SCALES

HEALTHCARE SERVICES DESIGN & ARCHITECTURE

SCALES GENERAL ARCHITECTURE

The project involves the development of an "SDI-like" system based on distributed ledgers for the transmission of invoices between Suppliers and Customers, open to the implementation of value-added services provided by third-party Service Providers (VAS Providers)

The general architecture is based on:

- **SCALES nodes**, managed by different providers, that communicate with each other for the transmission of information related to invoice documents and directly implement the distributed ledger architecture
- **Common Services nodes**, which VAS Providers access to in order to retrieve resources and information on the different SCALES nodes
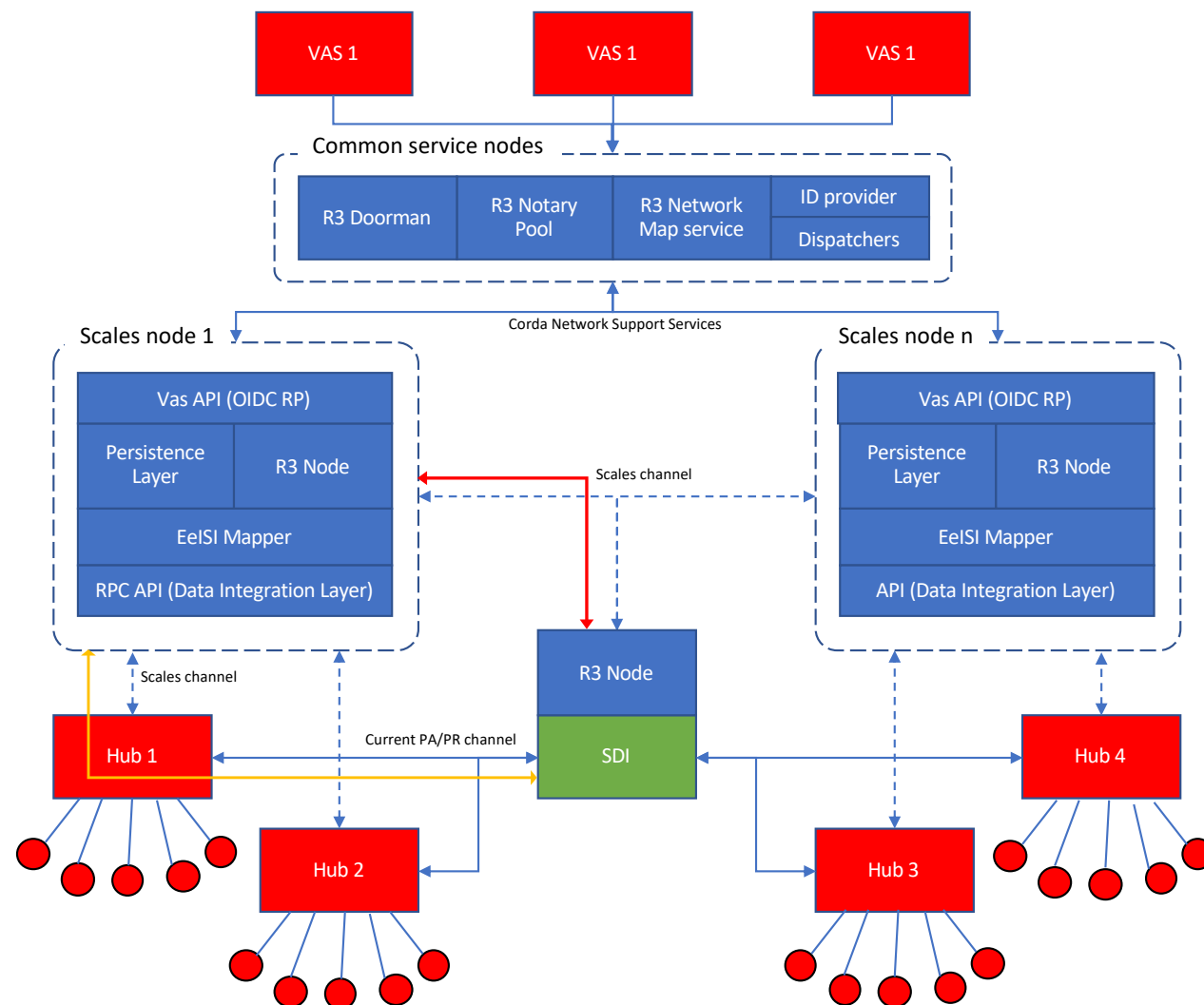
SCALES GENERAL ARCHITECTURE

In the SCALES project, the DAFNE Consortium acts as a VAS Provider, so it must not implement either a SCALES node or a Common Service node

The platform developed by the DAFNE Consortium will:

- Query the Common Service node using the API developed in SCALES project to retrieve information related to invoices transmitted on the SCALES infrastructure
- Query platforms and ministerial nodes
- Develop value-added services for business operators and public entities
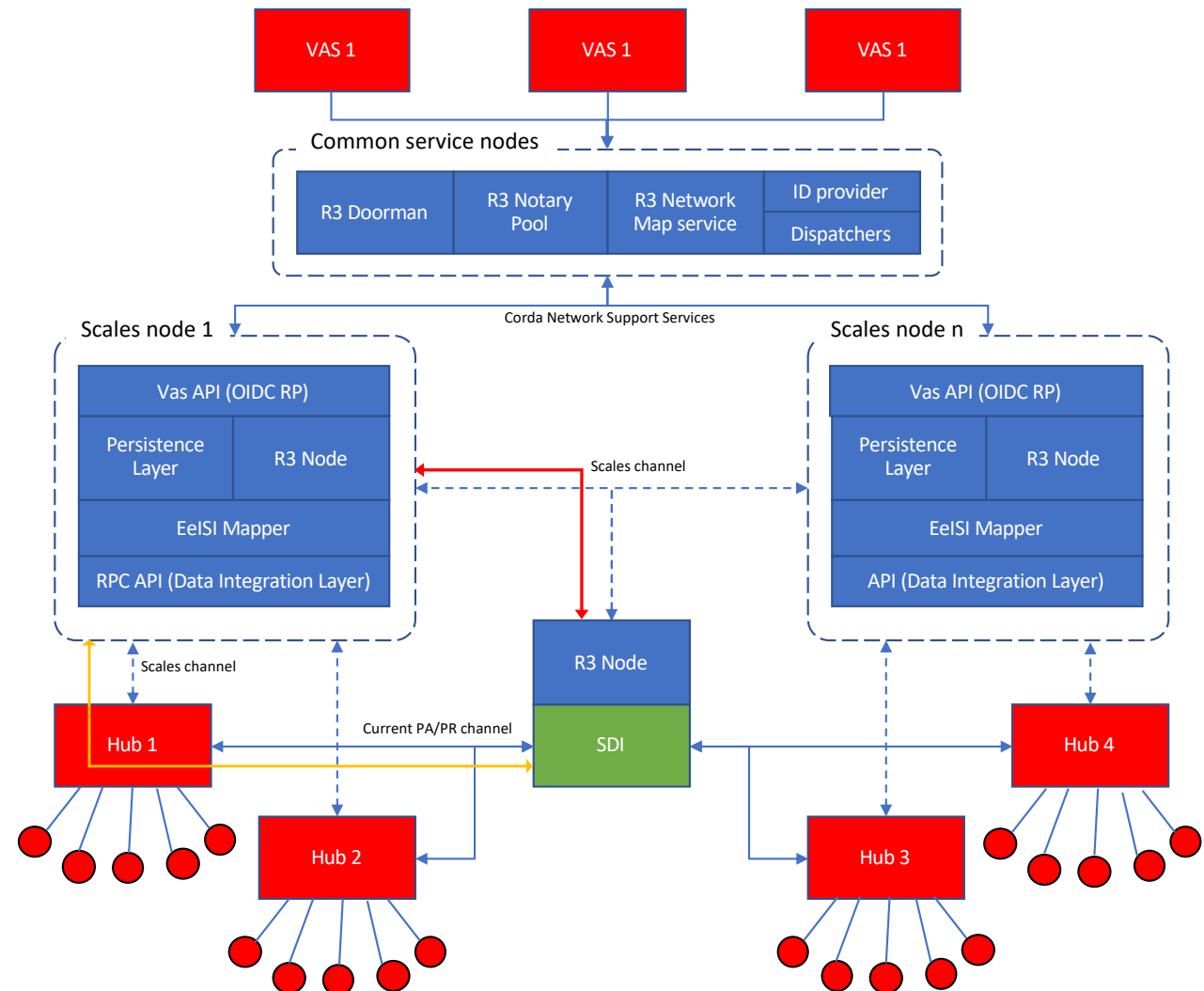
DAFNE VALUE-ADDED SERVICES

The services that will be provided by the DAFNE Consortium (through an ad-hoc platform) as part of the SCALES project are dedicated to the operators of the healthcare supply chain of the Consortium ecosystem: Manufacturers and Market Authorization Holders (Producers), Wholesalers and Public Health Facilities (Public)

The services that will be provided are the following:

- **Invoice-payment reconciliation in the Producers-Public relationship (B2G – Business to Government)**
  Thanks to this service, Producers will be able to see the status of the payment related to invoices issued to Public entities, allowing the reconciliation of issued invoices (eventually transmitted through the SCALES infrastructure) with the payment mandates present within the Commercial Credit Platform (PCC)
- **Invoice-payment reconciliation in the Producers-Wholesalers relationship (B2B – Business to Business)**
  Thanks to this service, Producers will be able to see the status of the payment related to invoices issued to wholesalers, allowing the reconciliation of issued invoices issued (eventually transmitted through the SCALES infrastructure) with the payment mandates that the wholesalers will voluntarily upload on the platform (not being available PCC for B2B relationships)
- **Public Expenses dashboard**
  Thanks to this service, the Public entities will be able to monitor the progress of the expenditure for their tenders, having at their disposal a dashboard that shows, for each tender (uniquely identified through its CIG number), the total amount of the tender, the amount related to purchase orders already issued, the amount related to invoices already received and the amount related to invoices already paid

#1: B2G RELATIONSHIPS

Invoice-payment reconciliation in the Producers – Public relationship (B2G – Business to Government)

Thanks to this service, Producers will be able to see the status of the payment related to invoices issued to Public entities, allowing the reconciliation of issued invoices (eventually transmitted through the SCALES infrastructure) with the payment mandates present within the Commercial Credit Platform (PCC)

CONDAFNEPLATFORM

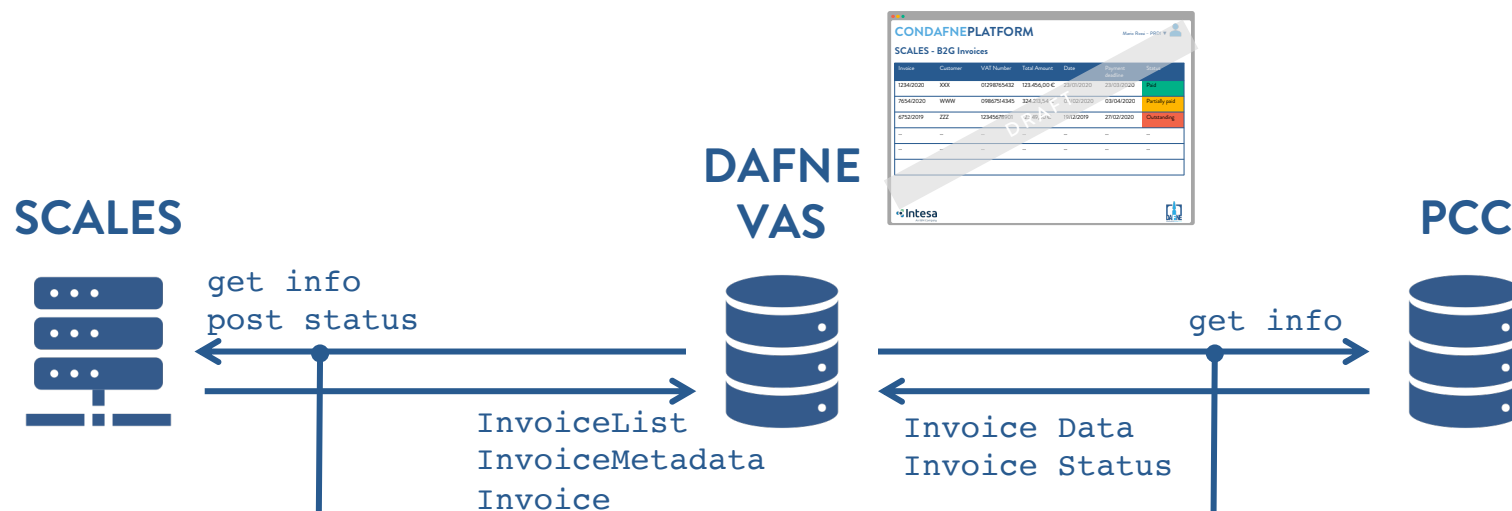Mario Rossi – PRD1 ▼

SCALES - B2G Invoices

Invoice	Customer	VAT Number	Total Amount	Date	Payment due date	Status
1234/2020	XXX	01298765432	123.456,00 €	23/01/2020	23/03/2020	Paid
7654/2020	WWW	09867514345	324.213,54 €	03/02/2020	03/04/2020	Partially paid
6752/2019	ZZZ	12345678901	2.349,00 €	19/12/2019	27/02/2020	Outstanding
...	...	...	...	...	...	...
...	...	...	...	...	...	...

DRAFT

Intesa
An IBM Company

#1: B2G RELATIONSHIPS

SCALES

DAFNE VAS

PCC

get info
post status

InvoiceList
InvoiceMetadata
Invoice

get info

Invoice Data
Invoice Status

These calls will be made, per manufacturer, through specific APIs (see the api.vas.scales.eu.yaml file)

By get it's possible to get the list of invoices by manufacturer (*Invoicelist by EndEntity*), metadata (*issuance date, payment two date, total amount*) for each invoice and the original invoice

By post, you can update the payment status of the specific invoice

PCC will be the main repository; on the user interface all the invoices transmitted through SCALES architecture (based on the same document ID) will be identified with a representative icon of a blockchain

These calls will be made, per manufacturer, through the WS implemented by PCC (WS Proxy Dati Fatture and WS-Read Stato Fattura), which should then return information about invoices issued by the Manufacturer (*invoice number, amount, payment status*)

The platform's user interface should also allow information on the invoice of interest to be manually uploaded (via data entry or upload of files in FatturaPA XML format) which will then be compared with what is present on PCC

#2: B2B RELATIONSHIPS

Invoice-payment reconciliation in the Producers-Wholesalers relationship (B2B – Business to Business)

Thanks to this service, Producers will be able to see the status of the payment related to invoices issued to wholesalers, allowing the reconciliation of issued invoices issued (eventually transmitted through the SCALES infrastructure) with the payment mandates that the wholesalers will voluntarily upload on the platform (not being available PCC for B2B relationships)

CONDAFNEPLATFORM

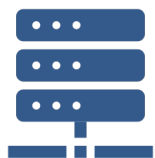Giuseppe Verdi – PRD2 ▼

SCALES - B2B Invoices

Invoice	Customer	VAT Number	Total Amount	Date	Payment due date	Status
34/2020	XXX	01298545432	13.456,00 €	23/01/2020	23/03/2020	Paid
76/2020	WWW	98786751434	24.213,54 €	03/02/2020	03/04/2020	Partially Paid
672/2019	YYY	18765432901	.5.9,3 €	19/12/2019	27/02/2020	Outstanding
...	...	...	...	...	...	...
...	...	...	...	...	...	...

DRAFT

Intesa
An IBM Company

#2: B2B RELATIONSHIPS

SCALES

get info
post status

DAFNE VAS

InvoiceList
InvoiceMetadata
Invoice

These calls will be made, per manufacturer, through specific APIs (see the api.vas.scales.eu.yaml file)

By get it's possible to get the list of invoices by manufacturer (*Invoicelist by EndEntity*), metadata (*issuance date, payment two date, total amount*) for each invoice and the original invoice

By post, you can update the payment status of the specific invoice

The data on payments made will be uploaded, on a voluntary basis, directly to the platform by wholesalers through the upload of an OPI XML document (the same document format used by public entities)
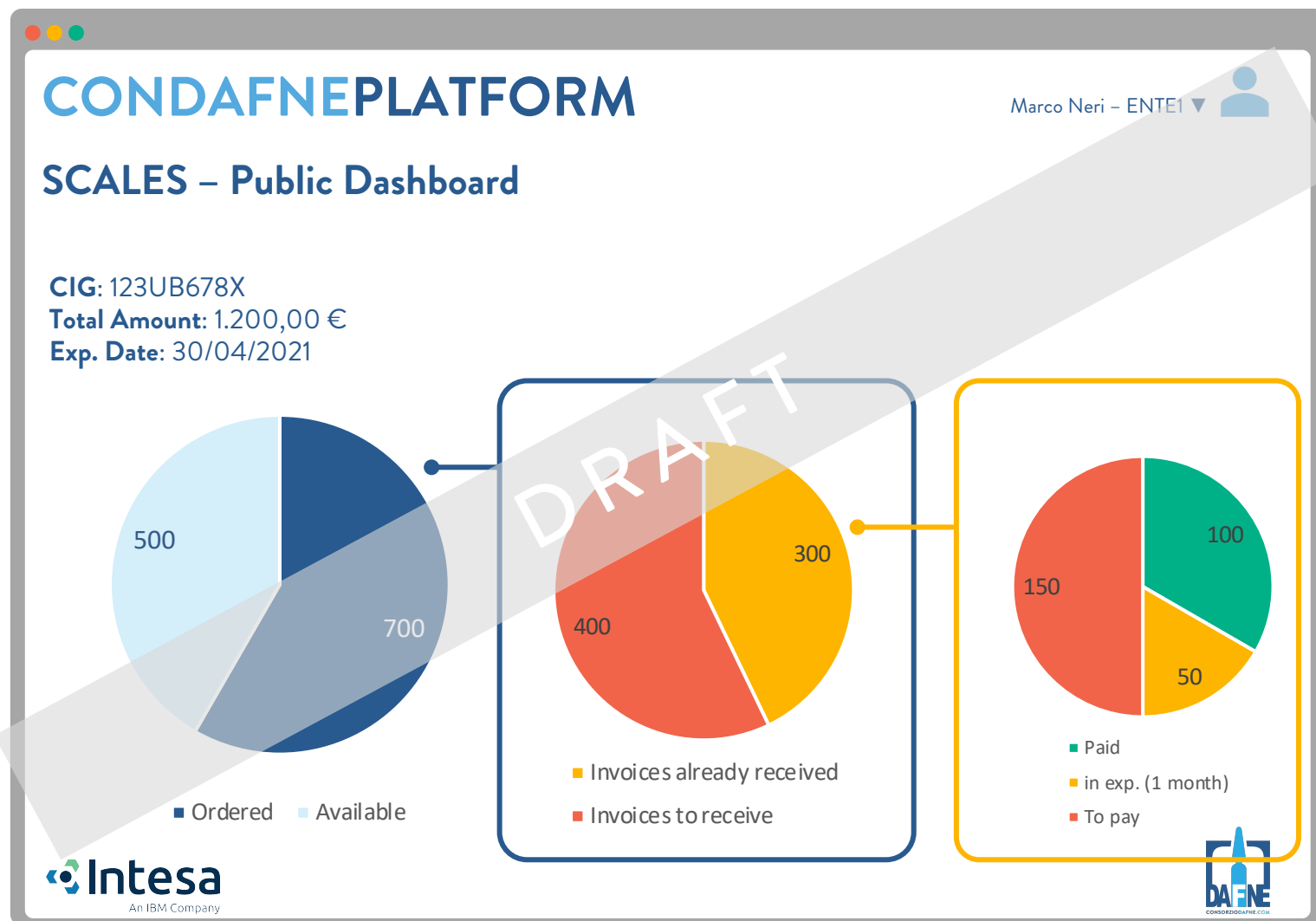
If necessary consider whether to provide the Manufacturer with the ability to mark as paid an invoice directly via web interface (so that you can update the status on SCALES)
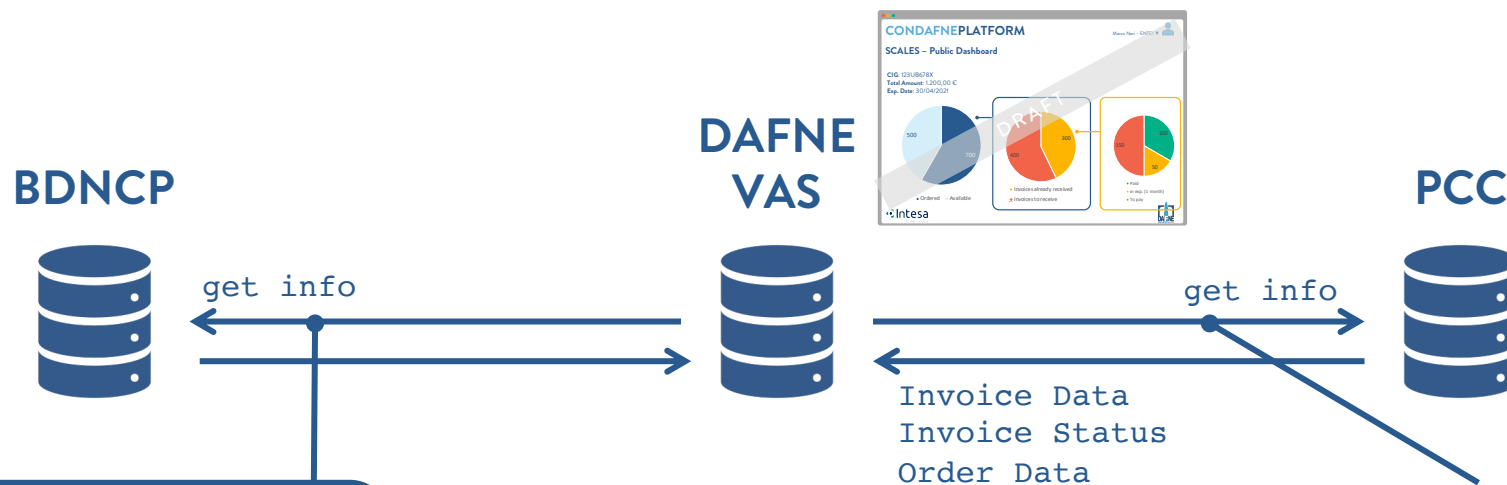
#3: PUBLIC DASHBOARD

Public Expenses dashboard

Thanks to this service, the Public entities will be able to monitor the progress of the expenditure for their tenders, having at their disposal a dashboard that shows, for each tender (uniquely identified through its CIG number), the total amount of the tender, the amount related to purchase orders already issued, the amount related to invoices already received and the amount related to invoices already paid

CONDAFNEPLATFORM

Marco Neri – ENTE1 ▼

SCALES – Public Dashboard

CIG: 123UB678X
Total Amount: 1.200,00 €
Exp. Date: 30/04/2021

DRAFT

- 500
- 700

■ Ordered ■ Available

- 300
- 400

■ Invoices already received
■ Invoices to receive

- 100
- 150
- 50

■ Paid
■ in exp. (1 month)
■ To pay

Intesa
An IBM Company

#3: PUBLIC DASHBOARD

BDNCP

DAFNE VAS

PCC

get info

get info

Invoice Data
Invoice Status
Order Data

The National Public Contracts Database (BDNCP) is accessible through the ANAC website http://portaletrasparenza.anticorruzione.it/microstrategy/html/index.htm

There is no webservices implemented, but it seems possible to make 'structured' calls indicating the CIG being searched. Further analysis needs to be made on this subject

These calls will be made, per public entity, through the WS implemented by PCC, which should then return information about orders sent through NSO and invoices received by the institution via SDI and their status

CONSORZIODAFNE.COM

www.consorziodafne.com

info@consorziodafne.com

Sede Legale
c/o LTA Studio
Via G. Leopardi, 7
20123 Milano (MI)

Sedi Operative

Via di Collodi, 16   Viale Monza, 259
50141 Firenze   20126 Milano