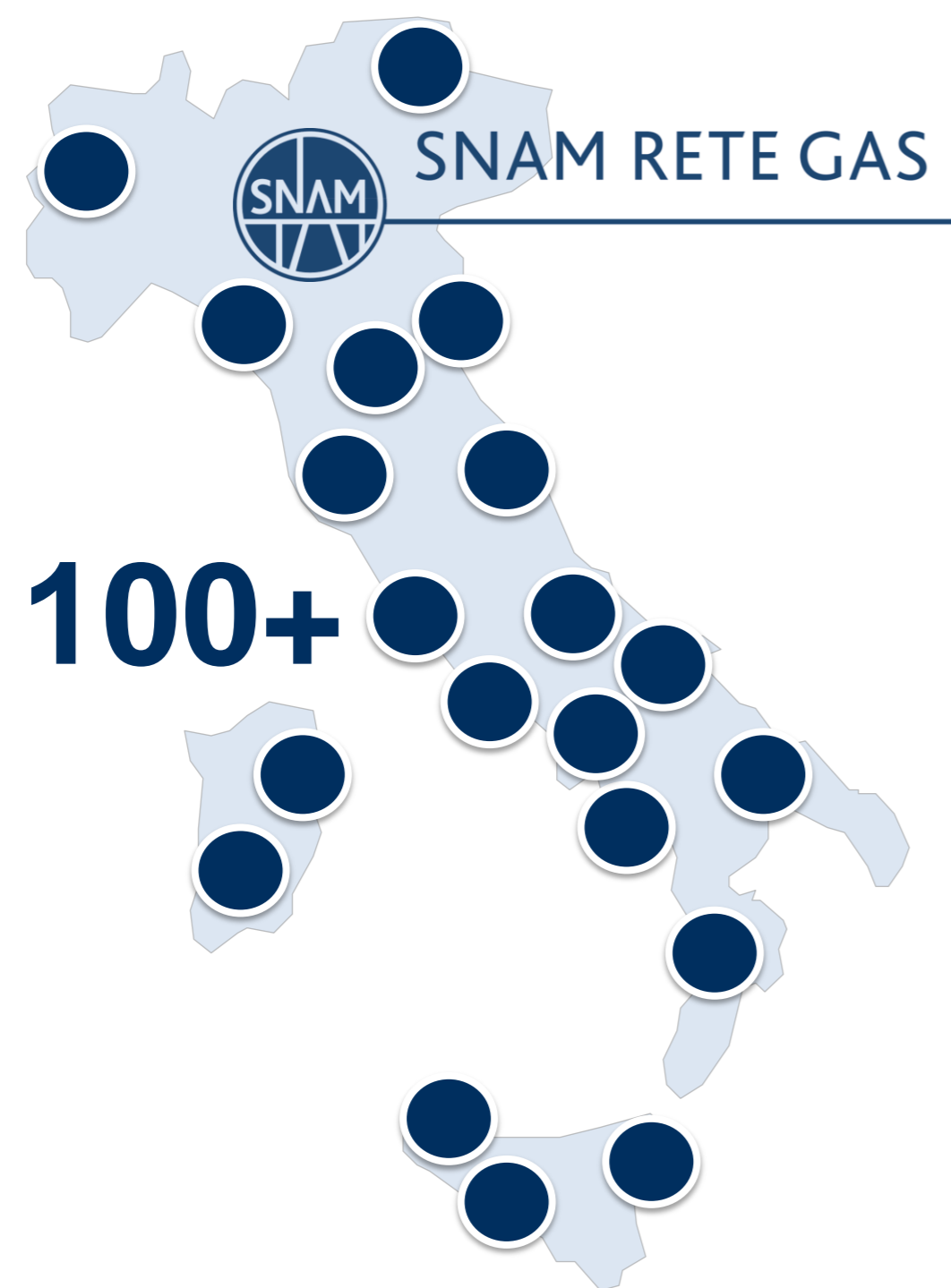
Integration technology:

- Manual upload/download via HTTP Form.

Upgradable to AS4?

- Proposed but another profile was preferred (SOAP web service with base64 attachment).

SNAM's data exchange scenario: Shippers



Functional description:

- Snam exchanges data with over 100 shippers.

Integration technology:

- X12 message over HTTPS Push
- Manual upload/download via HTTP Form.

Upgradable to AS4?

- Upgrading X12 to EDIG@S format.
- Possible in accordance with counterparties. Due their heterogeneity, we're leaning towards Web Service (via SOAP) with WS Security.



Q&A