Knowledge Management and Protection Systems (KMaPS)

Corso di Laurea Magistrale in Ingegneria

Prof. Paolo Nesi

DISIT Lab http://www.disit.dinfo.unifi.it/

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Cosa vediamo Oggi

- Modello del corso
- Laboratorio DISIT
- Progetti in corso e attività correlate
- Visione generale del corso

Argomenti del Corso: 2015-2016

- Parte 0: descrizione del corso: obiettivi, argomenti, e benefici
- Parte 1: sistemi di protezione dei contenuti digitali, DRM e CAS
- Parte 2: none……..
- Parte 3: XML, RDF, Ontologies
- Parte 4: knowledge management
- Parte 5: Crawling, data mining and Natural Language Processing
- Parte 6: Social Media technologies
- Parte 7: raccomandazioni e semantic computing
- Parte 7b: internet advertising and social network
- Parte 8: anatomy of a Social Network
- Parte 9: Big data stores and tools
- Parte 10: Hadoop and applications
- Parte 11: Smart City and Km4City at DISIT Lab
- Parte 12: Smart City: data ingestion and mining

Modello del Corso

- Argomenti di base come tecnologie e soluzioni
- Tipicamente per ogni soluzione sono presentati:
  - Requisiti e motivazioni dello sviluppo dell'argomento
    - Punto di vista dell'utente e del gestore
  - Stato dell'arte
    - Basi teoriche e tecnologiche
    - Eventuali standard
    - Prodotti di mercato (leader), pro e contro
  - Recenti Innovazioni e tendenze
  - Confronti fra le varie soluzioni/tecnologie, pro e contro
  - Dettagli progettuali
  - Aspetti prestazionali e di scalabilità
- Seminari di altri studenti e/o esperti, ….

Ricevimento ed esame

- **Ricevimento per la didattica frontale**
  - In ufficio: Via S. Marta
  - Tutti i Venerdì dalle ore 11:00 alle 13:00
- **Ricevimento per elaborati**
  - *Ogni giorno, dalle 8:00 alle 20:00, inviate una email*
- **Modalità per il superamento dell'esame**
  - Completare/sviluppare un elaborato concordato
  - Argomenti: sulle tematiche del corso
- **Eventuali stage e tesi**

KMaPS: http://www.disit.org/6747

Distributed Systems and Internet Technologies Lab
Distributed Data Intelligence and Technologies Lab
Department of Information Engineering (DINFO)
University of Florence

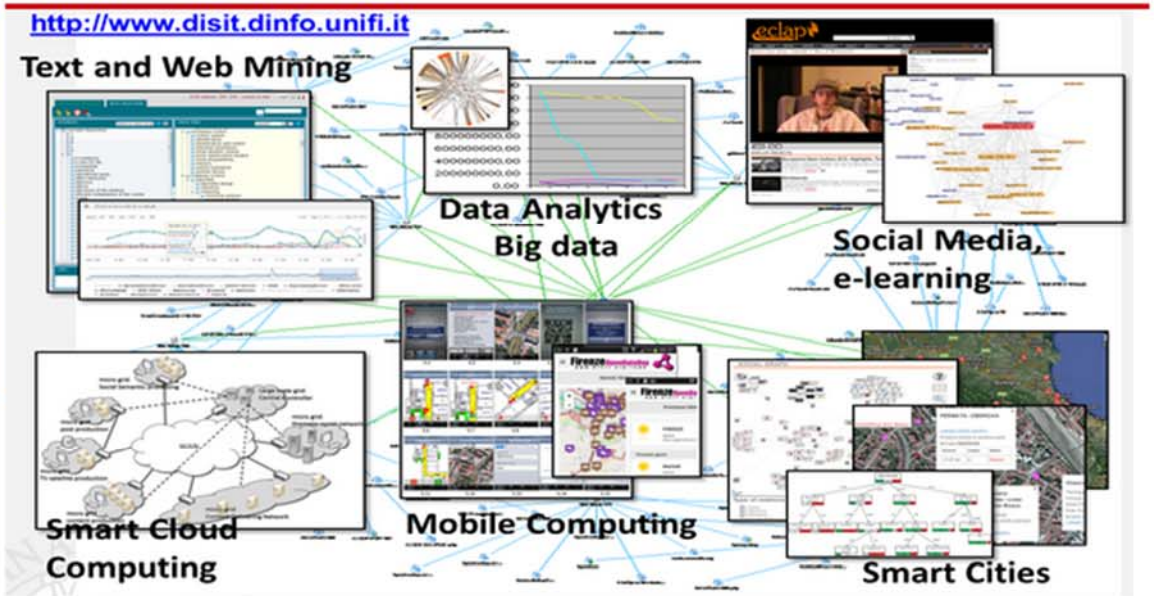
http://www.disit.dinfo.unifi.it

qualsiasi tipo deep search

HOME ABOUT RESEARCH INNOVATION CORSI E TESI COME FARE EVENTI MIO PROFILO root Uscire

Mostra Modifica Log Translate Devel

DISIT LAB OVERVIEW



DISIT lab and research group is active since 1994. It is one of the most active ICT labs of the University of Florence, metropolitan Tuscany area. DISIT successfully developed a relevant number of International and National research, development and innovation projects. DISIT provides an infrastructure for cloud and distributed computing.
DISIT has coordinated a number of large EC projects, in many others has covered the role of partner, and also coordinating scientific and technical WP and performing activities of dissemination and assessment. DISIT has received a relevant number of awards and is directly involved into top level international conferences, advisory boards, and committees.

DISIT research areas: big data, artificial intelligence, natural language

CONTENUTI

- *Ultime Attività*
- *In primo piano*
- *Più visti*
- *Most Viewed (last 500)*
- *Most Viewed All (last 500)*
- *Ultimi caricati*
- *Più votati*
- *Mie collezioni pubblicate*
- *Miei contenuti*
- *Carica un nuovo contenuto*

ROOT

- Gruppi
- Cerca Utenti
- Contenuti ed attività non lette relative ai tuoi gruppi
- Crea la matrice di tassonomia
- Forum
- Invite a colleague
- Issues
- Keyword cloud
- Messaggi e Sottoscrizioni
- Mio MatchMaking
- My issues
- News Blog
- Salva informazioni del cluster
- Workflow summary

Cosa vediamo Oggi

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- Visione generale del corso

UNIVERSITÀ DEGLI STUDI FIRENZE

DINFO
DIPARTIMENTO DI INGEGNERIA DELL'INFORMAZIONE

DISIT
DISTRIBUTED SYSTEMS AND INTERNET TECHNOLOGIES LAB

Distributed Data Intelligence and Technologies Lab
Distributed Systems and Internet Technologies Lab

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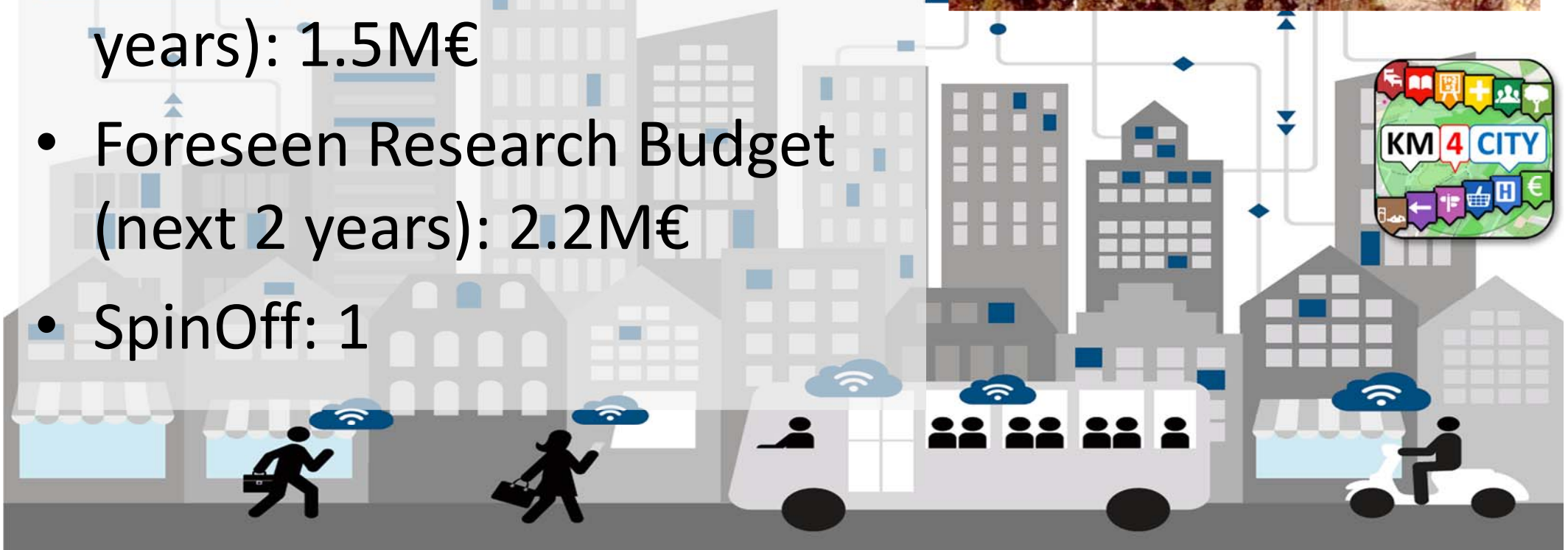
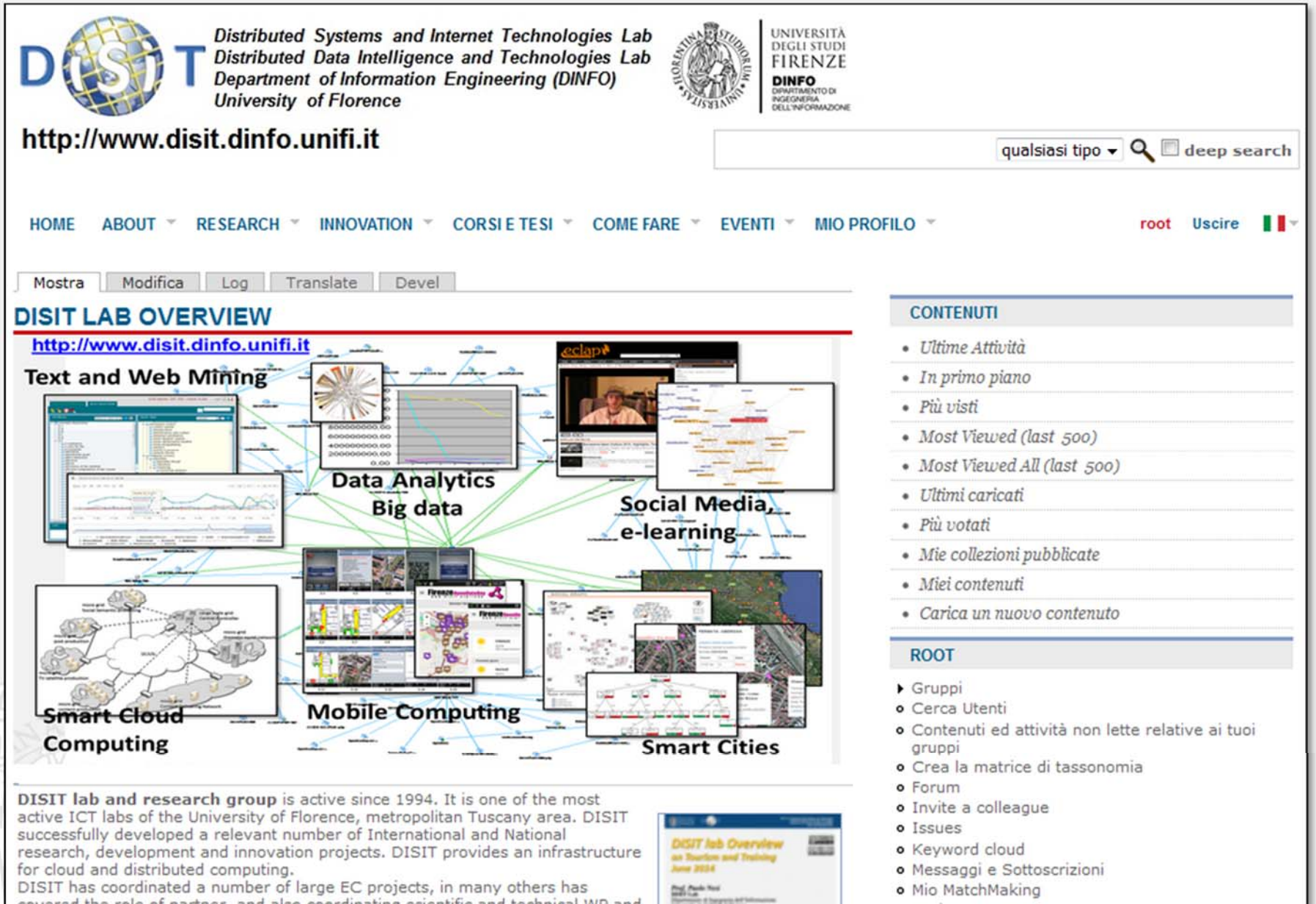
UNIVERSITÀ DEGLI STUDI FIRENZE | DINFO DIPARTIMENTO DI INGEGNERIA DELL'INFORMAZIONE | DISIT DISTRIBUTED SYSTEMS AND INTERNET TECHNOLOGIES LAB

DISIT Lab

- Researchers: 20
- Current Active Projects: 10
- Project in the last 4 years: 17
- Research Budget (last 4 years): 1.5M€
- Foreseen Research Budget (next 2 years): 2.2M€
- SpinOff: 1



DISIT Lab, http://www.disit.dinfo.unifi.it



Main Research sectors

- Smart City, BigData
- Knowledge Engineering, Data Mining
- Cloud Computing, Smart Cloud
- Social media, collaborative work
- Mobile computing
- Signalling and formal methods
- See for projects: http://www.disit.org/5501

Main & Recent Projects

Sii-Mobility

http://www.sii-mobility.org

http://www.cloudicaro.it

Firenze OpenDataDay www.disit.org/fodd

international open data day italia 2015

http://www.disit.org/fodd

Coll@bora

http://www.disit.org/5479

OSIM

http://osim.disit.org

eclap e-library for performing arts ICTPSP

http://www.eclap.eu

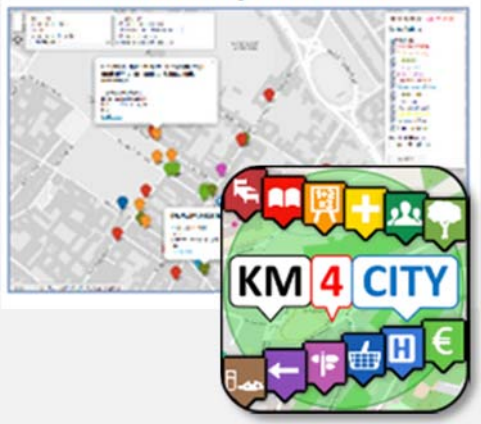
APRE TOSCANA AGENZIA PER LA PROMOZIONE DELLA RICERCA EUROPEA

http://www.apretoscana.org

TESYS RAIL

Linked Open Graph

ServiceMap for LOD



MATCH MAKING multiplace

http://www.disit.org/5530

REPLICATE

RAISSS

Trace-IT

axmedis

ISO/IEC JTC1/SC29 WG11 MPEG MOVING PICTURE EXPERTS GROUP

Smart COMMUNITIES Tech Italian Technology Cluster for Smart Communities

resolute

http://www.axmedis.org

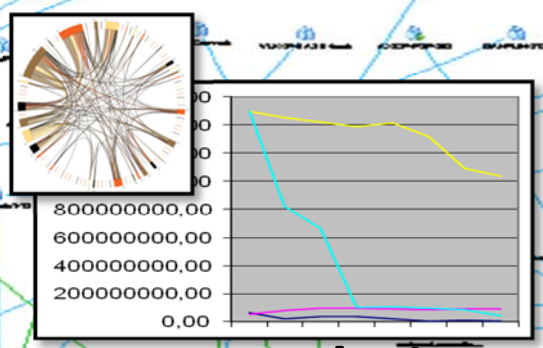
http://www.disit.org/6588

Progetti Regionali, 2016

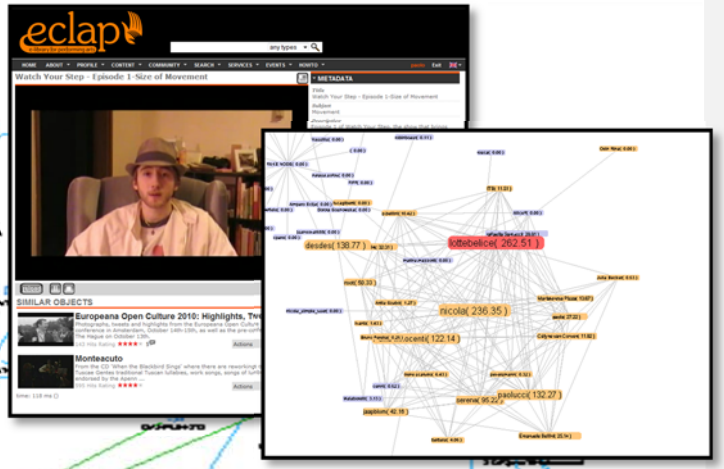
- JOIN: personal assistance
- Feedback: personization, traking and assistance dentro negozi di piccola e grande dimensione
- Manutenzione impianti chimici: navigazione integrata indoor/outdoor
- Fabbrica/Industria 4.0: automazione industriale
- ….

http://www.disit.dinfo.unifi.it

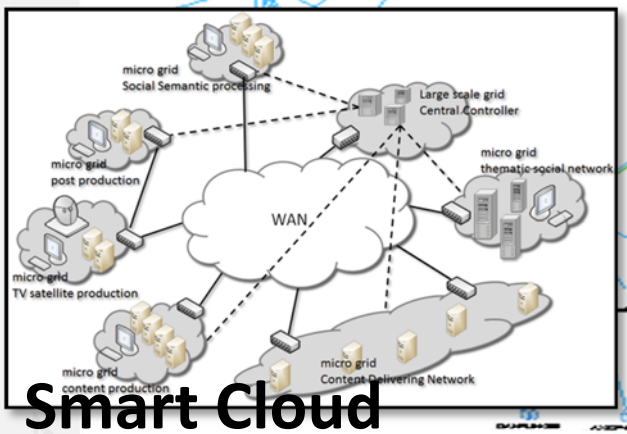
Text and Web Mining



Data Analytics
Big data

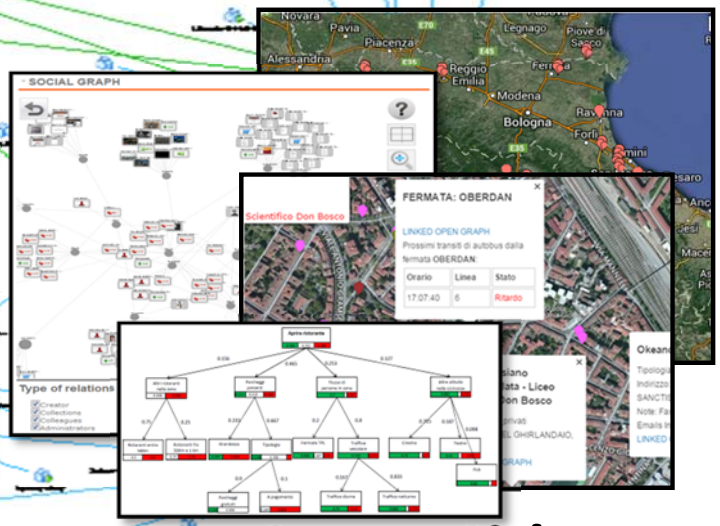


Social Media, e-learning



Smart Cloud Computing

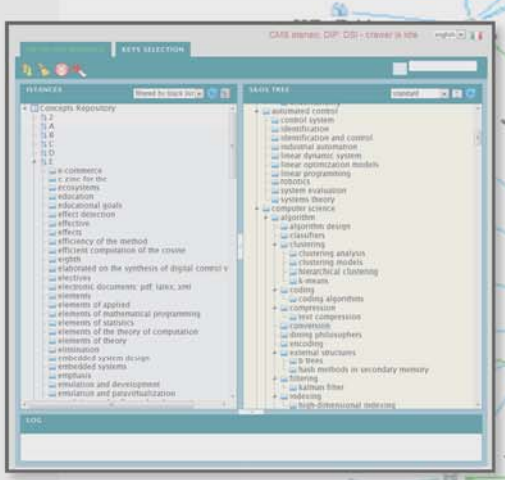
Mobile Computing

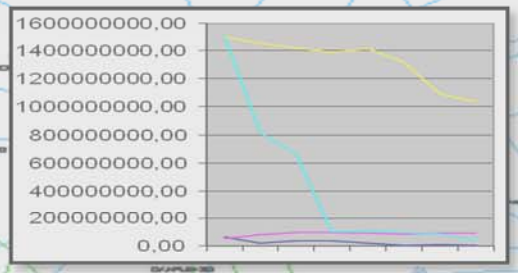


Smart Cities

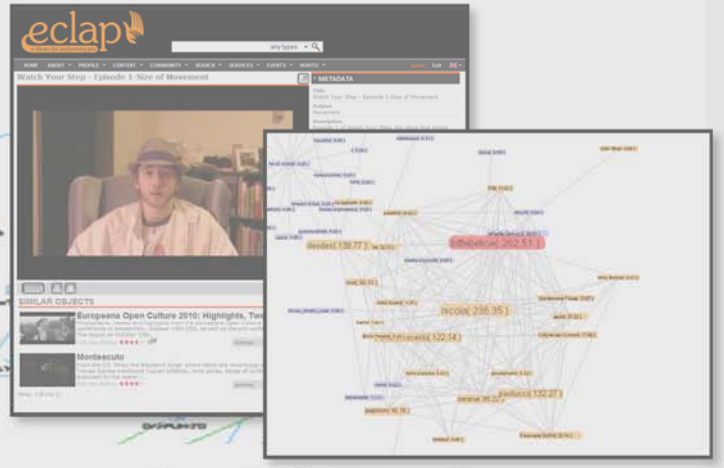
http://www.disit.dinfo.unifi.it

Text and Web Mining

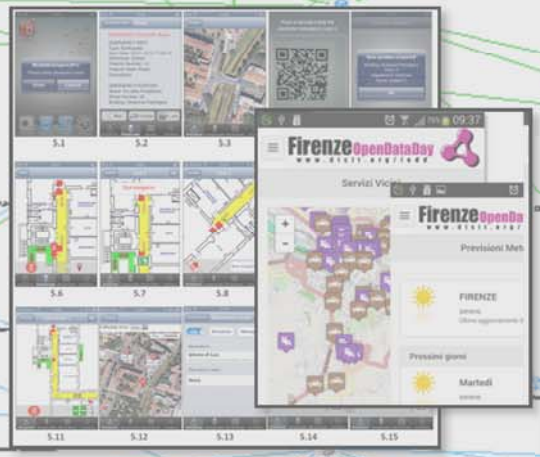


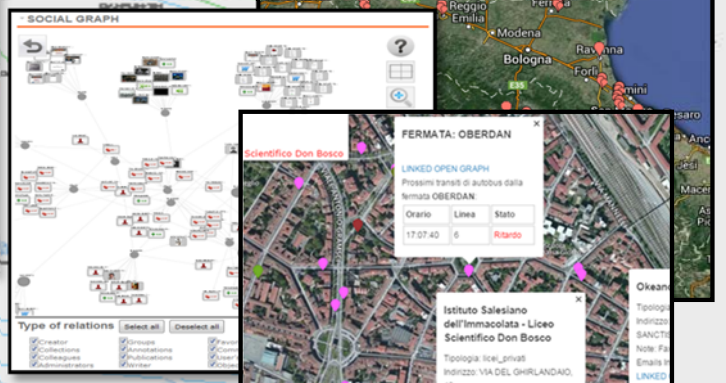


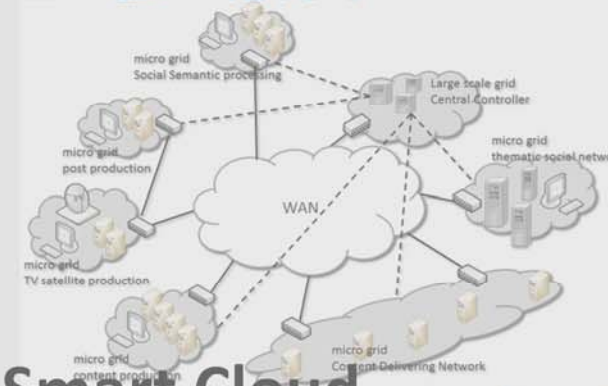
Data Analytics
Big data



Social Media,
e-learning







Smart Cloud
Computing

Mobile Computing

Smart Cities

Smart City

- **Progetti:** http://www.disit.org/5501
  - **Km4city: http://www.disit.org/km4city**
  - RESOLUTE: H2020, http://www.resolute-eu.org
  - REPLICATE H2020, SCC1, EC, parte lo 01-01-2016
  - Sii-Mobility, http://www.sii-mobility.org
  - Social Innovation: Coll@bora http://www.disit.org/5479
  - Navigation Indoor/outdoor: Mobile Emergency http://www.disit.org/5404
  - Trasporti e mobilità: TRACE-IT, RAISSS, TESYSRAIL
- **Tool:** http://www.disit.org/5489
  - Service Map: http://servicemap.disit.org
  - Risk analysis, decision support systems
  - Smart city ontology and reasoning tools
  - Data reasoning, deduction, prediction
  - Data gathering, data mining and reconciliation
  - Service analysis and recommendations
  - Autonomous train operator, train signaling
  - Mobile Applications

Trace-IT

RAISSS

www.Km4City.org

Technical info on: http://www.disit.org/km4city

Transport systems
Mobility, parking

Public Services
Govern, events,

Sensors, IOT
Cameras, ..

Environment,
Water, energy

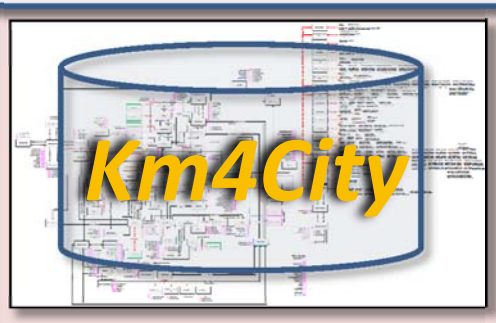
Shops, services,
operators

Social Media
WiFi, network

Static, Slow and Real Time data flows

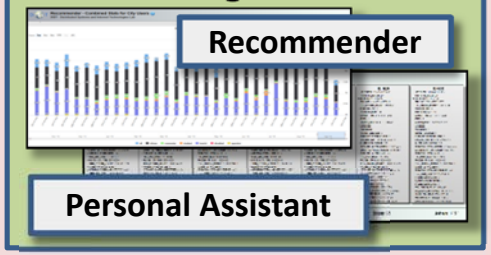
DISCES -- Distributed and parallel architecture on Cloud

Km4City Smart City Engine



Big Data Analytics

Smartening Tools



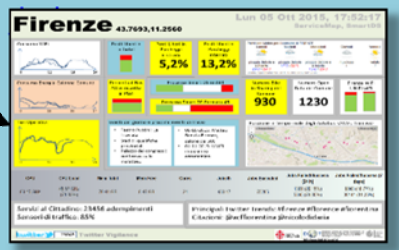
Development Tools

Http://www.km4city.org

Km4City Smart City API

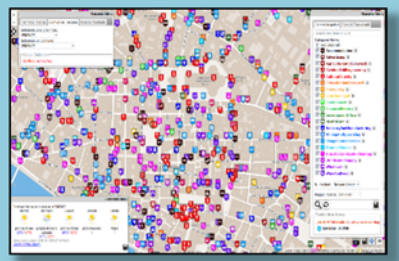
Tools for City Operators and Decision Makers

Smart City Dashboard
Http://dashboard.km4city.org/



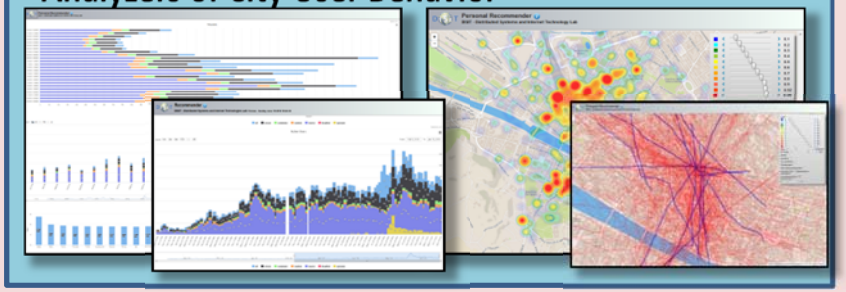
Smart Decision Support
Http://Smartds.km4city.org

ServiceMap browser
Http://servicemap.km4city.org



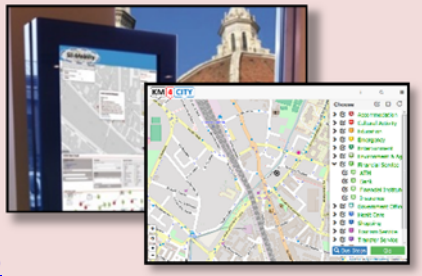
Twitter Vigilance
Http://www.disit.org/tv

Analyzers of City User Behavior



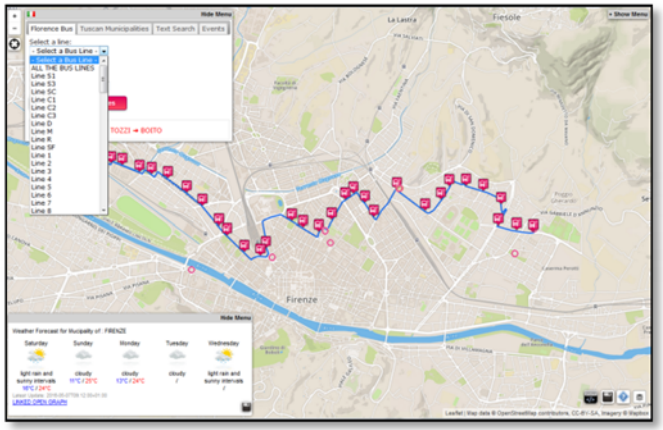
Tools for Final Users

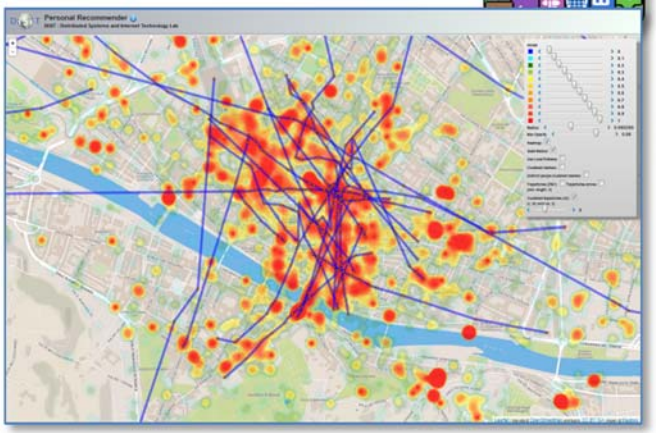
Mobile e Web Apps
Http://www.km4city.org/webapp

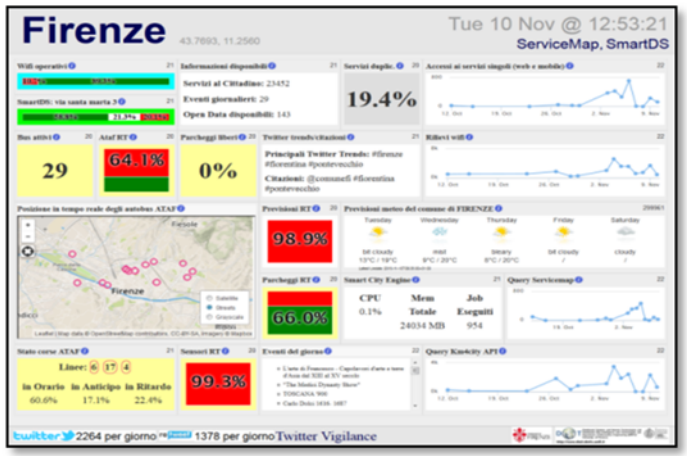


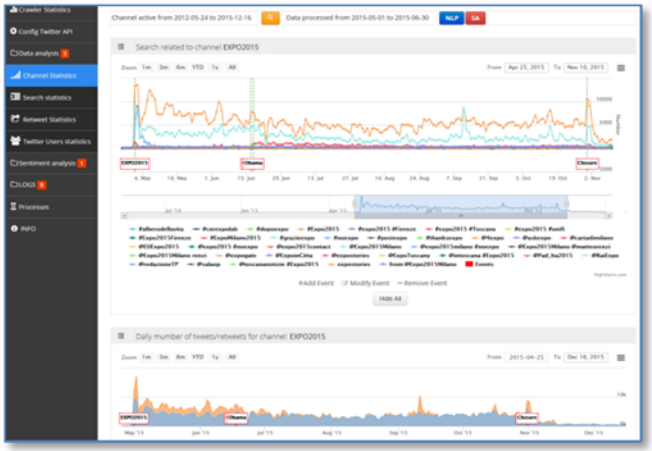
Http://www.km4city.org/app

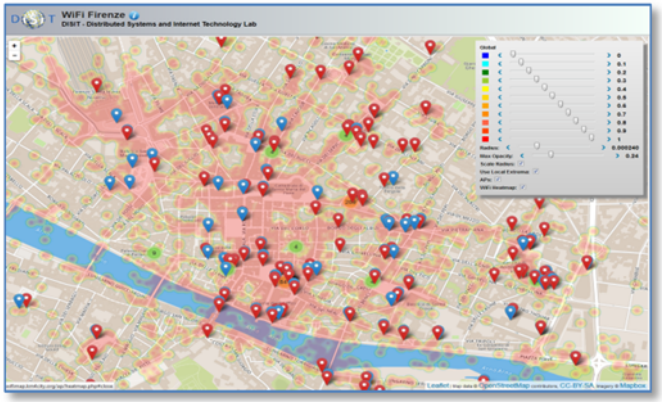
Smart City Dashboard

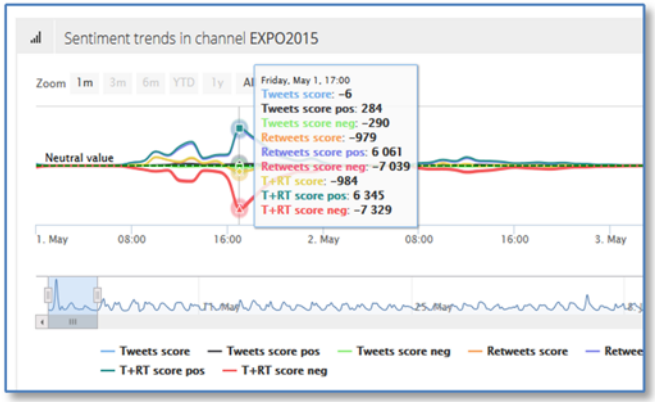








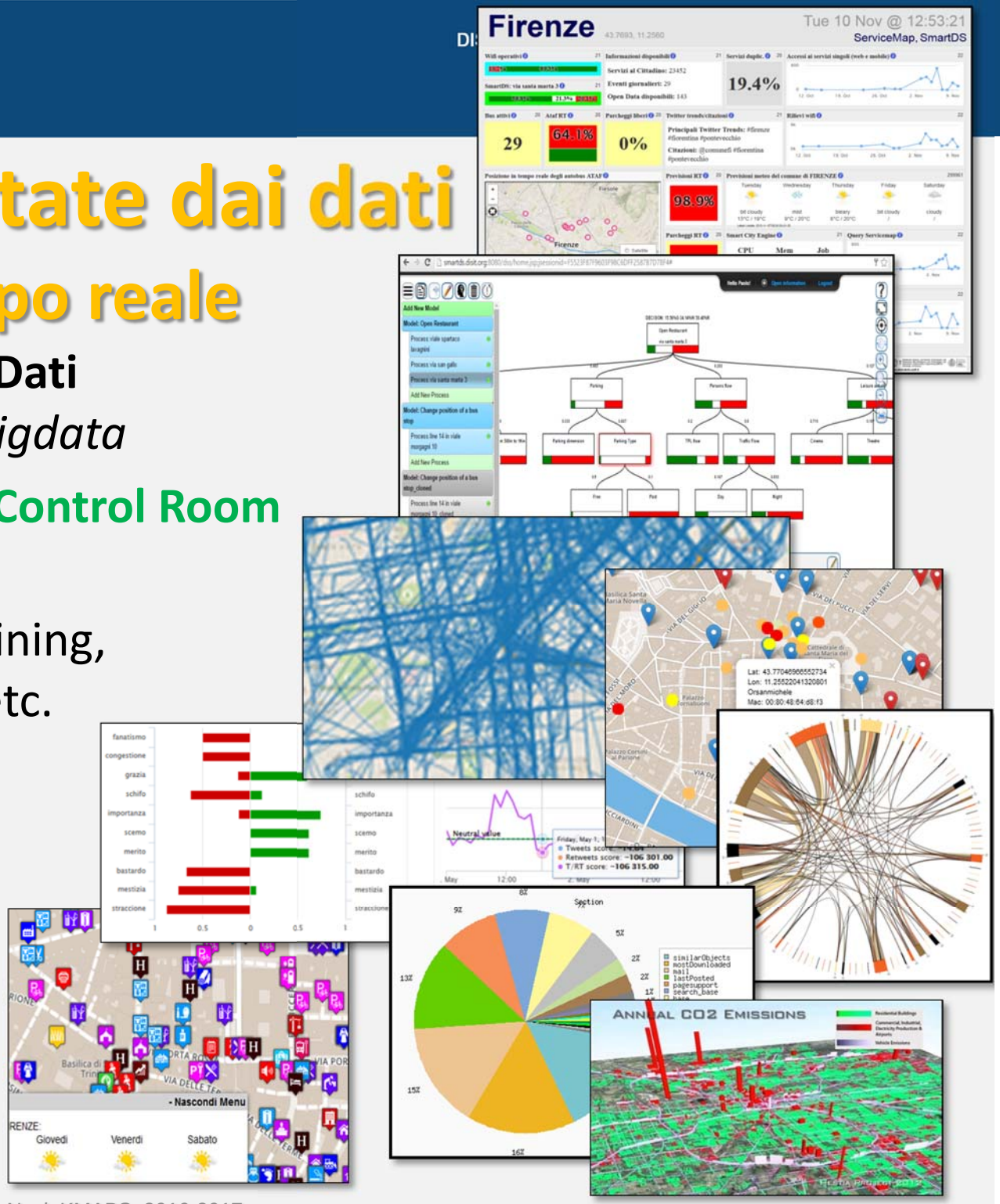


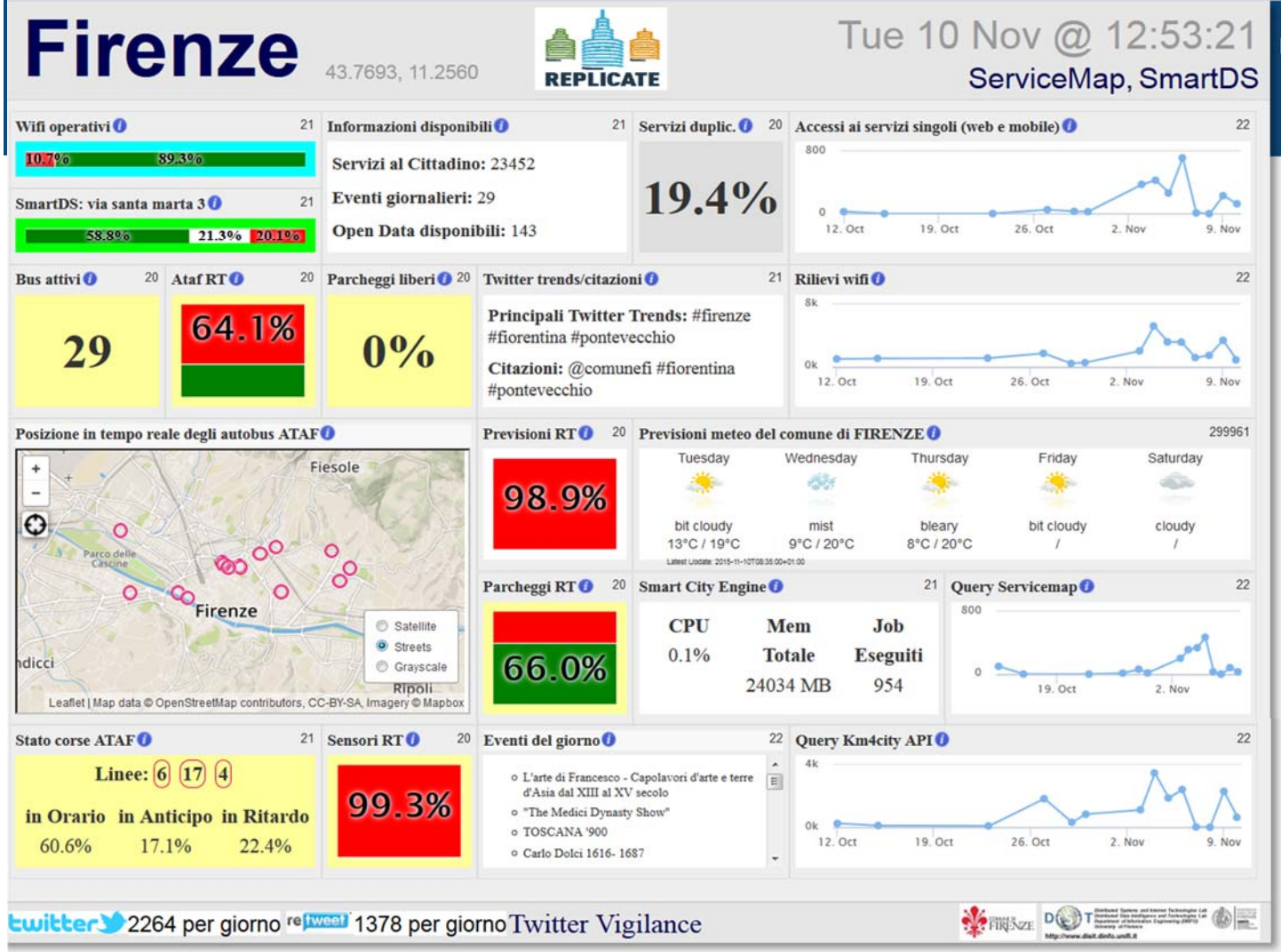


Paolo Nesi, KMAPS, 2016-2017

Decisioni supportate dai dati periodiche ed in tempo reale

- **Condivisione e Integrazione Dati multidominio:** *semantica e bigdata*
- **Dati →Smart City Engine → Control Room**
- **analisi**: monitoraggio, flussi e comportamenti, sondaggi, mining, correlazioni, cause – effetti, etc.
  - Per il miglioramento di servizi correnti
  - Per reagire ad eventi, incremento della resilienza,
  - Per la creazione servizi innovativi
  - …





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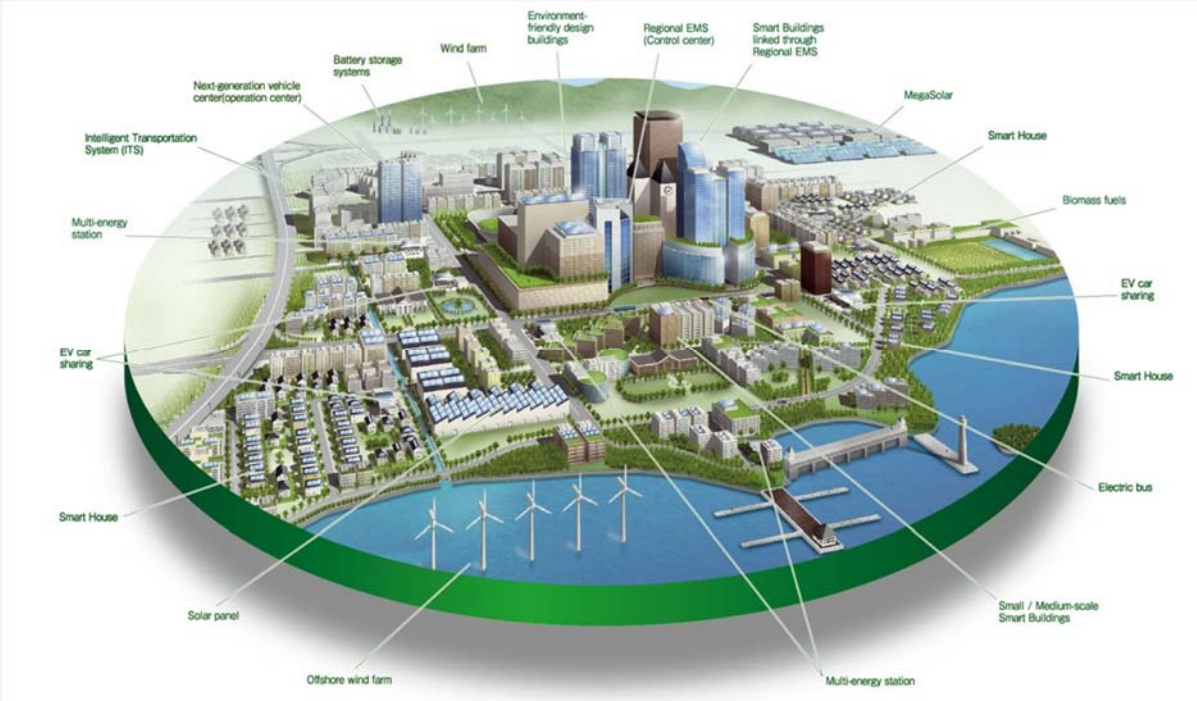
ICT e infrastrutture di comunicazione sono una chiave per tenere sotto controllo e gestire le CI ma e per il miglioramento della resilienza delle città:

Control Room delle Città Metropolitane devono:

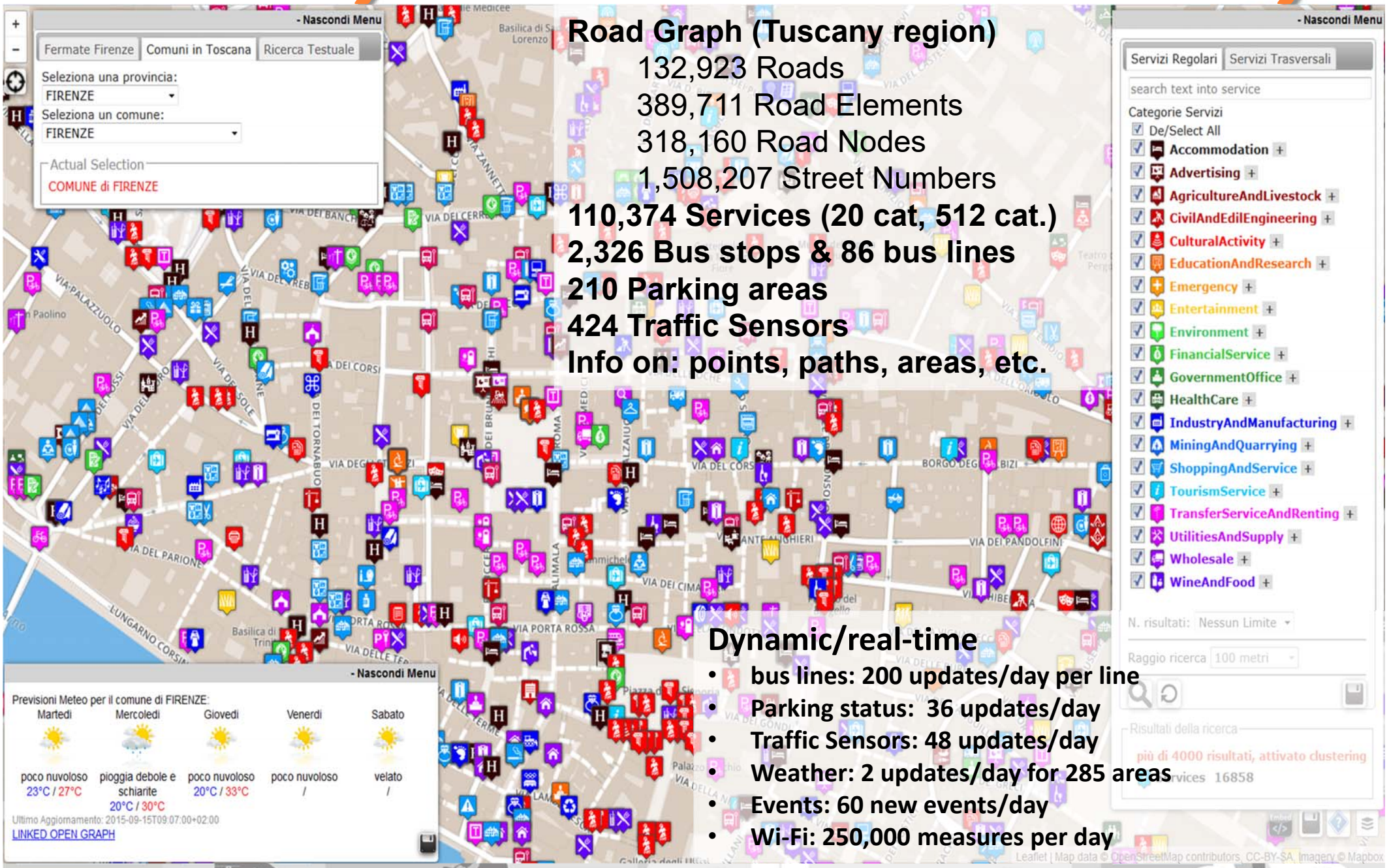
- **arrivare a supervisionare domini multipli** e le interdipendenze fra mobilità, energia, comunicazione, servizi, flussi traffico, flussi pedonali, turismo, etc.
- **Migliorare la loro Resilienza**, capacità di reazione ed assorbimento.

Smartness, smart city needs 6 features

- Smart Health
- Smart Education
- Smart Mobility
- Smart Energy
- Smart Governmental
  - Smart economy
  - Smart people
  - Smart environment
  - Smart living
- Smart Telecommunication



Km4City on Firenze & Tuscany



Road Graph (Tuscany region)

- 132,923 Roads
- 389,711 Road Elements
- 318,160 Road Nodes
- 1,508,207 Street Numbers

110,374 Services (20 cat, 512 cat.)

2,326 Bus stops & 86 bus lines

210 Parking areas

424 Traffic Sensors

Info on: points, paths, areas, etc.

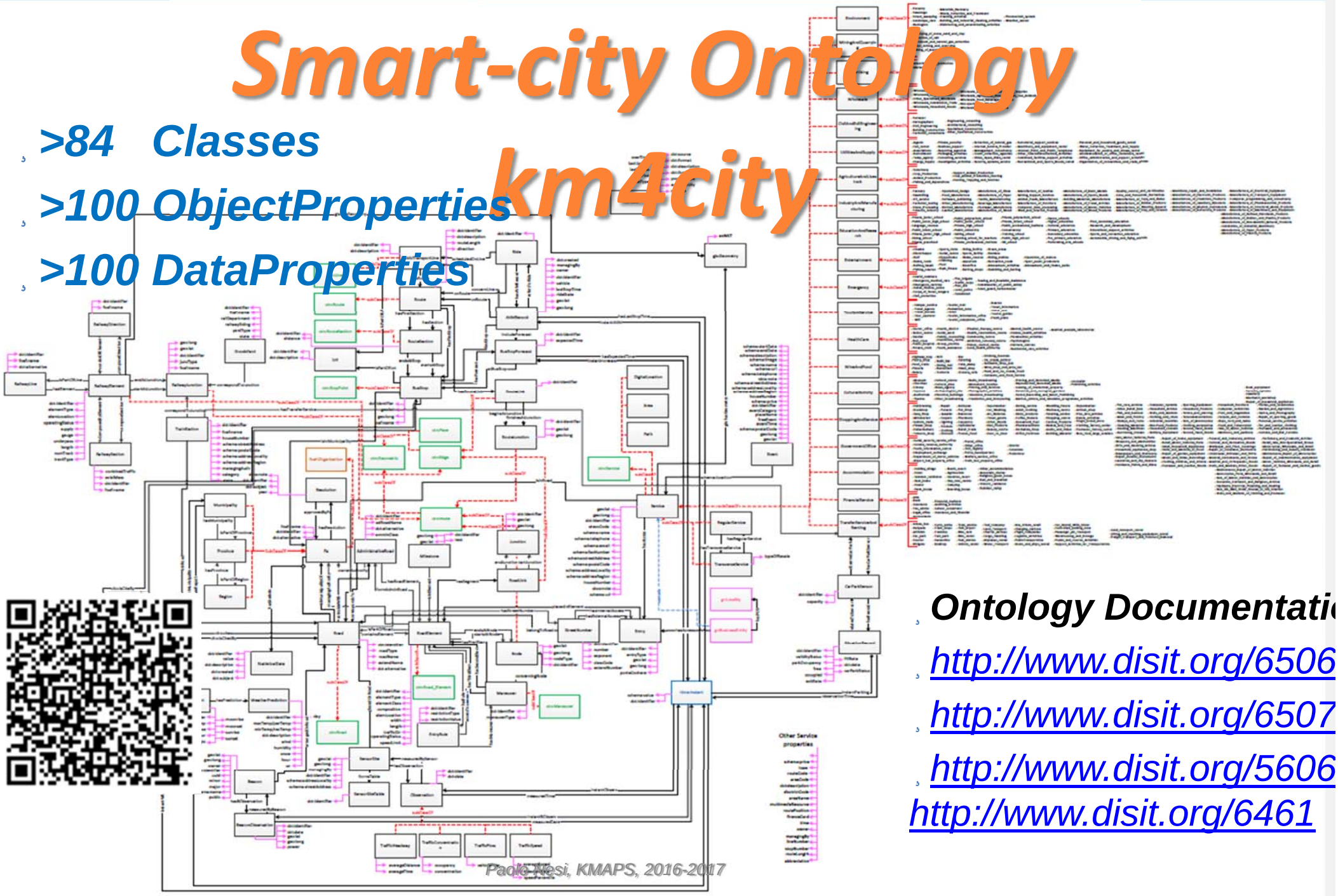
Dynamic/real-time

- **bus lines: 200 updates/day per line**
- **Parking status: 36 updates/day**
- **Traffic Sensors: 48 updates/day**
- **Weather: 2 updates/day for 285 areas**
- **Events: 60 new events/day**
- **Wi-Fi: 250,000 measures per day**

Smart-city Ontology

km4city

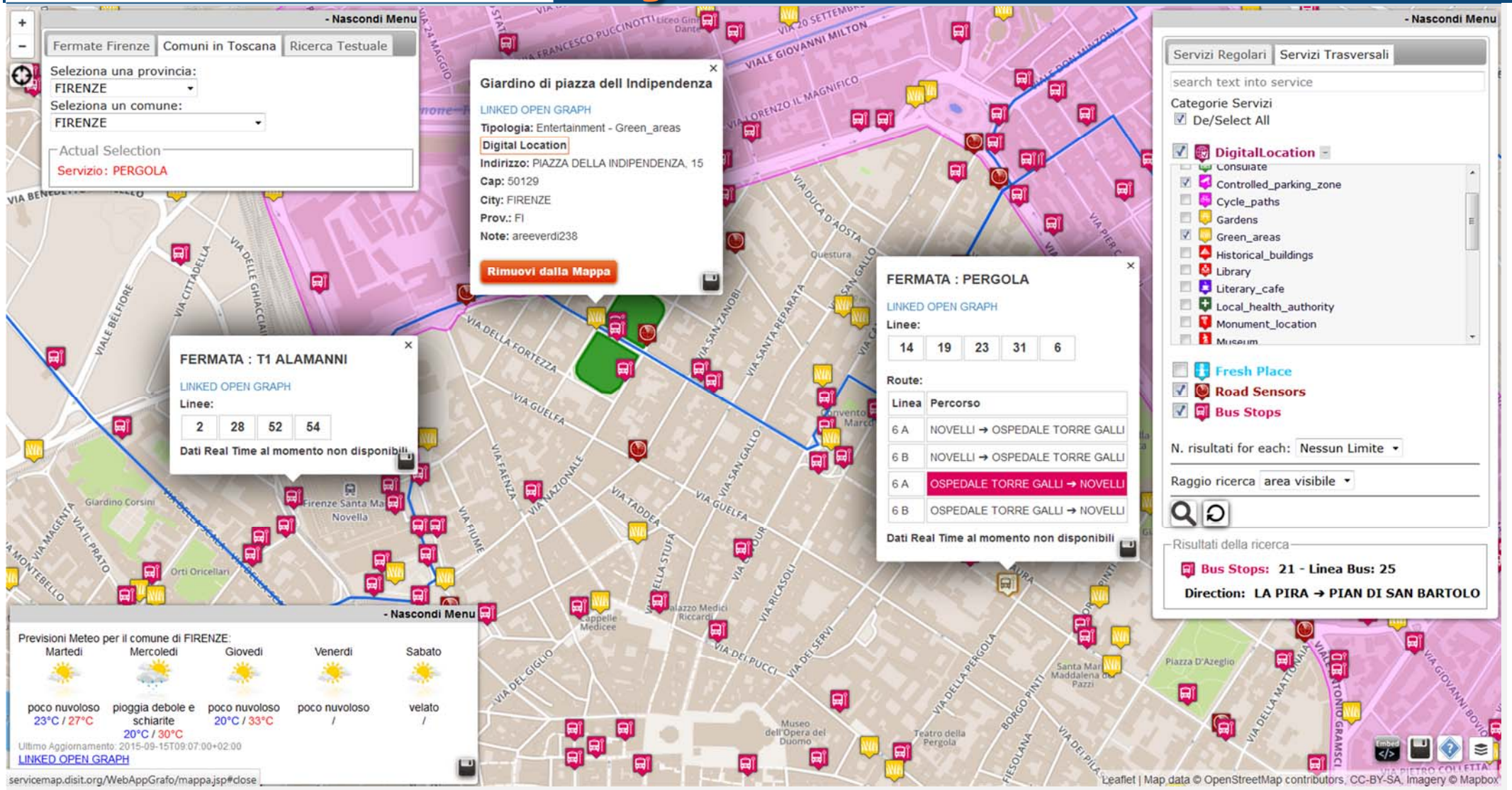
- >84 Classes
- >100 ObjectProperties
- >100 DataProperties



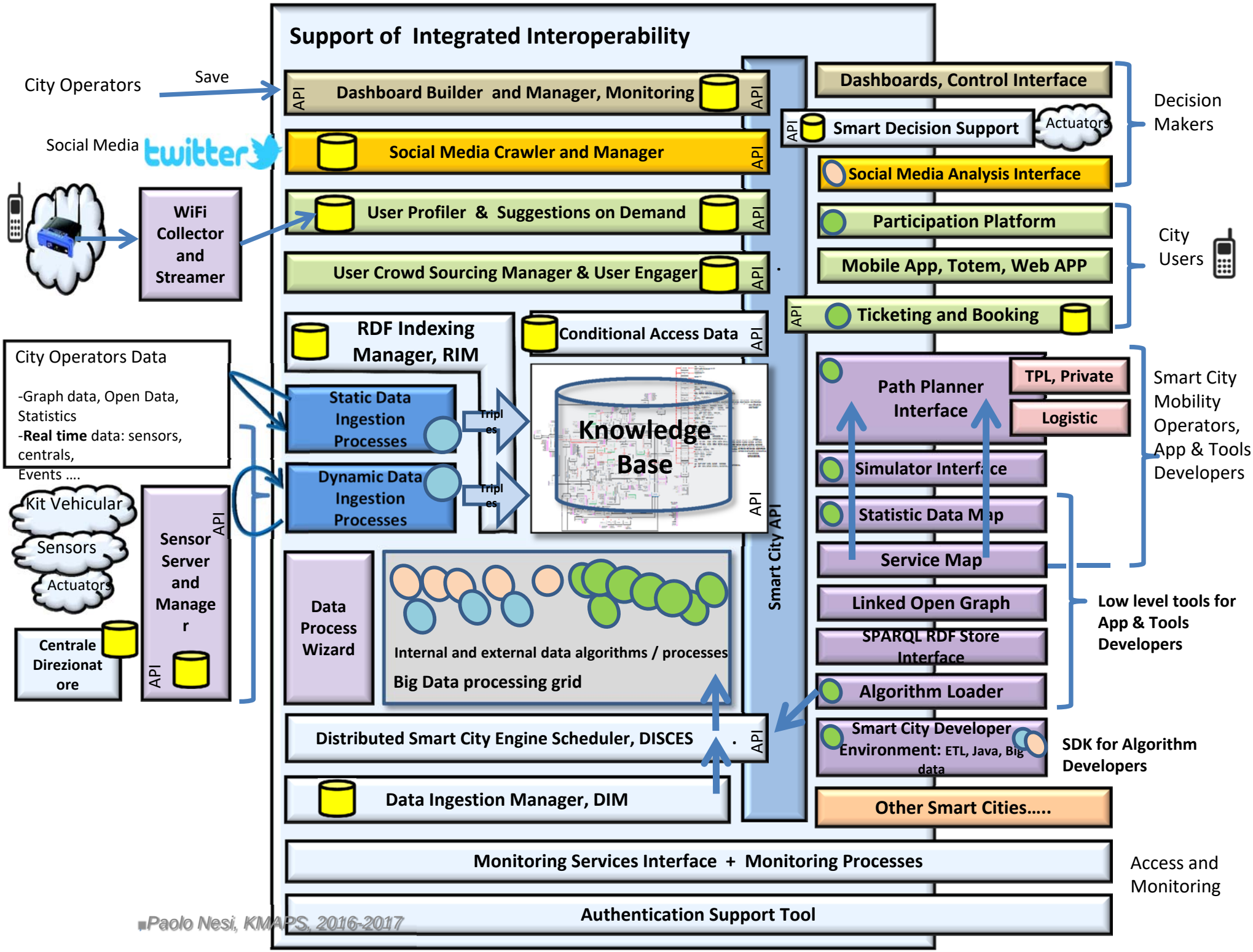
- **Ontology Documentati**
- http://www.disit.org/6506
- http://www.disit.org/6507
- http://www.disit.org/5606

http://www.disit.org/6461

Km4City su Firenze



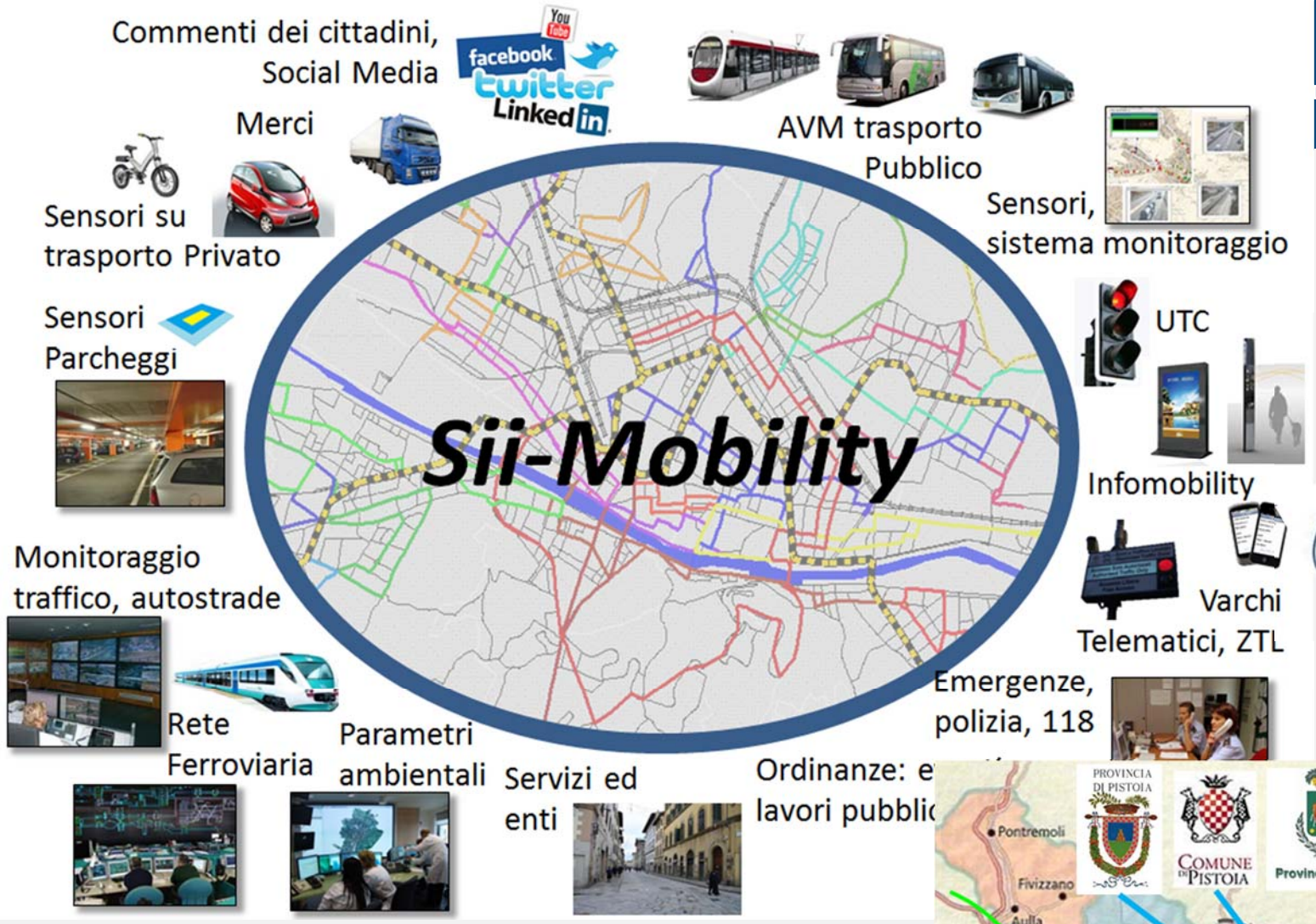
- Aree, percorsi ATAF, Ciclabili, tramvia, ZTL, etc.


Support of Integrated Interoperability
City Operators
Save
Social Media
twitter
WiFi Collector and Streamer
Dashboard Builder and Manager, Monitoring
Social Media Crawler and Manager
User Profiler & Suggestions on Demand
User Crowd Sourcing Manager & User Engager
RDF Indexing Manager, RIM
Conditional Access Data
City Operators Data
-Graph data, Open Data, Statistics
-Real time data: sensors, centrals,
Events ....
Static Data Ingestion Processes
Dynamic Data Ingestion Processes
Triples
Knowledge Base
Kit Vehicular
Sensors
Actuators
Sensor Server and Manager
Centrale Direzionatore
Data Process Wizard
Internal and external data algorithms / processes
Big Data processing grid
Distributed Smart City Engine Scheduler, DISCES
Data Ingestion Manager, DIM
Smart City API
Dashboards, Control Interface
Smart Decision Support
Actuators
Social Media Analysis Interface
Participation Platform
Mobile App, Totem, Web APP
Ticketing and Booking
Path Planner Interface
TPL, Private
Logistic
Simulator Interface
Statistic Data Map
Service Map
Linked Open Graph
SPARQL RDF Store Interface
Algorithm Loader
Smart City Developer Environment: ETL, Java, Big data
Other Smart Cities.....
Decision Makers
City Users
Smart City Mobility Operators, App & Tools Developers
Low level tools for App & Tools Developers
SDK for Algorithm Developers
Monitoring Services Interface + Monitoring Processes
Authentication Support Tool
Access and Monitoring
API

Sii-Mobility (Smart City nazionale)

- *Titolo:* **Supporto di Interoperabilità Integrato per i Servizi al Cittadino e alla Pubblica Amministrazione**
- **Ambito: Trasporti e Mobilità Terrestre**
- **Obiettivi**:
  1. ridurre i costi sociali della mobilità
  2. semplificare l'uso dei sistemi di mobilità
  3. Sviluppo di soluzioni e applicazioni funzionanti e sperimentazione
  4. Contribuire al miglioramento degli standard nazionali ed internazionali

- **Coordinatore Scientifico:** ***Paolo Nesi, DISIT DINFO UNIFI***
- **Partner:** ECM; Swarco Mizar; University of Florence (svariati gruppi+CNR); Inventi In20; Geoin; QuestIT; Softec; T.I.M.E.; LiberoLogico; MIDRA; ATAF; Tiemme; CTT Nord; BUSITALIA; A.T.A.M.; Sistemi Software Integrati; CHP; Effective Knowledge; eWings; Argos Engineering; Elfi; Calamai & Agresti; KKT; Project; Negentis.
- **Durata**: 36 months; **Costo**: circa 14 Meuro
- **Link**: http://www.disit.dinfo.unifi.it/siimobility.html



Sii-Mobility

http://www.sii-mobility.org

- Sperimentazioni principalmente in Toscana
- Sperimentazioni piu' complete in aree primarie ad alta integrazione dati
- Integrazione con i sistemi presenti

Obiettivi Generali (sintesi)

- **ridurre i costi sociali della mobilità** per le persone
  - consentendo **minori disagi, maggiore efficienza,**
  - **maggiore sensibilità verso le necessità del cittadino**,
  - minori emissioni, migliori condizioni ambientali;
  - percorsi info-formativi in modo che il **cittadino cambi le abitudini non virtuose**;
  - **ridurre i costi di trasporto ed i tempi di percorrenza** per gli utenti, per i gestori e le amministrazioni, tramite soluzioni di ottimizzazione.
- **semplificare l'uso dei sistemi di mobilità**
  - **sensori innovativi per AVM** e mezzi privati sul territorio
  - **Sistemi integrati di pagamento** e di identificazione
  - **soluzioni di guida/percorso connesso** (connect drive, smart drive o walk)
  - **Integrazione di dati** provenienti da gestori e sorgenti di tipo diverso
  - **Gestione avanzata di mezzi**
  - **misurazione di flussi**
  - **realizzazione di sensori, attuatori**

- **Sperimentazione su comuni e province della Toscana**
- **Contribuire al miglioramento degli standard nazionali ed internazionali**

UNIVERSITÀ DEGLI STUDI FIRENZE | DINFO DIPARTIMENTO DI INGEGNERIA DELL'INFORMAZIONE | DISIT DISTRIBUTED SYSTEMS AND INTERNET TECHNOLOGIES LAB http://www.disit.org

Horizon 2020 European Union Funding for Research & Innovation

KM 4 CITY

http://www.resolute-eu.org

- **Develop European Resilience Management Guidelines (ERMG)**
  - Develop a conceptual framework for creating/ maintaining Urban Transport Systems
- Enhance resilience through improved support of human decision making processes, particularly by training professionals and civil users on the ERMG and the RESOLUTE system
- **Operationalize and validate the ERMG by implementing the RESOLUTE Collaborative Resilience Assessment and Management Support Systems (CRAMSS) for Urban Transport Systems** addressing Road and Urban Rail Infrastructures
  - **Pilots in Florence and Athens**
- Adoption of the ERMG at EU and Associated Countries level

University of Florence: DISIT lab DINFO (Proj coordinator), DISIA and DST	UNIFI	IT
THALES	THALES	IT
ATTIKOMetro	ATTIKO	GR
Comune di Firenze	CDF	IT
Centre for Research and Technology Hellas	CERTH	GR
Fraunhofer-Gesellschaft zur Förderung der angewandten Forschung e.V.	FHG	DE
HUMANIST	HUMANIST	FR
SWARCO Mizar	SWMIZ	IT
Associação para o Desenvolvimento da Investigação no Instituto Superior de Gestão	ADI-ISG	PT
Consorzio Milano Ricerche	CMR	IT

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DISIT DISTRIBUTED SYSTEMS AND INTERNET TECHNOLOGIES LAB
http://www.disit.org

RESOLUTE Architecture

resolute

RESOLUTE RESILIENCE Dashboard

Presentation& Visualization

User guidance

RESOLUTE Mobile APPs

FRAM → ResilienceDS

CRAMSS

FRAM operalization

ITS DSS

Smart DS

Evacuation DSS

Application framework

Algoritms and models

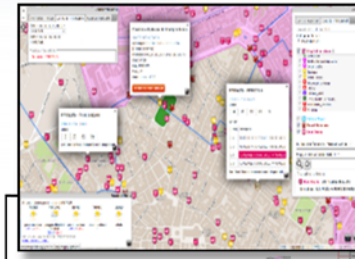
Decision support system

Data Integration APIs

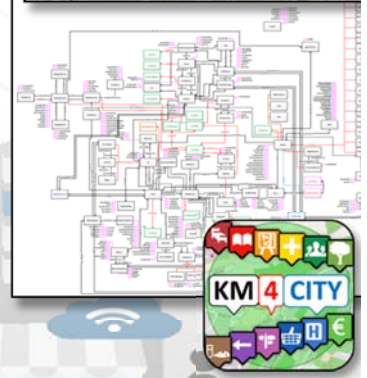
User Profiler APIs

User profiler

Integration framework



Data and Service Aggregator



Horizon 2020 European Union Funding for Research & Innovation

REPLICATE

Horizon 2020
European Union Funding
for Research & Innovation

REnaissance of PLaces
with Innovative Citizenship
And TEchnology

COMUNE DI FIRENZE

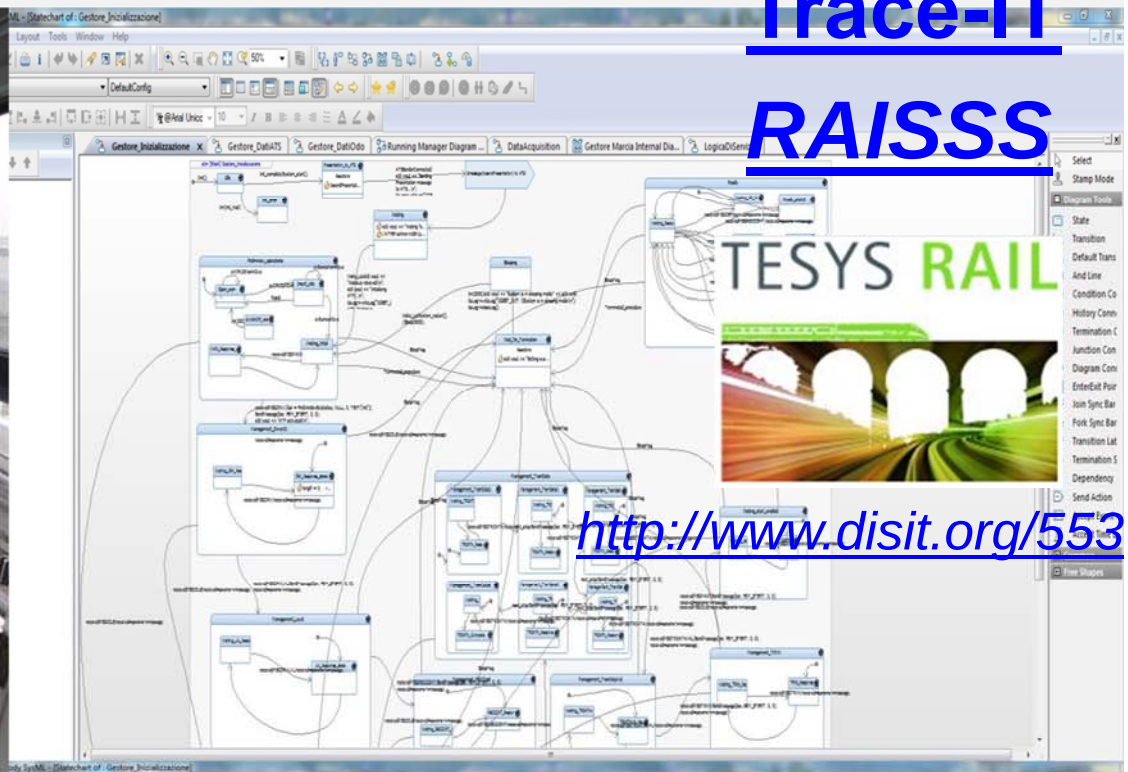
Smart Florence Plan

- ***demonstrate Smart City technologies in energy, transport and ICT in districts in:***
  - ***San Sebastian, Florence and Bristol,***
  - ***follower cities of Essen, Nilufer and Lausanne***
- *Cities are the customer: considering local specificities*
- *Solutions must be replicable, interoperable and scalable.*
  - *Integrated Infrastructure: deployment of ICT architecture, from internet of things to applications*
  - *Low energy districts*
  - *Urban mobility: sustainable and smart urban services*

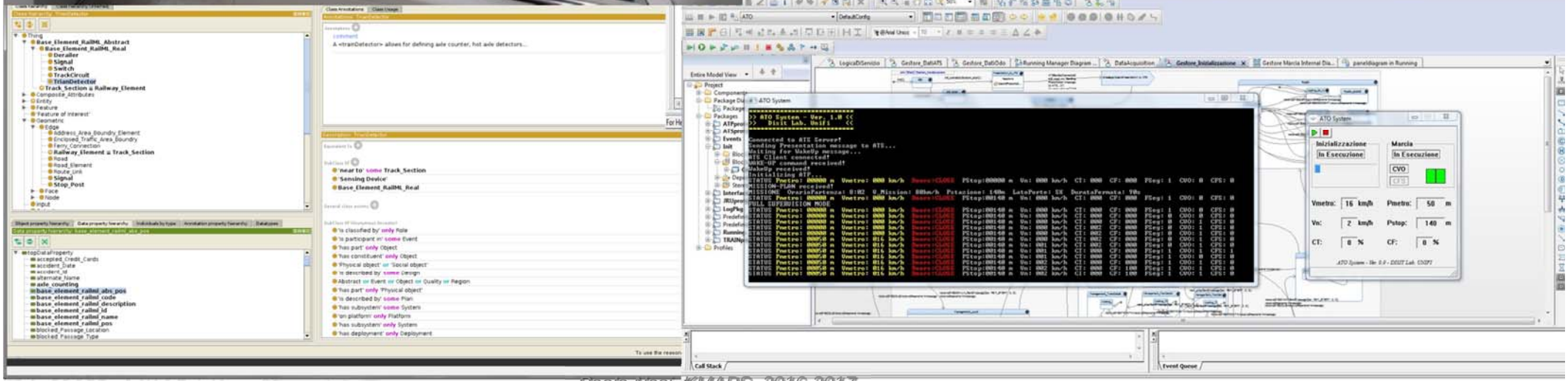
1 (coordinator) FOMENTO DE SAN SEBASTIAN FSS SPAIN
2 AYUNTAMIENTO DE SAN SEBASTIAN SAN SEBASTIAN SPAIN
3 COMUNE DI FLORENCE FLORENCE ITALY
4 BRISTOL COUNCIL BRISTOL UNITED KINGDOM
5 STADT ESSEN ESSEN GERMANY
6 NILUFER BELEDIYESI NILUFER TURKEY
7 VILLE DE LAUSANNE LAUSANNE SWITZERLAND
8 IKUSI ANGEL IGLESIAS, S.A. IKUSI SPAIN
9 ENDESA ENERGÍA, S.A. ENDESA SPAIN
10 EUROHELP CONSULTING, S.L. EUROHELP SPAIN
11 ILUMINACION INTELIGENTE LUIX, S.L. LUIX SPAIN
12 FUNDACION TECNALIA RESEARCH & INNOVATION TECNALIA SPAIN
13 EUSKALTEL, S.A. EUSKALTEL SPAIN
14 COMPAÑÍA DEL TRANVÍA DE SAN SEBASTIÁN DBUS SPAIN
15 CONSIGLIO NAZIONALE DELLE RICERCHE CNR ITALY
16 ENEL DISTRIBUZIONE, SPA ENEL ITALY
17 MATHEMA, SRL MATHEMA ITALY
18 SPES CONSULTING SPES ITALY
19 TELECOM ITALIA, SPA TELECOM ITALY
20 UNIVERSITA DEGLI STUDI DI FLORENCE UNIFI ITALY: DINFO.DISIT, DIEF
21 THALES ITALIA, SPA THALES ITALY
22 ZABALA INNOVATION CONSULTING ZABALA SPAIN
23 TECHNOMAR TECHNOMAR GERMANY
24 UNIVERSITY OF BRISTOL UOB UNITED KINGDOM
25 UNIVERSITY OF OXFORD UOXF UNITED KINGDOM
26 BRISTOL IS OPEN, LTD BIO UNITED KINGDOM
27 ZEETTA NETWORKS ZEETTA UNITED KINGDOM
28 KNOWLE WEST MEDIA CENTRE, LGB KWMC UNITED KINGDOM
29 TOSHIBA RESEARCH EUROPE, LTD TREL UNITED KINGDOM
30 ROUTE MONKEY, LTD ROUTE MONKEY UNITED KINGDOM
31 ESOTERIX SYSTMES, LTD ESOTERIX UNITED KINGDOM
32 NEC LABORATORIES EUROPE, LTD NEC UNITED KINGDOM
33 COMMONWHEELS CAR CLUB CIC CO-WHEELS UNITED KINGDOM
34 UNIVERSITY OF THE WEST OF ENGLAND UWE UNITED KINGDOM
35 ESADE BUSINESS SCHOOL ESADE SPAIN
36 SISTELEC SOLUCIONES DE TELECOMUNICACION, S.L. SISTELEC SPAIN

Trace-IT

RAISSS



http://www.disit.org/553



Signaling and formal methods

- **TRACE-IT:** regional project with ECM
  - Design of high speed train software for ATO
  - Verification and validation, train simulator and control
  - ATO: Autonomous Train Operator

Trace-IT

- **RAISSS:** regional project with ECM
  - Design of interlocking system with formal methods
  - Interlocking systems
  - Ontological and property proof approach

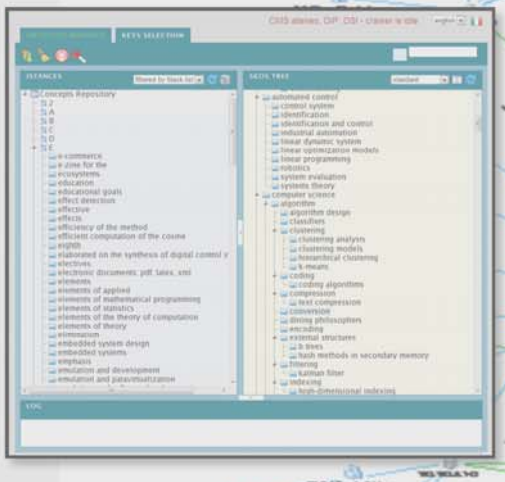
RAISSS

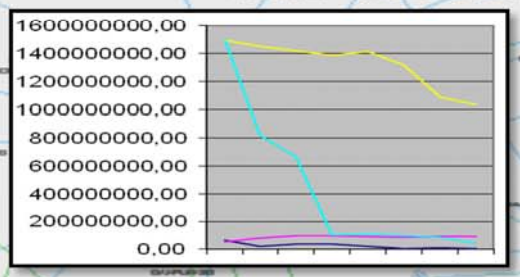
- **TesysRail**
  - Signaling system in the national cluster on train and transport solutions

http://www.disit.org/5530

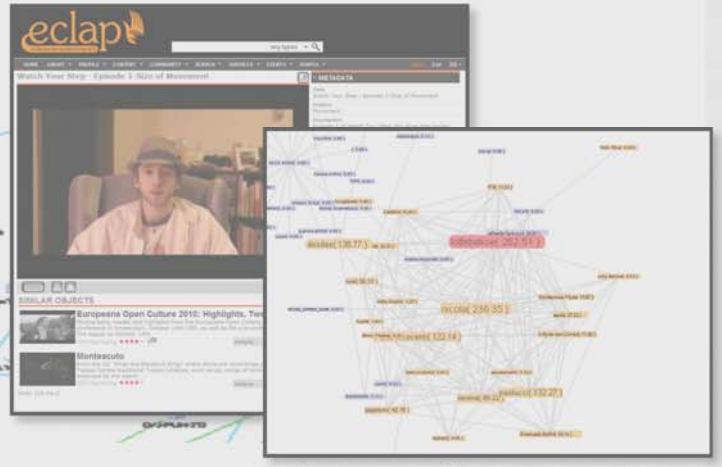
http://www.disit.dinfo.unifi.it

Text and Web Mining

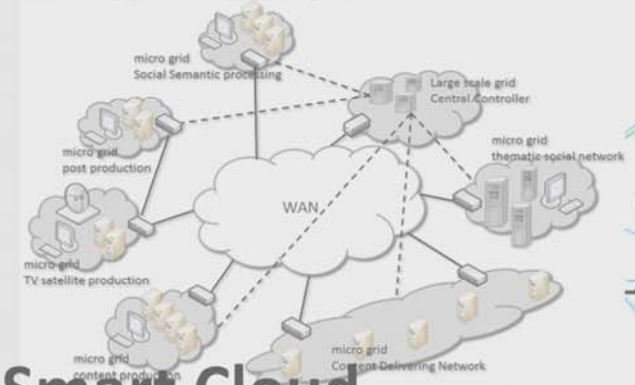




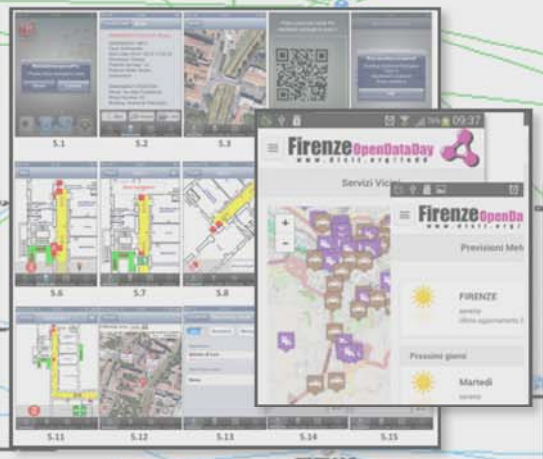
Data Analytics
Big data



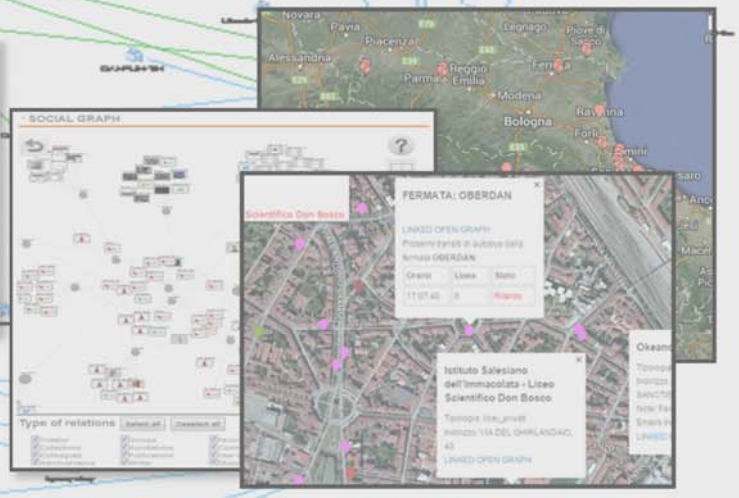
Social Media, e-learning



Smart Cloud Computing



Mobile Computing



Smart Cities

Data Analytics - Big data

- **Projects:** http://www.disit.org/5501
  - Linked Open Graph: http://LOG.disit.org
  - RESOLUTE H2020: smart decision support, http://www.resolute-eu.org
  - REPLICATE H2020: big data on mobility, services, energy, etc.
  - Sii-Mobility, http://www.sii-mobility.org
- **Tools:** http://www.disit.org/5489
  - Recommendations: Km4city mobile applications
  - Data mining and reconciliation
  - Data reasoning, deduction, prediction, decision support
  - Origin Destination Matrix
    - Traffic and people flow in the city
  - User behavior monitoring and analysis
    - SN Analysis and recommendations
  - Open data and Linked Open Data
    - LOG LOD service and tools

Privati Statici

- Codice fiscale
- Foto non condivise
- Aspetti legali
- Cartella clinica
- ..

- Movimenti personali non pubblicati
- Relazioni personali non pubblicate

Pubblici statici (open data)

statistiche: incidenti, censimenti, votazioni

- Statistiche accessi alla ZTL
- Strutture pubbliche UNIFI

posizione dei punti di interesse

- Musei
- Strutture della città
- Servizi attivi

- comportamenti
- social media
- contributi
- consumi

- Traffico personale
- Posizione mezzi,
- Parcheggi
- Posizione taxi
- Posizione CarSharing
- …

- Info traffico
- video camere
- Info Meteo
- Info Ambiente
- Code ai musei pubblici
- Terremoti
- Parcheggi

- Stato accessi alla ZTL
- Stato dei servizi

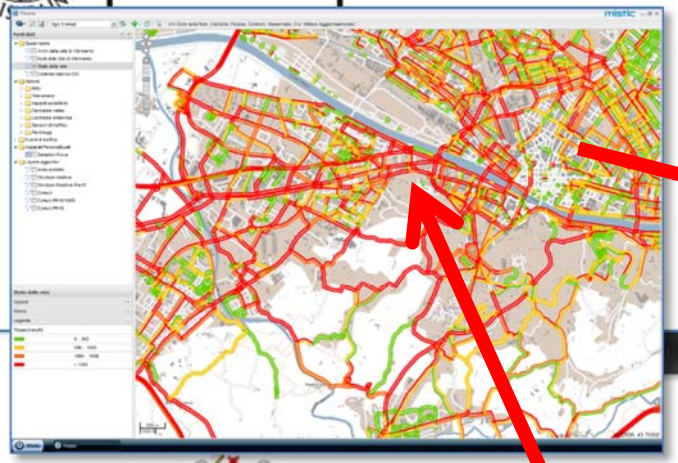
Privati Tempo reale

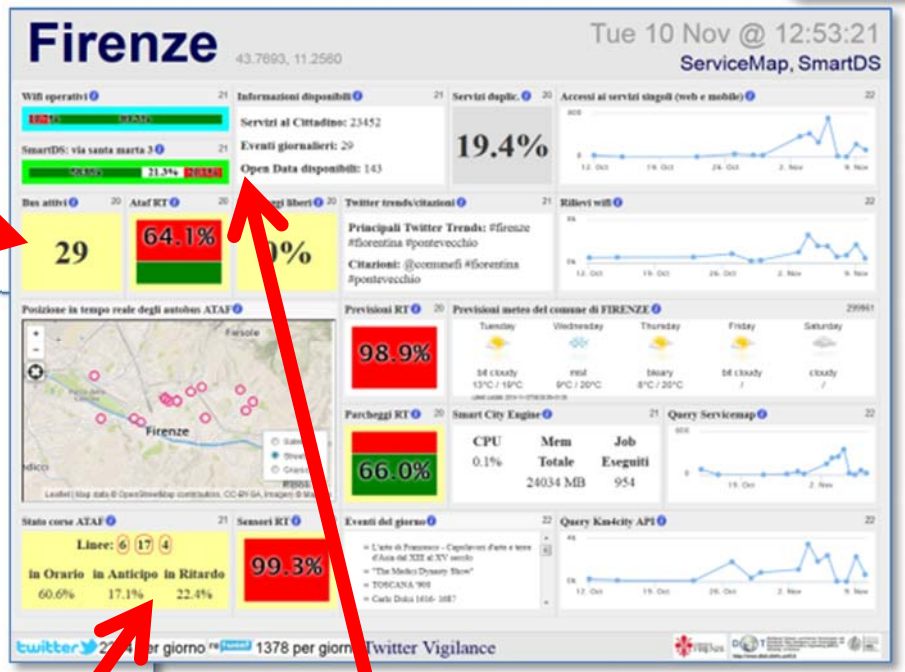
Pubblici Tempo reale (open data)

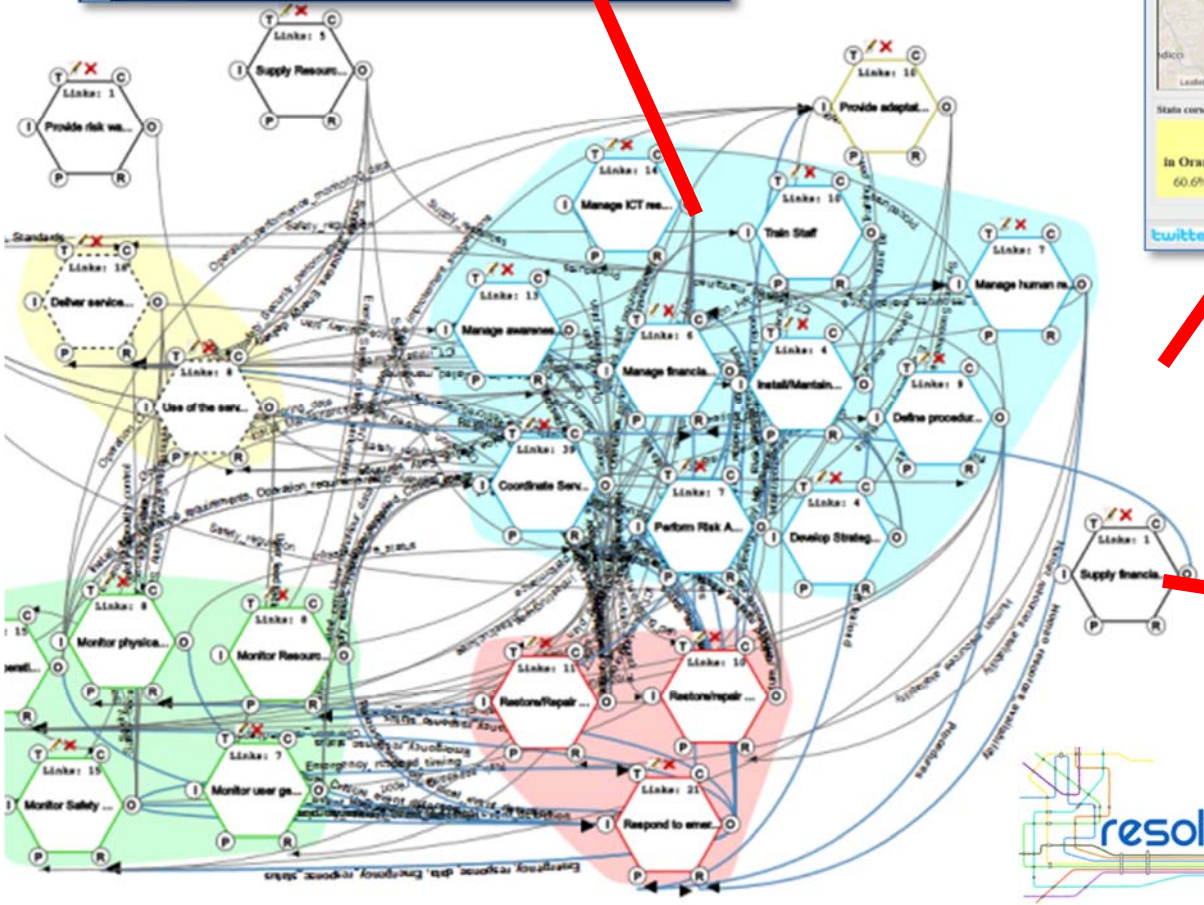
UNIVERSITÀ DEGLI STUDI FIRENZE

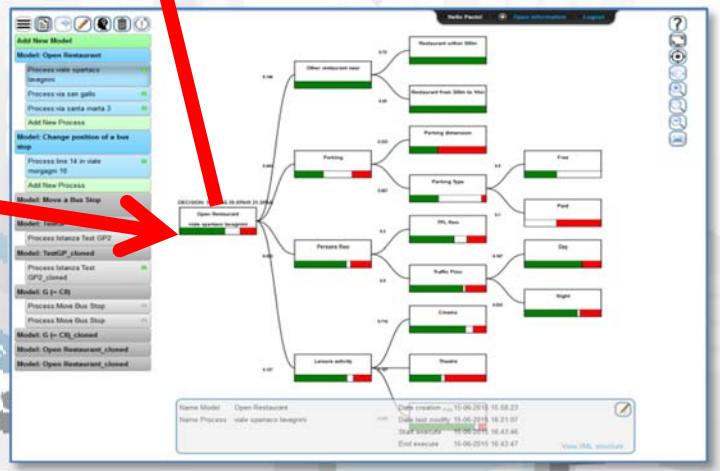
Dashboarding city resilience

KM 4 CITY









resolute

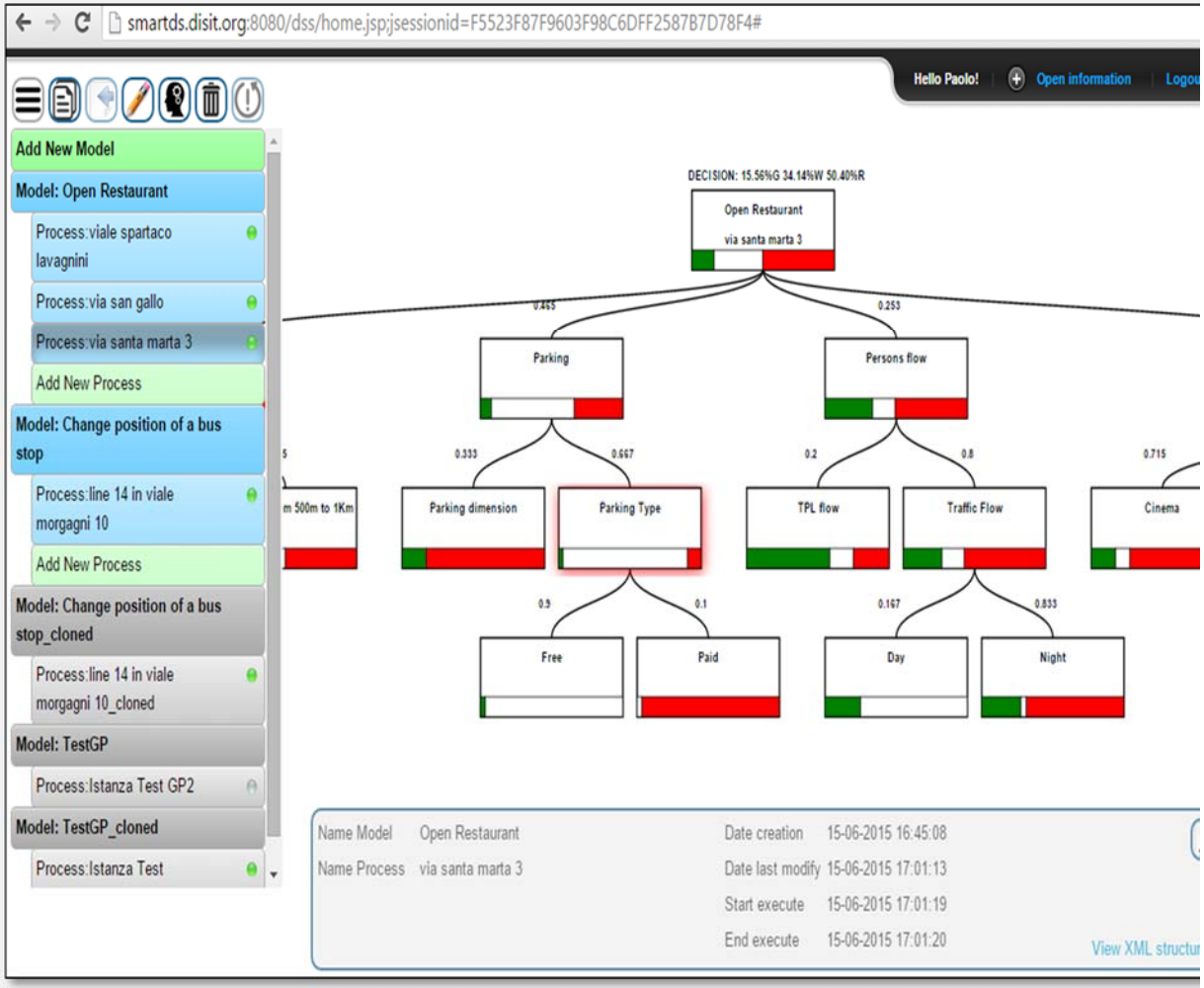
Smart City Decision Support

- http://smartds.disit.org (user paolo.nesi@unifi.it, password= prova)

- ***System Thinking***, well known tool for Smart City decision support sys..

Plus:

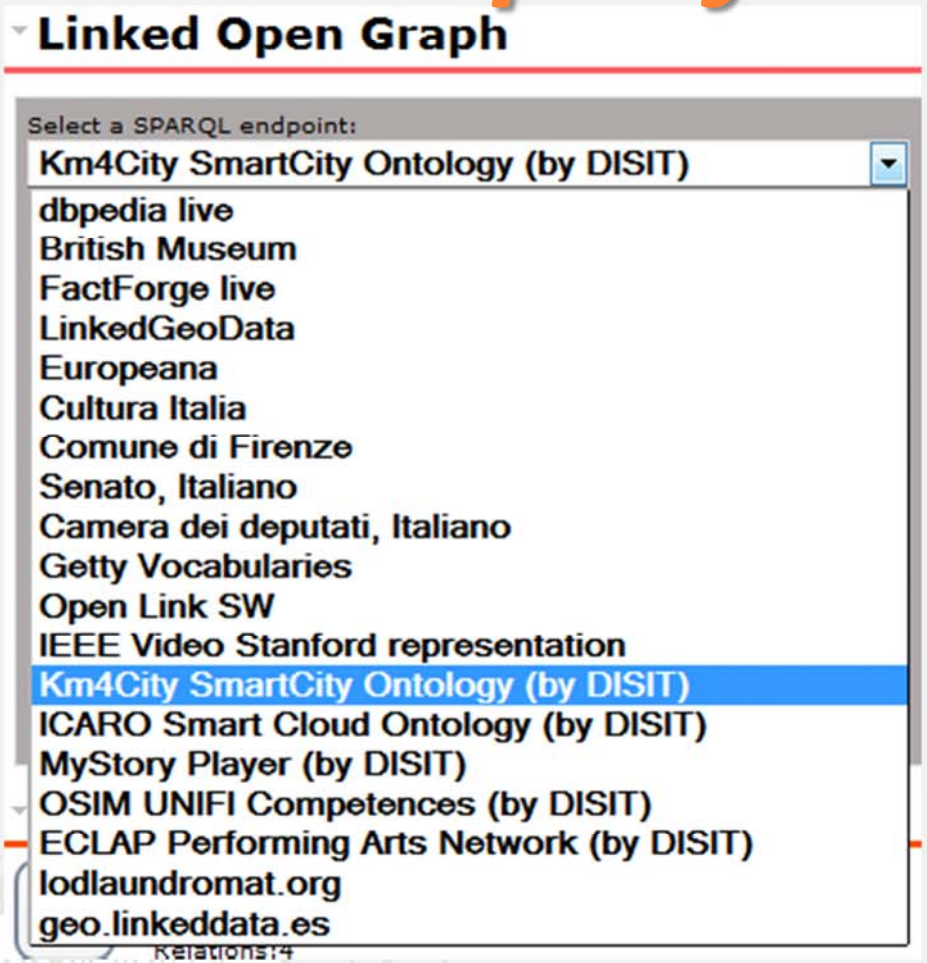
- Collaborative work…,
- reuse, copy past, …
- Processes connected with RDF Store of the city via SPARQL queries
- Mathematical model for propagation of decision confidence..

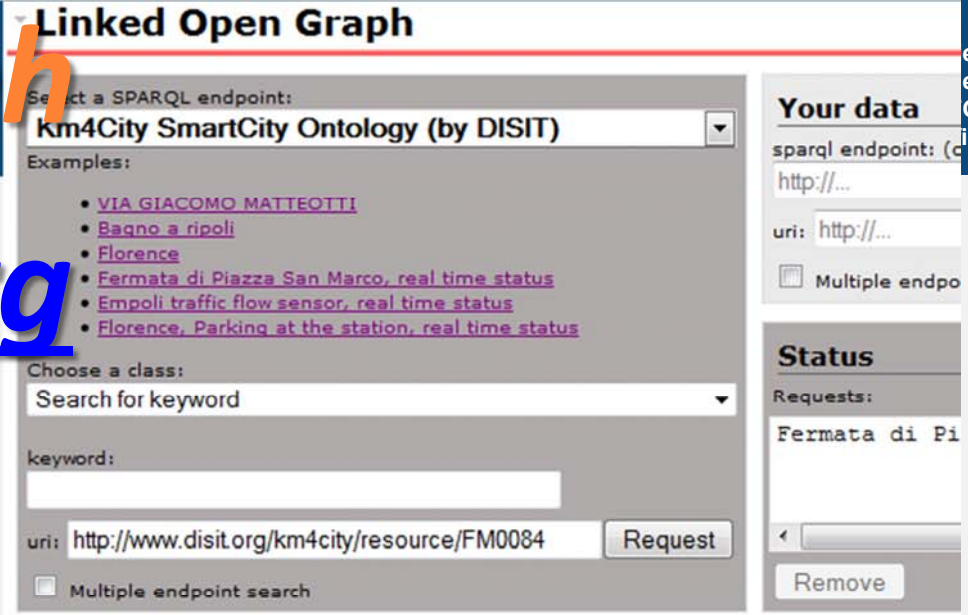


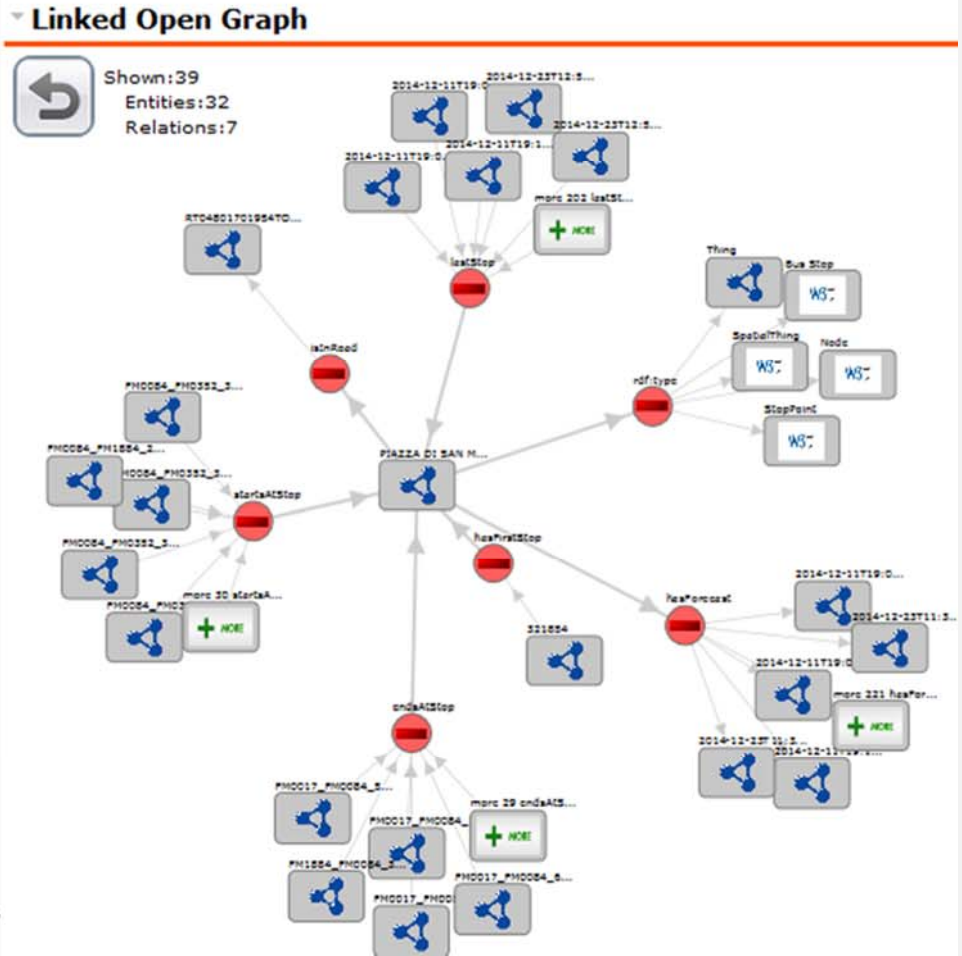
LinkedOpen Graph

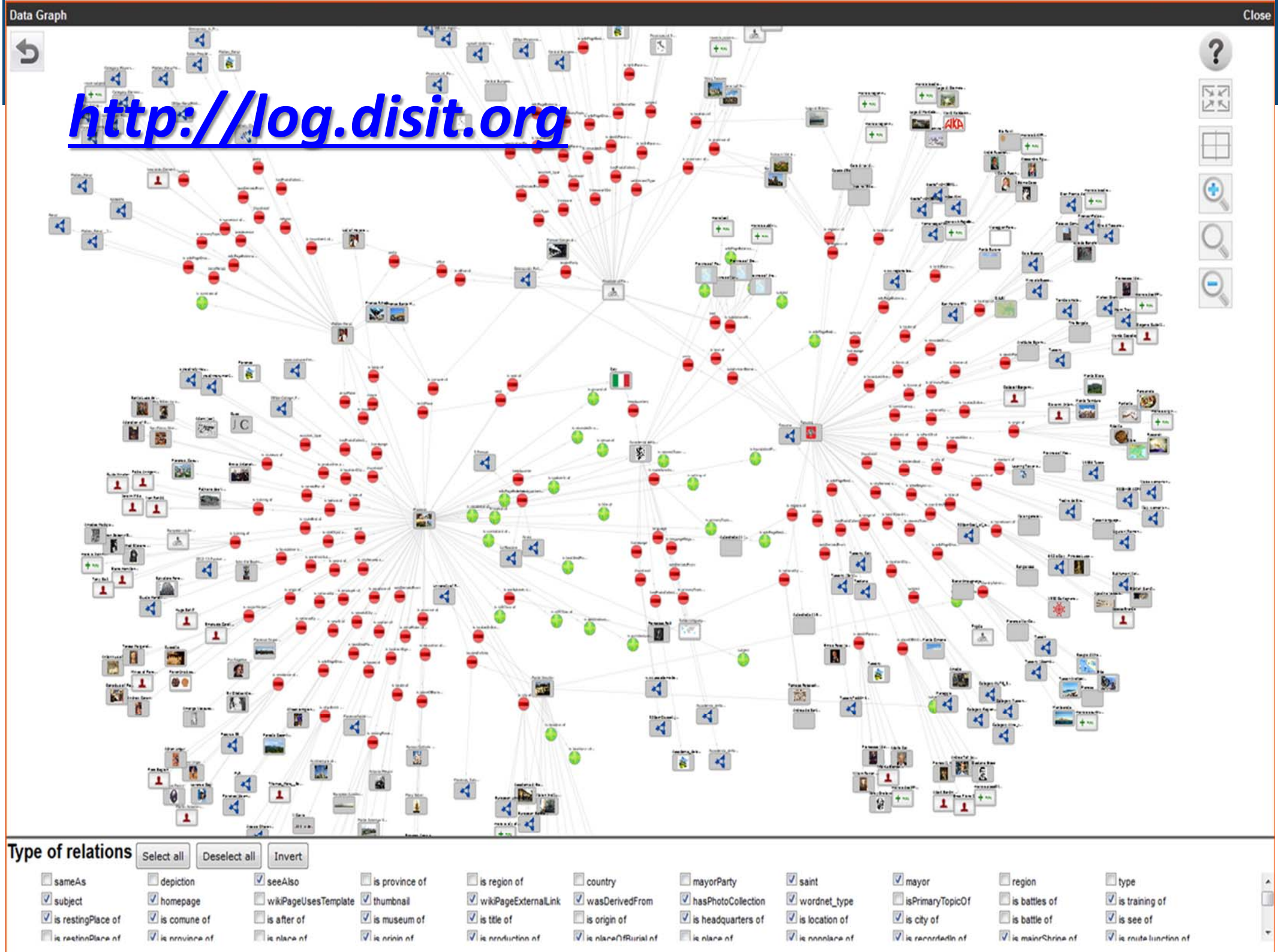
http://log.disit.org

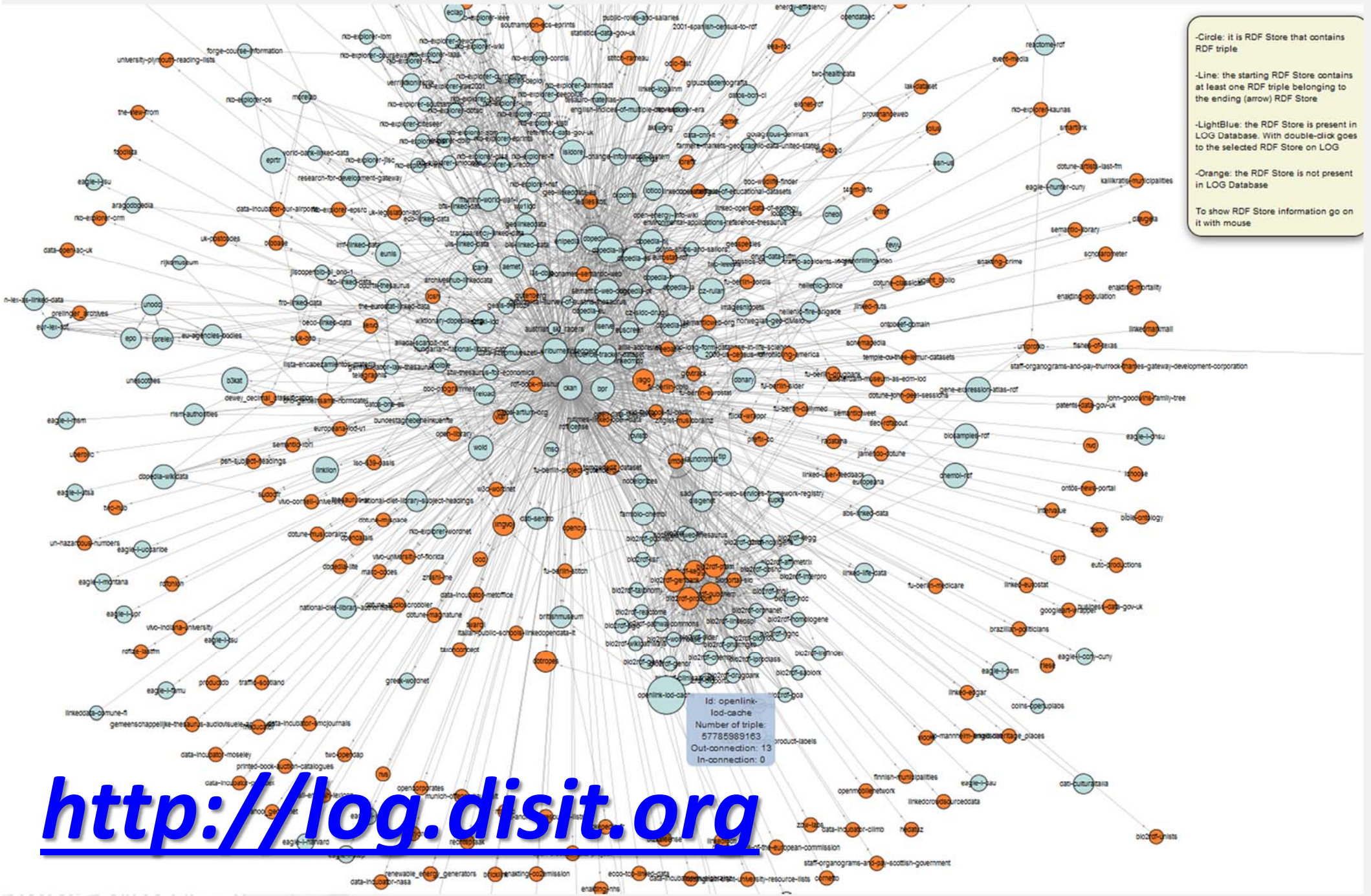
A bus stop info….







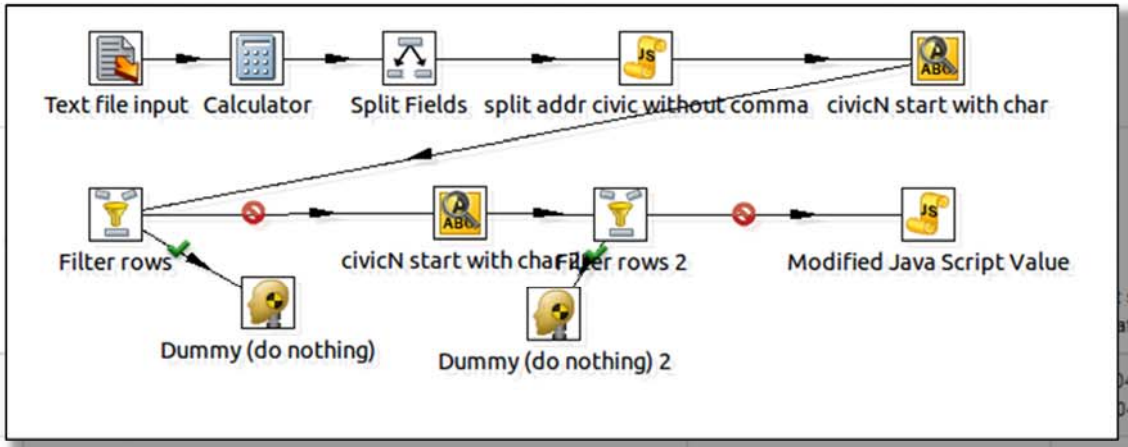

Data Graph
Close
http://log.disit.org
Type of relations
Select all
Deselect all
Invert
sameAs
depiction
seeAlso
is province of
is region of
country
mayorParty
saint
mayor
region
type
subject
homepage
wikiPageUsesTemplate
thumbnail
wikiPageExternalLink
wasDerivedFrom
hasPhotoCollection
wordnet_type
isPrimaryTopicOf
is battles of
is training of
is restingPlace of
is comune of
is after of
is museum of
is title of
is origin of
is headquarters of
is location of
is city of
is battle of
is see of


-Circle: it is RDF Store that contains RDF triple
-Line: the starting RDF Store contains at least one RDF triple belonging to the ending (arrow) RDF Store
-LightBlue: the RDF Store is present in LOG Database. With double-click goes to the selected RDF Store on LOG
-Orange: the RDF Store is not present in LOG Database
To show RDF Store information go on it with mouse
Id: openlink-lod-cache
Number of triple: 57785989163
Out-connection: 13
In-connection: 0
http://log.disit.org

SiiMobility index generator | Ontologies | Static data | Real Time data | Reconciliations | Summary

Static data selection

Show 10 entries

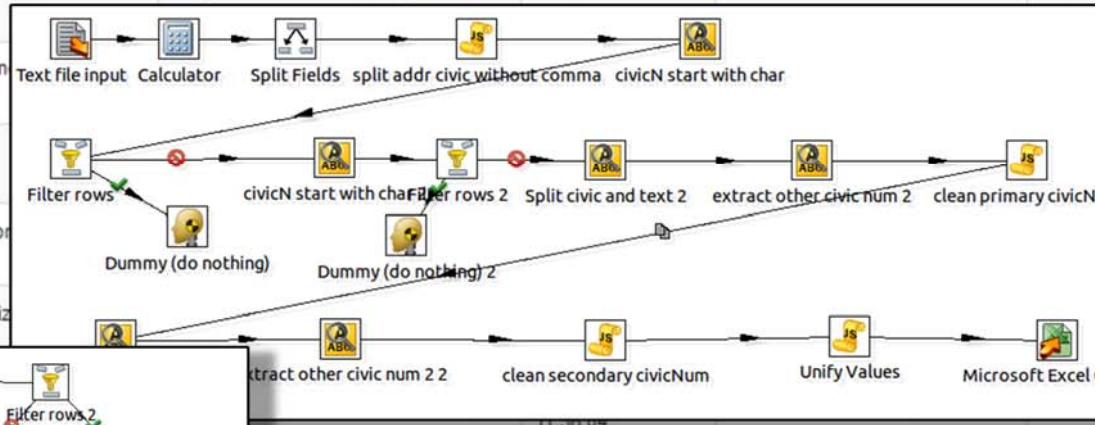


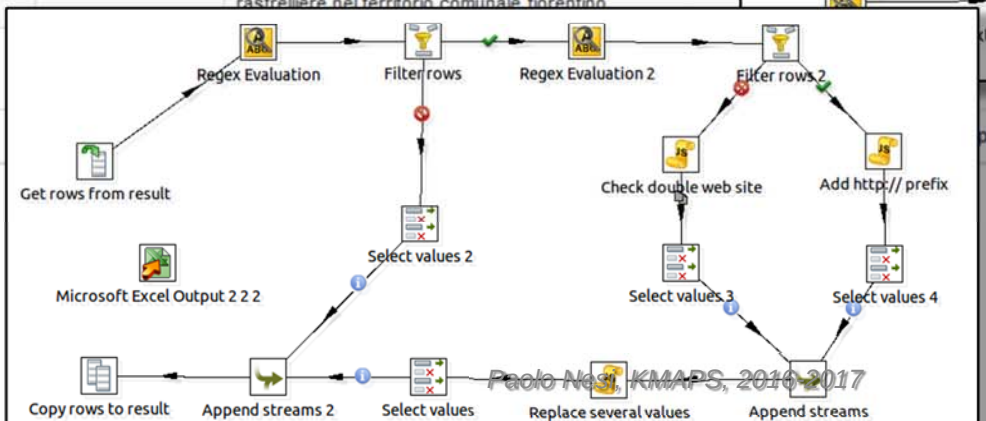
	Process Name	Resource				Generations +	
						2014-07-25 13:00:00	20
					source ate	Copy Clone X	Co
	Banche_csv	Banche			04-14 04	n.a.	n.a.
	Consolati_kmz	Consolati	comune - Elementi puntuali che individuano i consolati sul territorio comunale fiorentino	/Triples/Services/Consolati_kmz	2014-04-14 11:38:04	2014-08-15 10:07:21+02	n.a.
	Emerge csv	Emergenze	regione - Commissariato, Carabinieri, Vigili del Fuoco, Protezione civ finanza	/Triples/Services/Emergenze_csv	2014-04-14 11:38:04	n.a.	n.a.
	Farmacie_kmz	Farmacie	comune - Archivio puntuale delle farmacie per cui esiste un'autorizzazione rilasciata dal Comune di Firenze	/Triples/Services/Farmacie_kmz	2014-04-14 11:38:04	n.a.	n.a.
	Fontanelli_kmz	Fontanelli	comune - Localizz zione puntuale dei fontanelli sul territorio comunale	/Triples/Services/Fontanelli_kmz	2014-04-15	n.a.	n.a.
	Imprese_del_commercio_csv	Imprese d commercio	regione - Informazioni sulle imprese comm ciali, dalla gran al negozio monomarca				
	Infrastrutture_aeree_csv	Infrastrutture aeree	regione - Aeroporti civili, Aviosuperfici, Elisuperfici				
	Ospedali_kmz	Ospedali	comune - Elementi puntuali che individuano sul territorio co fiorentino ospedali e case di cura				
	Rastrelliere_kmz	Rastrelliere	comune - Elementi puntuali che rappresentano la geolocaliz rastrelliere nel territorio comunale fiorentino				
	Servizi_vari_csv						
	Process Name				path	Source date	

Showing 1 to 10 of 11 entries

Back Next step

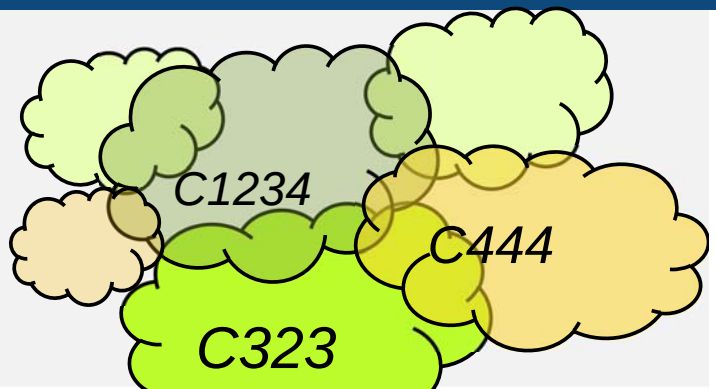
Open Data reconciliation & interoperability

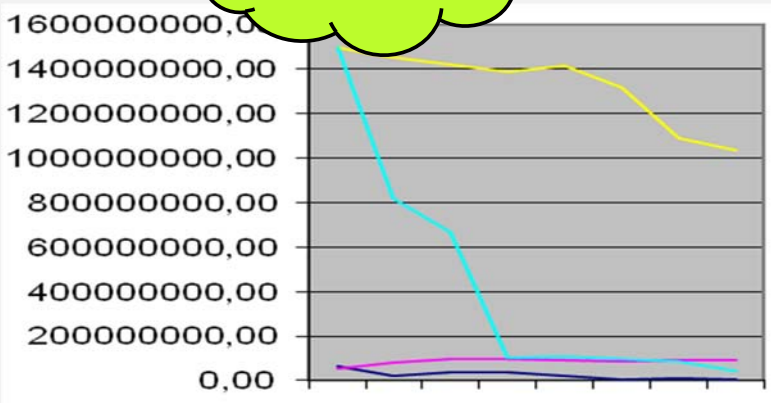


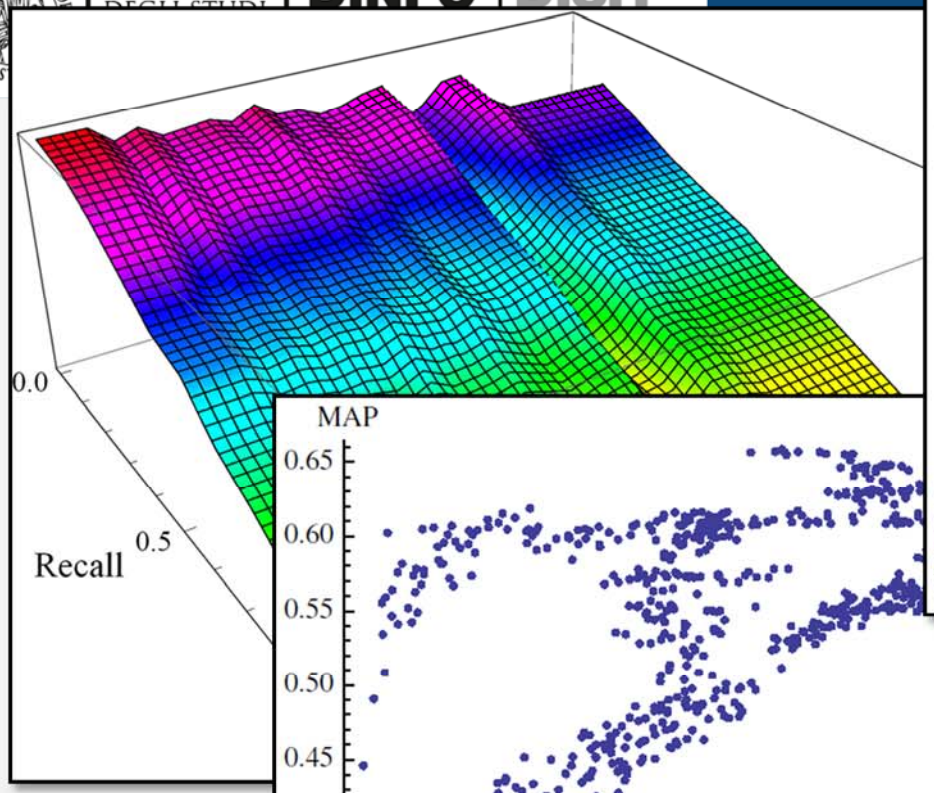


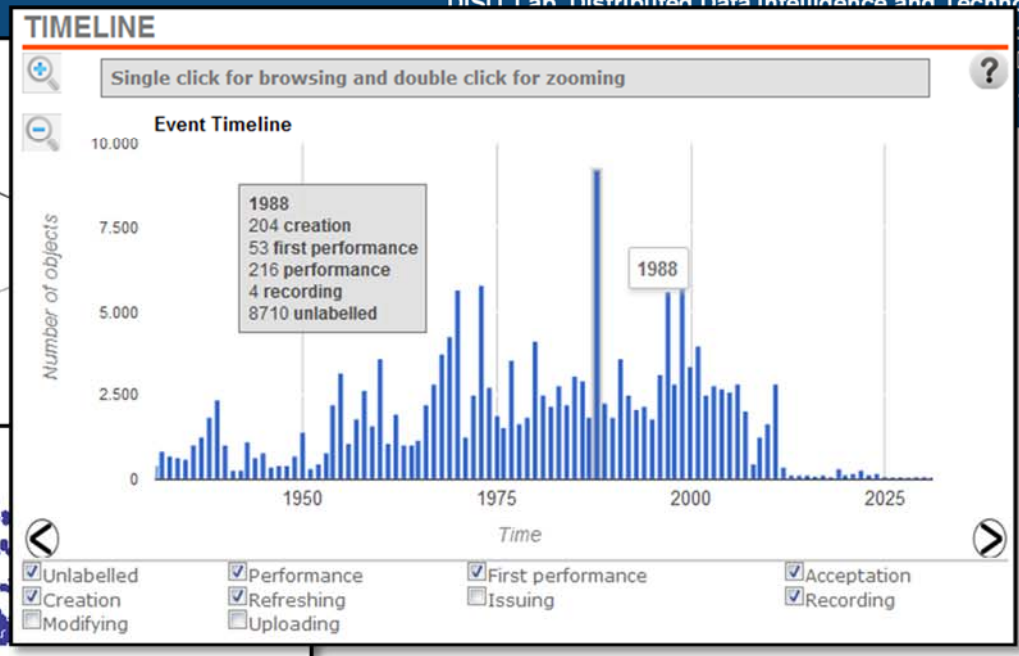
Semantic Computing

- **Semantic Reasoning** on user profilers and content descriptors, clustering
  - **Symbolic profiling reasoning** user/content :
    - static and dynamic aspects
  - **Scalable/incrementable** math solutions
    - For recommendations, suggestion, ads
    - Via symbolic clustering
    - On Millions of users X millions of items
- **Semantic Indexing/Query** of **Multilingual** cross media content:
  - Indexing, fuzzy ad faceted
  - Text processing for Semantic Extractions (comments, forum, profiles, doc, etc.)
  - Ontology and SKOS/taxonomy tools

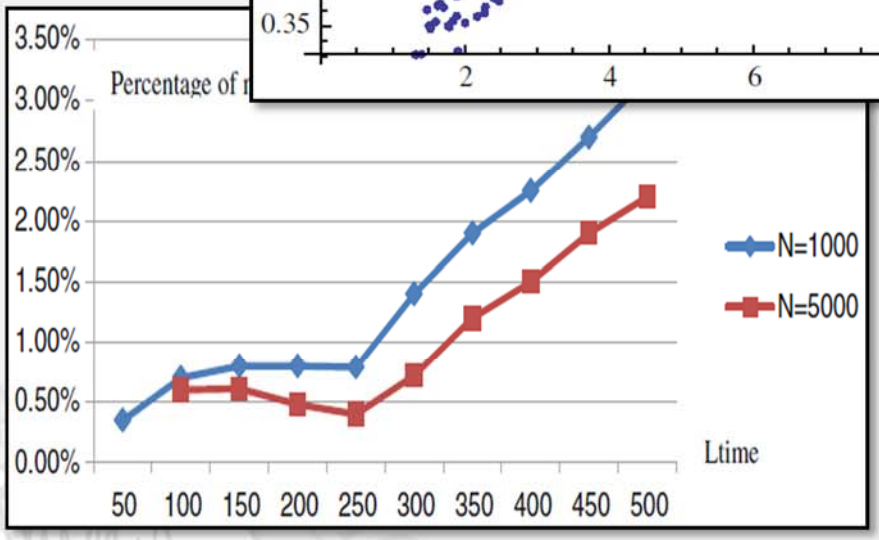


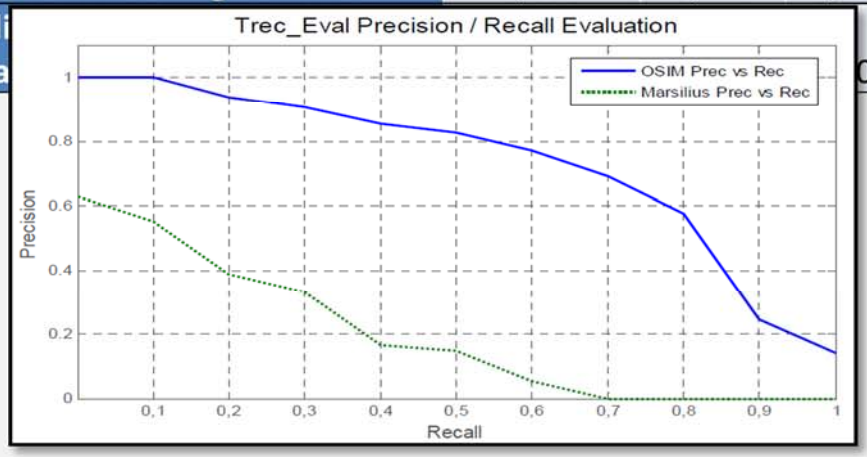




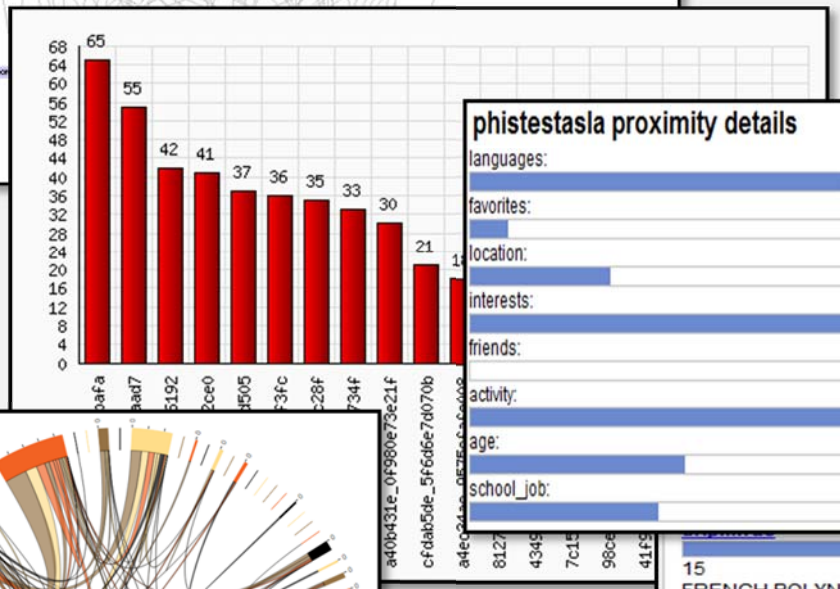


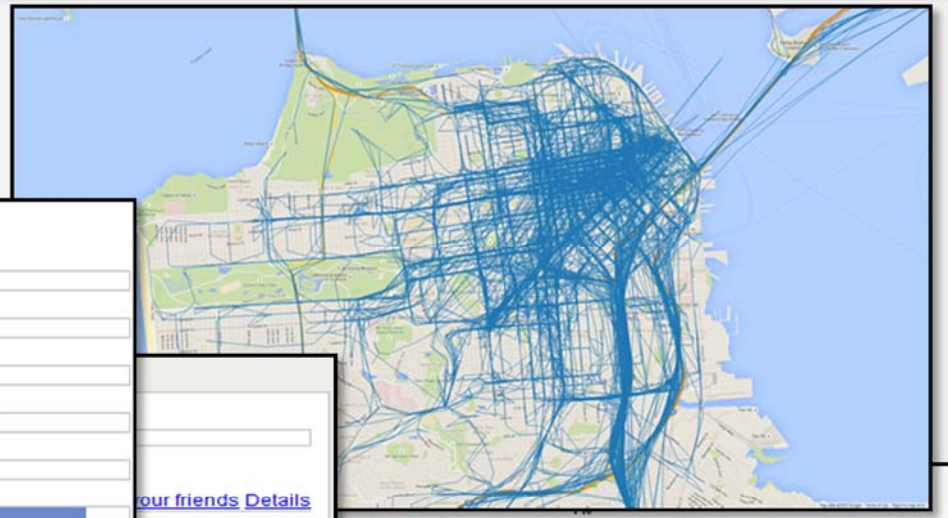
Method	Precision	Recall	F1
SPARQL –based reconciliation	1,00	0,69	0,820
SPARQL -based reconciliation + additional manual review	0,985	0,722	0,833
Link discovering - Leveisthein	0,927	0,508	0,656
Link discovering - Dice	0,968	0,674	0,794
Link discovering - Jaccard	1,000	0,472	0,642
Link di on da			06

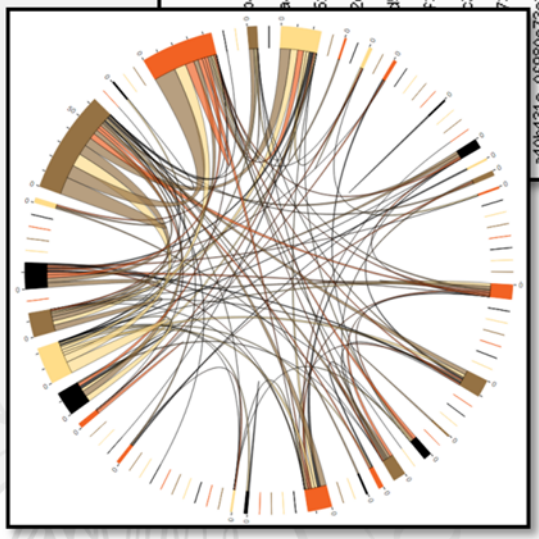


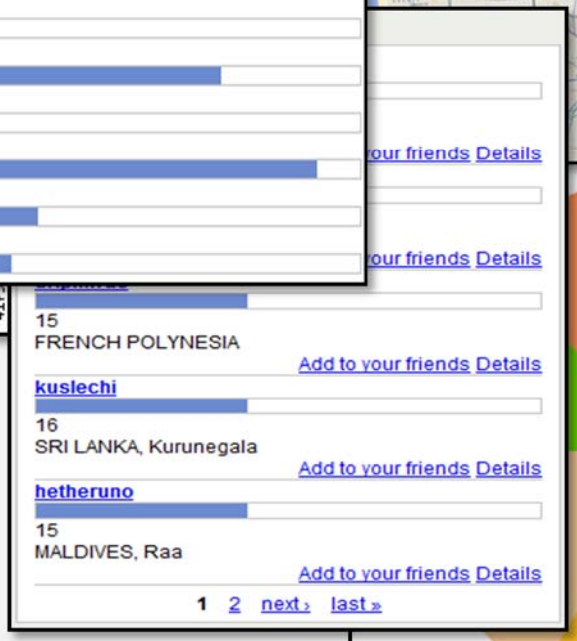


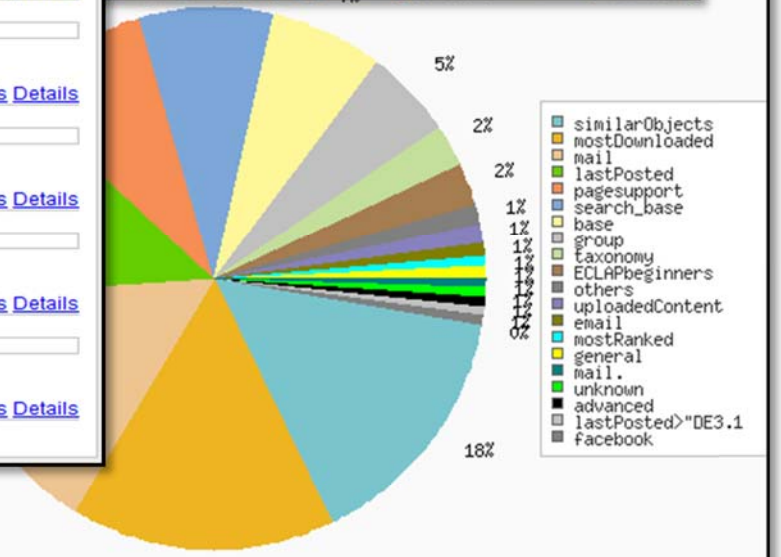
User behavior analysis











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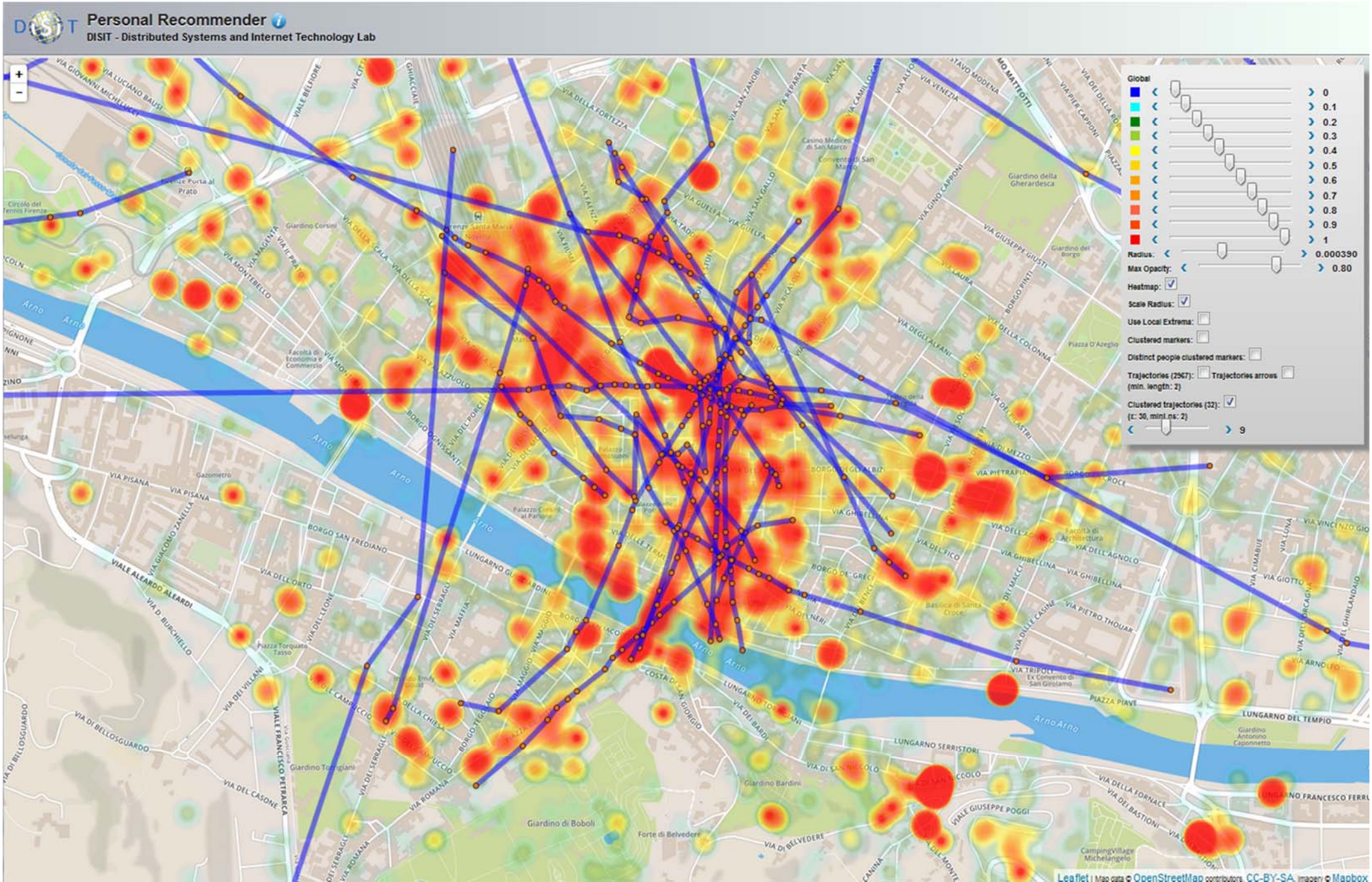
http://www.disit.org

User Behavior Analyzer



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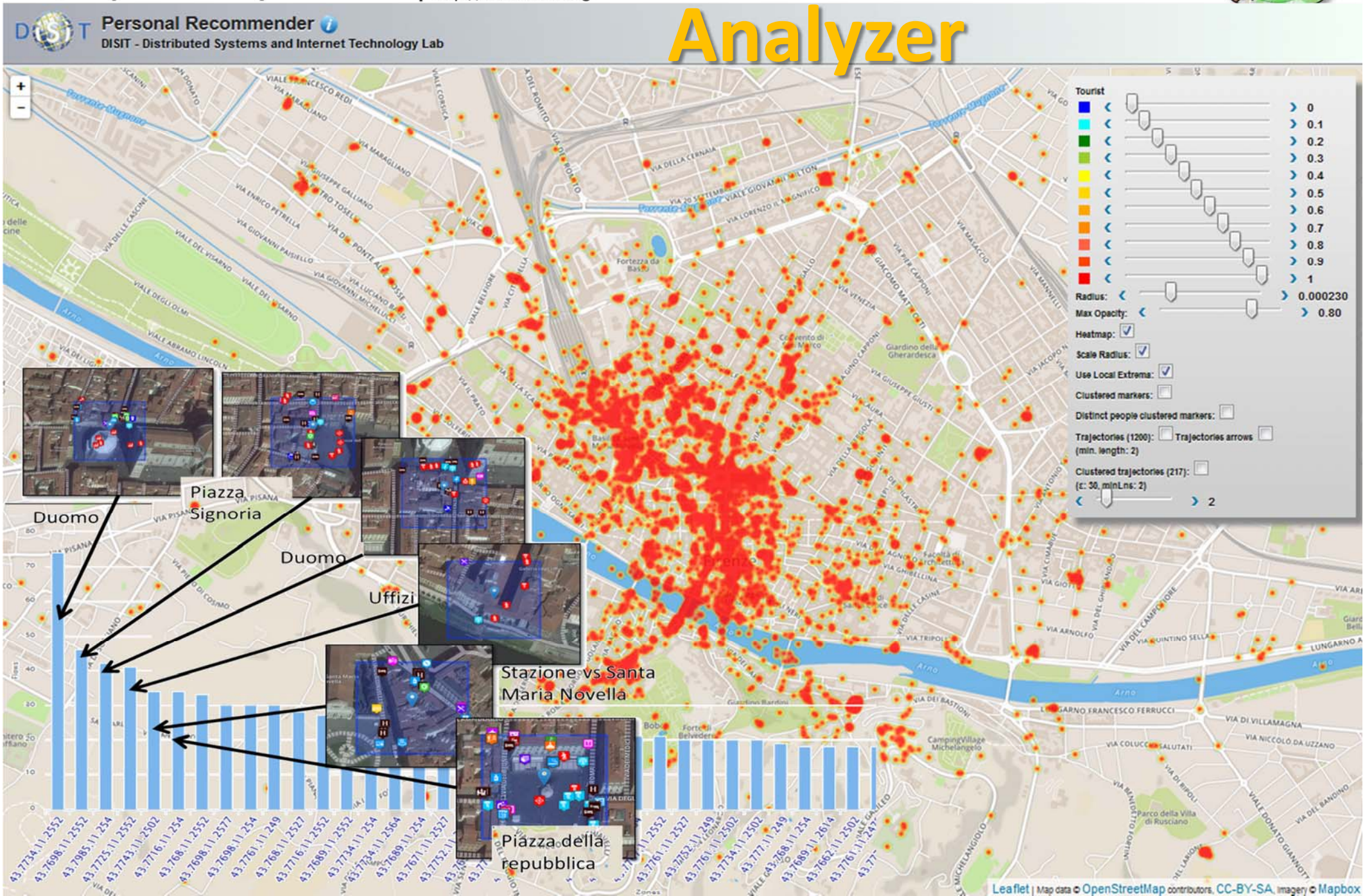
User Behavior Analyzer

KM 4 CITY



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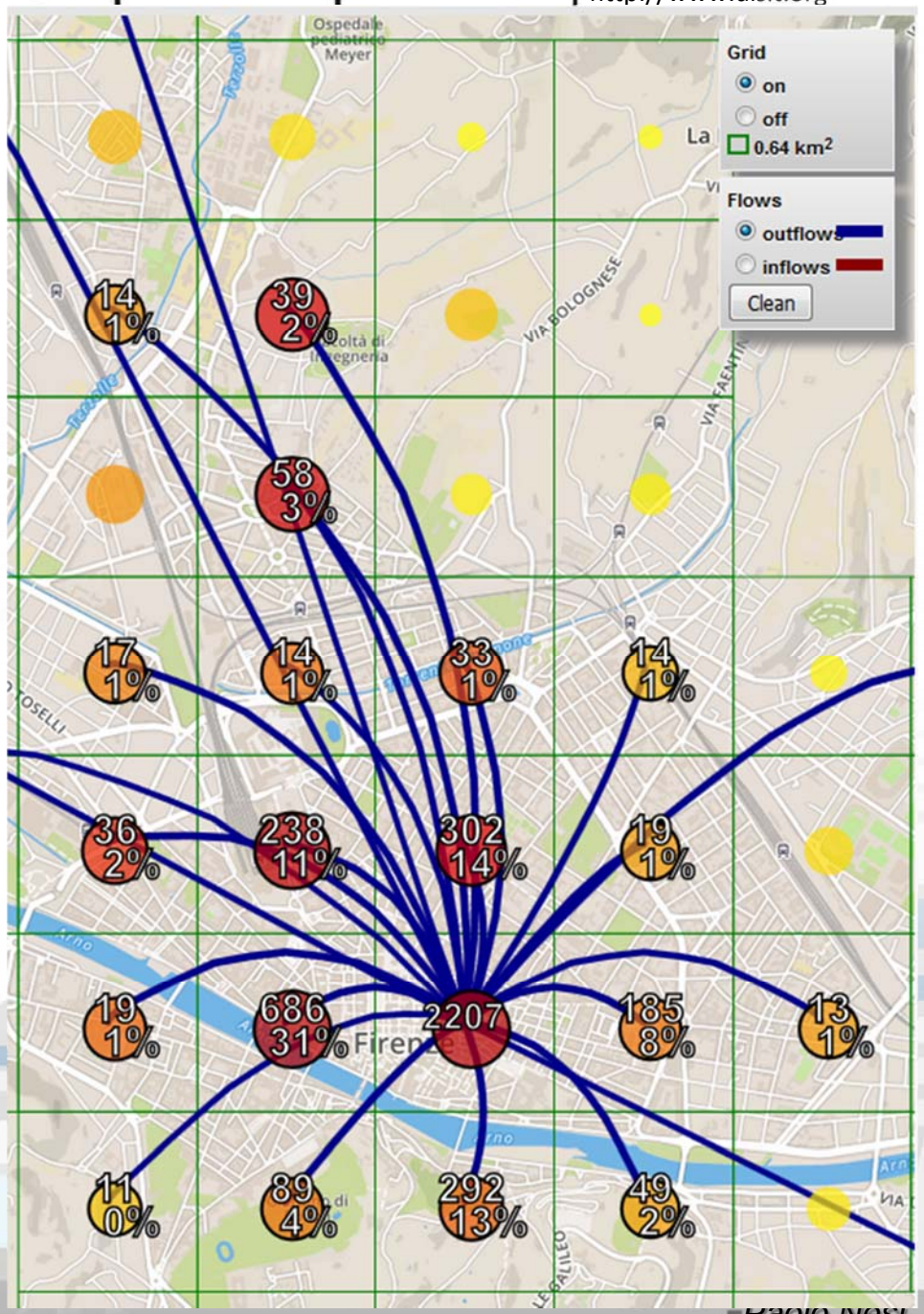
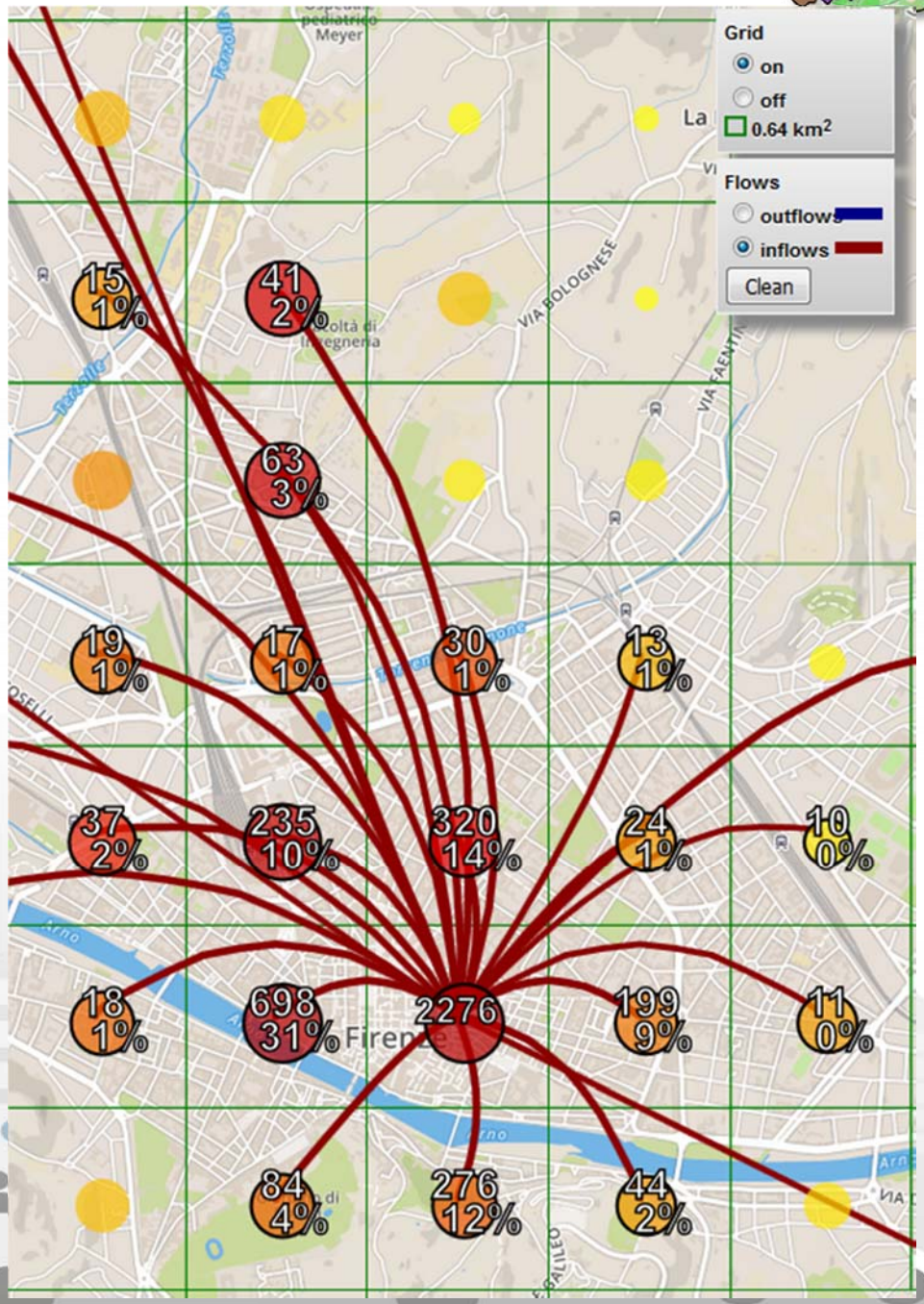
OD Matrix scalabile





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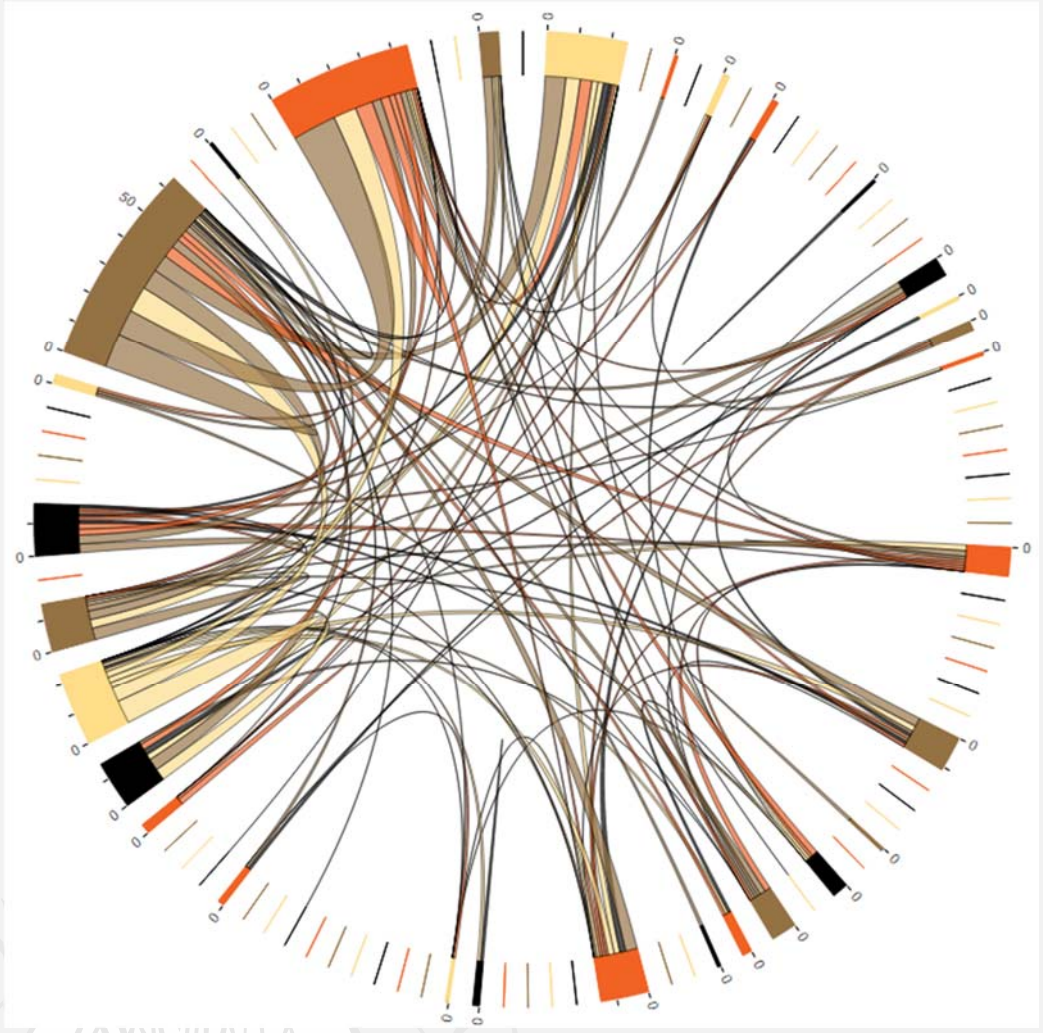
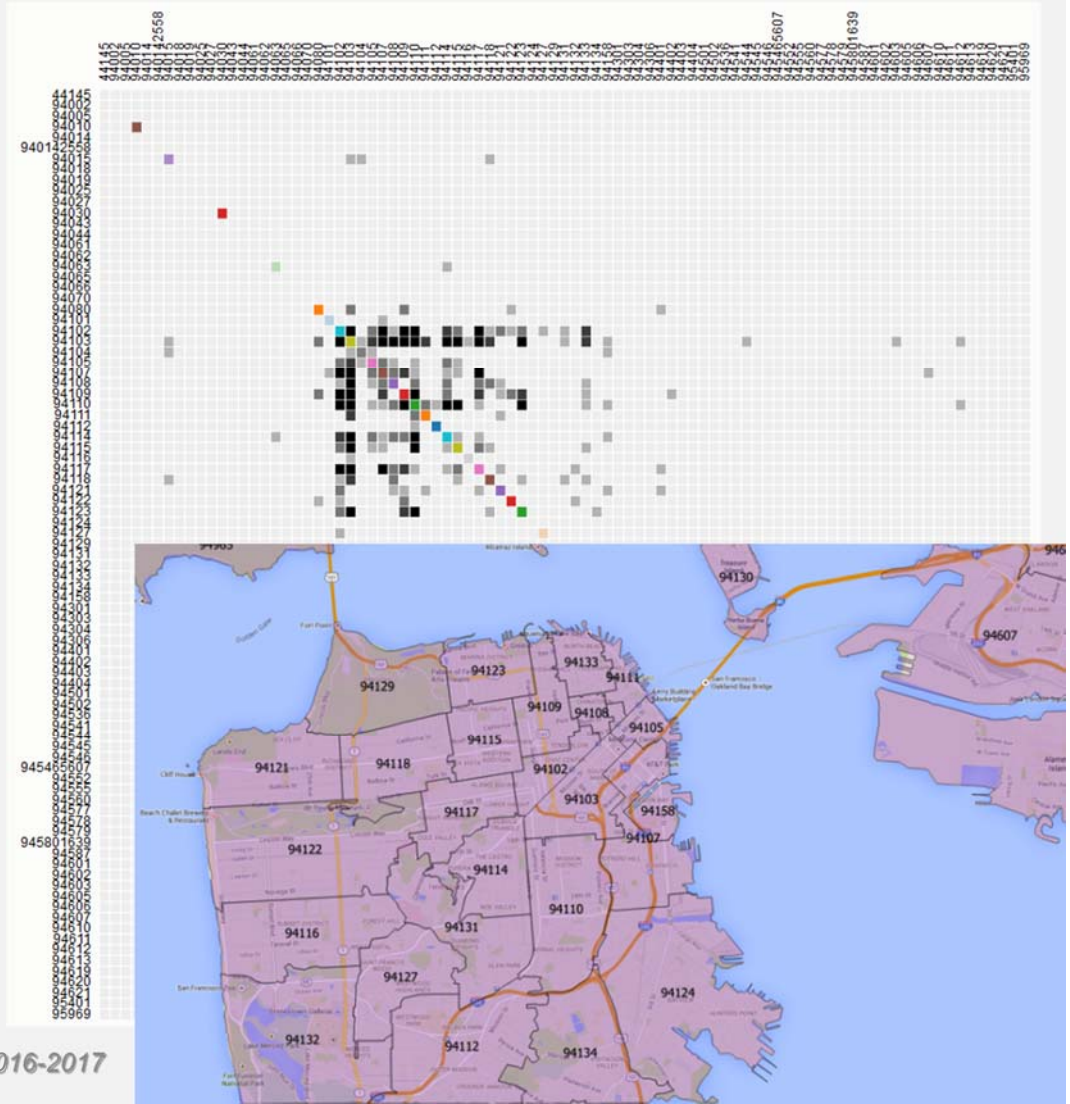
DISIT Lab, Distributed Data Intelligence and Technologies
Distributed Systems and Internet Technologies
Department of Information Engineering (DINFO)
http://www.disit.dinfo.unifi.it

People Flow, Vehicle Flow, OD Matrix

http://www.disit.org/6694





Computing on Parallel and Massive Architectures for big data

- Cloud
- Hadoop
- Distributed scheduling
- Streaming and flow
- GRID

http://www.cloudicaro.it

Sii-Mobility

http://www.sii-mobility.org

hadoop

axmedis

APACHE STORM™
Distributed · Resilient · Real-time

Distributed Scheduler

Sii-Mobility

Smart Cloud Engine
DISIT - Distributed Systems and Internet Technology Lab

192.168.0.14
- LAST_CHECK: 2014-12-16 11:29:04
- SCHEDULER_INSTANCE_ID: hadoopnode01b1418718662488
- CPU_LOAD: 0.053223419995772 56
- FREE_PHYSICAL_MEMORY: 4686659584
- JOBS_EXECUTED: 0
- SCHEDULER_NAME: SCE
- CURRENT_TIME: 2014-12-16 11:29:58
- JOBS/h: 0
- RUNNING_SINCE: 2014-12-16 09:31:02
- CLUSTERED: 1
- PERSISTENCE: 1
- REMOTE_SCHEDULER: 0
- CURRENTLY_EXECUTING_JOBS: 0
- CPU_LOAD_JVM: 8.877615726062143E-4
- SYSTEM_LOAD_AVERAGE: 0.0
- OPERATING_SYSTEM_VERSION: 3.13.0-24-generic
- COMMITTED_VIRTUAL_MEMORY: 3679342592
- OPERATING_SYSTEM_NAME: Linux
- FREE_SWAP_SPACE: 12860071936
- PROCESS_CPU_TIME: 32870000000
- TOTAL_PHYSICAL_MEMORY: 1.2600922112E10
- NUMBER_OF_PROCESSORS: 4
- OPERATING_SYSTEM_ARCHITECTURE: amd64
- TOTAL_SWAP_SPACE: 1.2881752064E10
- IS_SCHEDULER_STANDBY: 0
- IS_SCHEDULER_SHUTDOWN: 0
- IS_SCHEDULER_STARTED: 1
- TOTAL_DISK_SPACE: 2321541849088
- UNALLOCATED_DISK_SPACE: 1937102204928
- USABLE_DISK_SPACE: 1819765923840
- PREV_FIRE_TIME: 2014-12-15 23:09:17
- CPU: Intel(R) Xeon(R) CPU X3470 @ 2.93GHz

192.168.0.26
- LAST_CHECK: 2014-12-16 11:29:04
- SCHEDULER_INSTANCE_ID: hadoopnode06c1418718723312
- CPU_LOAD: 0.04810651798803606
- FREE_PHYSICAL_MEMORY: 10056519680
- JOBS_EXECUTED: 0
- SCHEDULER_NAME: SCE
- CURRENT_TIME: 2014-12-16 11:29:58
- JOBS/h: 0
- RUNNING_SINCE: 2014-12-16 09:32:03
- CLUSTERED: 1
- PERSISTENCE: 1
- REMOTE_SCHEDULER: 0
- CURRENTLY_EXECUTING_JOBS: 0
- CPU_LOAD_JVM: 8.425309630128908E-4
- SYSTEM_LOAD_AVERAGE: 0.13
- OPERATING_SYSTEM_VERSION: 3.13.0-24-generic
- COMMITTED_VIRTUAL_MEMORY: 3679342592
- OPERATING_SYSTEM_NAME: Linux
- FREE_SWAP_SPACE: 12633550848
- PROCESS_CPU_TIME: 39770000000
- TOTAL_PHYSICAL_MEMORY: 1.260085248E10
- NUMBER_OF_PROCESSORS: 4
- OPERATING_SYSTEM_ARCHITECTURE: amd64
- TOTAL_SWAP_SPACE: 1.2881752064E10
- IS_SCHEDULER_STANDBY: 0
- IS_SCHEDULER_SHUTDOWN: 0
- IS_SCHEDULER_STARTED: 1
- TOTAL_DISK_SPACE: 2321541775360
- UNALLOCATED_DISK_SPACE: 1938265976832
- USABLE_DISK_SPACE: 1820929695744
- PREV_FIRE_TIME: 2014-12-15 23:14:19
- CPU: Intel(R) Xeon(R) CPU E5-4620 0 @ 2.20GHz

192.168.0.40
- LAST_CHECK: 2014-12-16 11:29:11
- SCHEDULER_INSTANCE_ID: hadoopnode01d1418719522697
- CPU_LOAD: 0.0013337223356812403
- FREE_PHYSICAL_MEMORY: 10849054720
- JOBS_EXECUTED: 26
- SCHEDULER_NAME: SCE
- CURRENT_TIME: 2014-12-16 11:29:58
- JOBS/h: 14.91
- RUNNING_SINCE: 2014-12-16 09:45:22
- CLUSTERED: 1
- PERSISTENCE: 1
- REMOTE_SCHEDULER: 0
- CURRENTLY_EXECUTING_JOBS: 0
- CPU_LOAD_JVM: 5.001458758804651E-4
- SYSTEM_LOAD_AVERAGE: 0.0
- OPERATING_SYSTEM_VERSION: 3.13.0-24-generic
- COMMITTED_VIRTUAL_MEMORY: 3687526400
- OPERATING_SYSTEM_NAME: Linux
- FREE_SWAP_SPACE: 12881752064
- PROCESS_CPU_TIME: 18990000000
- TOTAL_PHYSICAL_MEMORY: 1.2600922112E10
- NUMBER_OF_PROCESSORS: 4
- OPERATING_SYSTEM_ARCHITECTURE: amd64
- TOTAL_SWAP_SPACE: 1.2881752064E10
- IS_SCHEDULER_STANDBY: 0
- IS_SCHEDULER_SHUTDOWN: 0
- IS_SCHEDULER_STARTED: 1
- TOTAL_DISK_SPACE: 2321541775360
- UNALLOCATED_DISK_SPACE: 212522098688
- USABLE_DISK_SPACE: 185156763648
- PREV_FIRE_TIME: 2014-12-16 09:53:47
- CPU: Intel(R) Xeon(R) CPU X5690 @ 3.47GHz

192.168.0.42
- LAST_CHECK: 2014-12-16 11:29:35
- SCHEDULER_INSTANCE_ID: hadoopnode0614187189946 64
- CPU_LOAD: 0.16369819341126463
- FREE_PHYSICAL_MEMORY: 1921798144
- JOBS_EXECUTED: 0
- SCHEDULER_NAME: SCE
- CURRENT_TIME: 2014-12-16 11:29:58
- JOBS/h: 0
- RUNNING_SINCE: 2014-12-16 09:36:34
- CLUSTERED: 1
- PERSISTENCE: 1
- REMOTE_SCHEDULER: 0
- CURRENTLY_EXECUTING_JOBS: 0
- CPU_LOAD_JVM: 7.651759904778099E-4
- SYSTEM_LOAD_AVERAGE: 1.04
- OPERATING_SYSTEM_VERSION: 3.13.0-24-generic
- COMMITTED_VIRTUAL_MEMORY: 3679342592
- OPERATING_SYSTEM_NAME: Linux
- FREE_SWAP_SPACE: 12159326256
- PROCESS_CPU_TIME: 29620000000
- TOTAL_PHYSICAL_MEMORY: 1.260085248E10
- NUMBER_OF_PROCESSORS: 4
- OPERATING_SYSTEM_ARCHITECTURE: amd64
- TOTAL_SWAP_SPACE: 1.2881752064E10
- IS_SCHEDULER_STANDBY: 0
- IS_SCHEDULER_SHUTDOWN: 0
- IS_SCHEDULER_STARTED: 1
- TOTAL_DISK_SPACE: 2321541775360
- UNALLOCATED_DISK_SPACE: 1937021210624
- USABLE_DISK_SPACE: 1819684929536
- PREV_FIRE_TIME: 2014-12-15 23:09:17
- CPU: Intel(R) Xeon(R) CPU E5-2640 v2 @ 2.00GHz

192.168.0.69
- LAST_CHECK: 2014-12-16 11:29:56
- SCHEDULER_INSTANCE_ID: hadoopnode0214187188353 78
- CPU_LOAD: 0.081939516810272
- FREE_PHYSICAL_MEMORY: 5102755840
- JOBS_EXECUTED: 0
- SCHEDULER_NAME: SCE
- CURRENT_TIME: 2014-12-16 11:29:58
- JOBS/h: 0
- RUNNING_SINCE: 2014-12-16 09:33:55
- CLUSTERED: 1
- PERSISTENCE: 1
- REMOTE_SCHEDULER: 0
- CURRENTLY_EXECUTING_JOBS: 0
- CPU_LOAD_JVM: 8.025044223686434E-4
- SYSTEM_LOAD_AVERAGE: 0.6
- OPERATING_SYSTEM_VERSION: 3.13.0-24-generic
- COMMITTED_VIRTUAL_MEMORY: 3683553280
- OPERATING_SYSTEM_NAME: Linux
- FREE_SWAP_SPACE: 12881752064
- PROCESS_CPU_TIME: 29770000000
- TOTAL_PHYSICAL_MEMORY: 1.260085248E10
- NUMBER_OF_PROCESSORS: 4
- OPERATING_SYSTEM_ARCHITECTURE: amd64
- TOTAL_SWAP_SPACE: 1.2881752064E10
- IS_SCHEDULER_STANDBY: 0
- IS_SCHEDULER_SHUTDOWN: 0
- IS_SCHEDULER_STARTED: 1
- TOTAL_DISK_SPACE: 2321541775360
- UNALLOCATED_DISK_SPACE: 1937131741184
- USABLE_DISK_SPACE: 1819795460096
- PREV_FIRE_TIME: 2014-12-15 23:09:16
- CPU: Intel(R) Xeon(R) CPU E5-2640 v2 @ 2.00GHz

192.168.0.70
- LAST_CHECK: 2014-12-16 11:29:43
- SCHEDULER_INSTANCE_ID: hadoopnode0114187188822 92
- CPU_LOAD: 0.16330841042537914
- FREE_PHYSICAL_MEMORY: 8749506560
- JOBS_EXECUTED: 0
- SCHEDULER_NAME: SCE
- CURRENT_TIME: 2014-12-16 11:29:58
- JOBS/h: 0
- RUNNING_SINCE: 2014-12-16 09:34:42
- CLUSTERED: 1
- PERSISTENCE: 1
- REMOTE_SCHEDULER: 0
- CURRENTLY_EXECUTING_JOBS: 0
- CPU_LOAD_JVM: 8.870865543023698E-4
- SYSTEM_LOAD_AVERAGE: 0.89
- OPERATING_SYSTEM_VERSION: 3.13.0-24-generic
- COMMITTED_VIRTUAL_MEMORY: 3679342592
- OPERATING_SYSTEM_NAME: Linux
- FREE_SWAP_SPACE: 12508909568
- PROCESS_CPU_TIME: 35000000000
- TOTAL_PHYSICAL_MEMORY: 1.2600856576E10
- NUMBER_OF_PROCESSORS: 4
- OPERATING_SYSTEM_ARCHITECTURE: amd64
- TOTAL_SWAP_SPACE: 1.2881752064E10
- IS_SCHEDULER_STANDBY: 0
- IS_SCHEDULER_SHUTDOWN: 0
- IS_SCHEDULER_STARTED: 1
- TOTAL_DISK_SPACE: 2321541779456
- UNALLOCATED_DISK_SPACE: 1937341145088
- USABLE_DISK_SPACE: 1820004864000
- PREV_FIRE_TIME: 2014-12-15 23:09:15
- CPU: Intel(R) Xeon(R) CPU X3470 @ 2.93GHz

192.168.0.92
- LAST_CHECK: 2014-12-16 11:29:23
- SCHEDULER_INSTANCE_ID: hadoopnode01c1418718921761
- CPU_LOAD: 0.09430552637108637
- FREE_PHYSICAL_MEMORY: 7336054784
- JOBS_EXECUTED: 0
- SCHEDULER_NAME: SCE
- CURRENT_TIME: 2014-12-16 11:29:58
- JOBS/h: 0
- RUNNING_SINCE: 2014-12-16 09:35:21
- CLUSTERED: 1
- PERSISTENCE: 1
- REMOTE_SCHEDULER: 0
- CURRENTLY_EXECUTING_JOBS: 0
- CPU_LOAD_JVM: 0.0010086152553057364
- SYSTEM_LOAD_AVERAGE: 0.46
- OPERATING_SYSTEM_VERSION: 3.13.0-24-generic
- COMMITTED_VIRTUAL_MEMORY: 3679342592
- OPERATING_SYSTEM_NAME: Linux
- FREE_SWAP_SPACE: 12312961024
- PROCESS_CPU_TIME: 36300000000
- TOTAL_PHYSICAL_MEMORY: 1.2600922112E10
- NUMBER_OF_PROCESSORS: 4
- OPERATING_SYSTEM_ARCHITECTURE: amd64
- TOTAL_SWAP_SPACE: 1.2881752064E10
- IS_SCHEDULER_STANDBY: 0
- IS_SCHEDULER_SHUTDOWN: 0
- IS_SCHEDULER_STARTED: 1
- TOTAL_DISK_SPACE: 2321541849088
- UNALLOCATED_DISK_SPACE: 1938246713344
- USABLE_DISK_SPACE: 1820910432256
- PREV_FIRE_TIME: 2014-12-15 23:09:15
- CPU: Intel(R) Xeon(R) CPU X3470 @ 2.93GHz

CPU: 18.01 GHz | **CPU Load:** 1.48 GHz (8.19%) | **Mem Tot:** 82.15 GB | **Mem Free:** 45.47 GB | **Cores:** 28 | **Jobs/h:** 14.91

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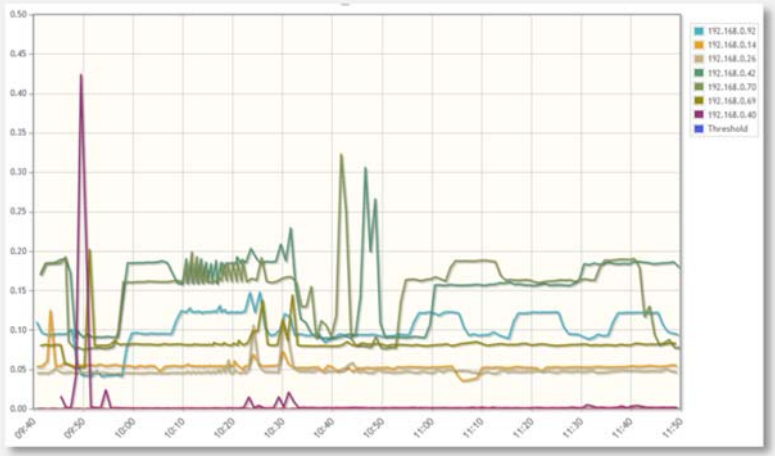

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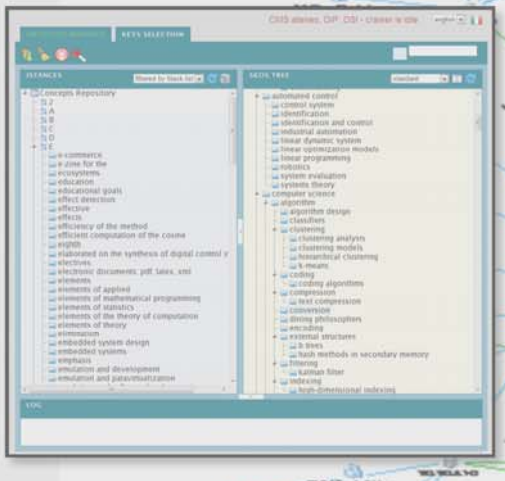
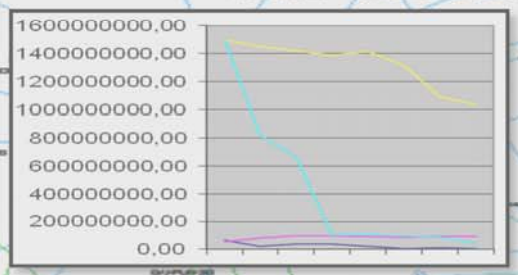
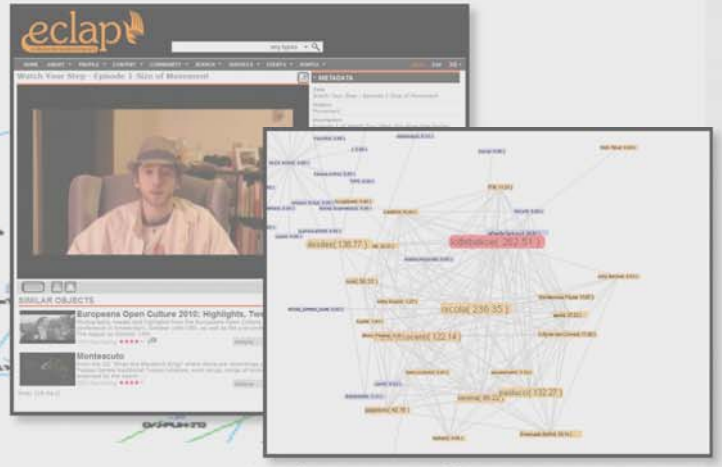
Text and Web Mining

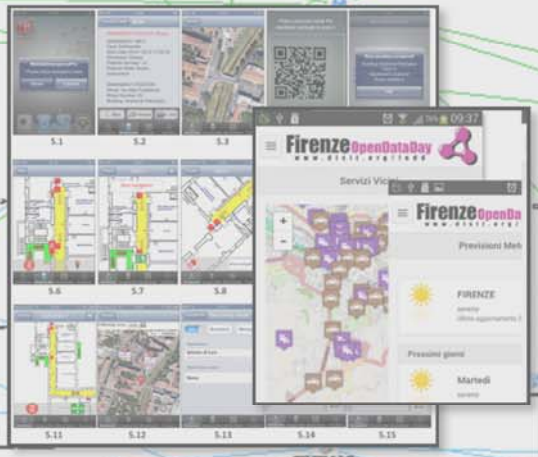


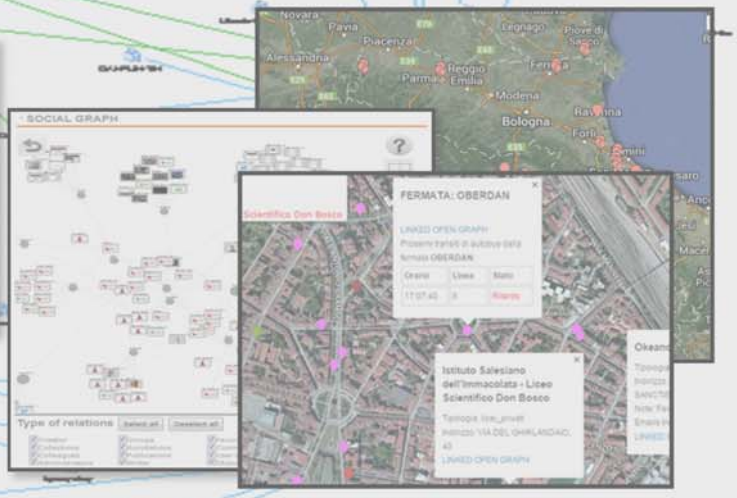


Data Analytics Big data



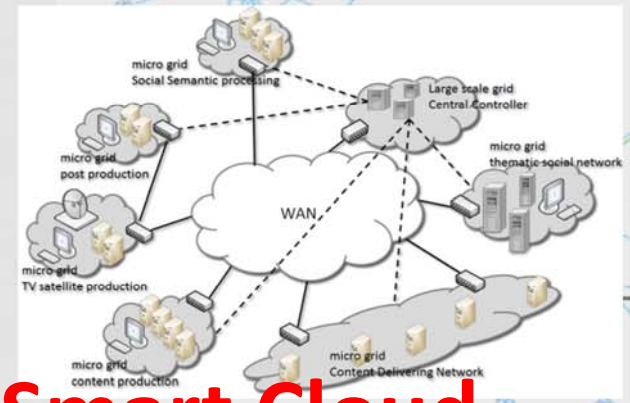
Social Media, e-learning





Mobile Computing

Smart Cities



Smart Cloud Computing

Smart Cloud - Computing

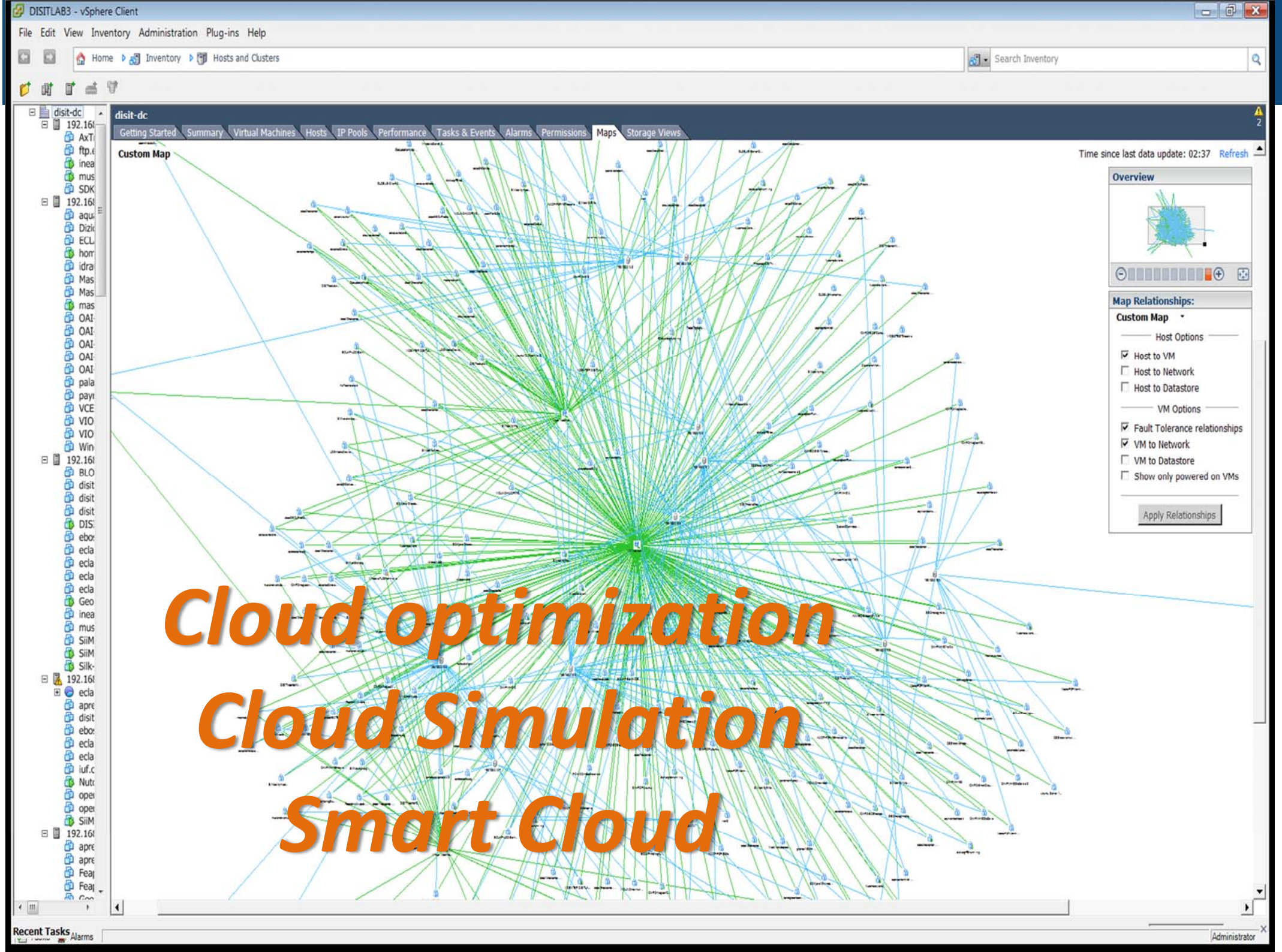
- **Progetti:** http://www.disit.org/5501
  - ICARO: http://www.disit.org/5482
  - Social Museum and Smart Tourism
- **Tools:** http://www.disit.org/5489
  - Smart Cloud Engine and reasoner http://www.disit.org/6544
  - Cloud ontology and tools: http://www.disit.org/5604
    - Configuration analysis and checker
    - Service Level Analyzer and control
  - Cloud Simulation, ICLOS
  - Cloud Monitoring, SM

http://www.cloudicaro.it

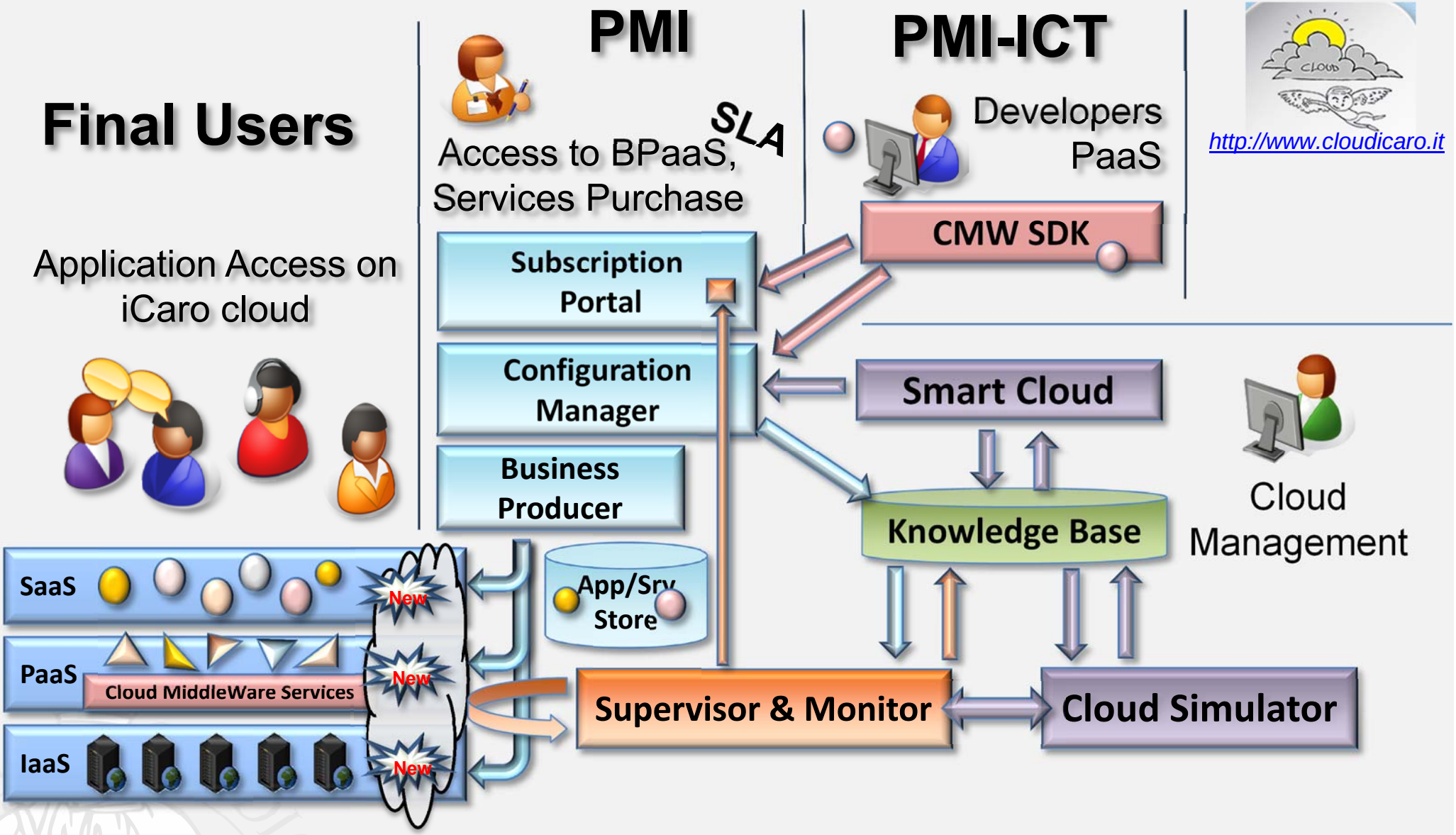
Regione Toscana

http://www.disit.org/6588

http://www.cloudicaro.it


DISITLAB3 - vSphere Client
File Edit View Inventory Administration Plug-ins Help
Home Inventory Hosts and Clusters
Search Inventory
disit-dc
Getting Started Summary Virtual Machines Hosts IP Pools Performance Tasks & Events Alarms Permissions Maps Storage Views
Custom Map
Time since last data update: 02:37 Refresh
Overview
Map Relationships:
Custom Map
Host Options
Host to VM
Host to Network
Host to Datastore
VM Options
Fault Tolerance relationships
VM to Network
VM to Datastore
Show only powered on VMs
Apply Relationships
Recent Tasks
Alarms
Administrator
Cloud optimization
Cloud Simulation
Smart Cloud

Cloud ICARO Architecture



Smart Cloud Engine

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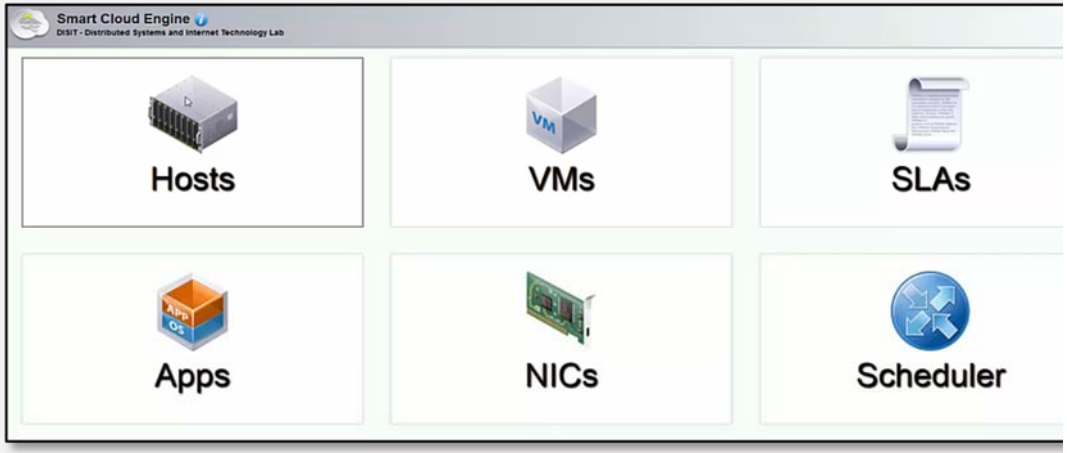
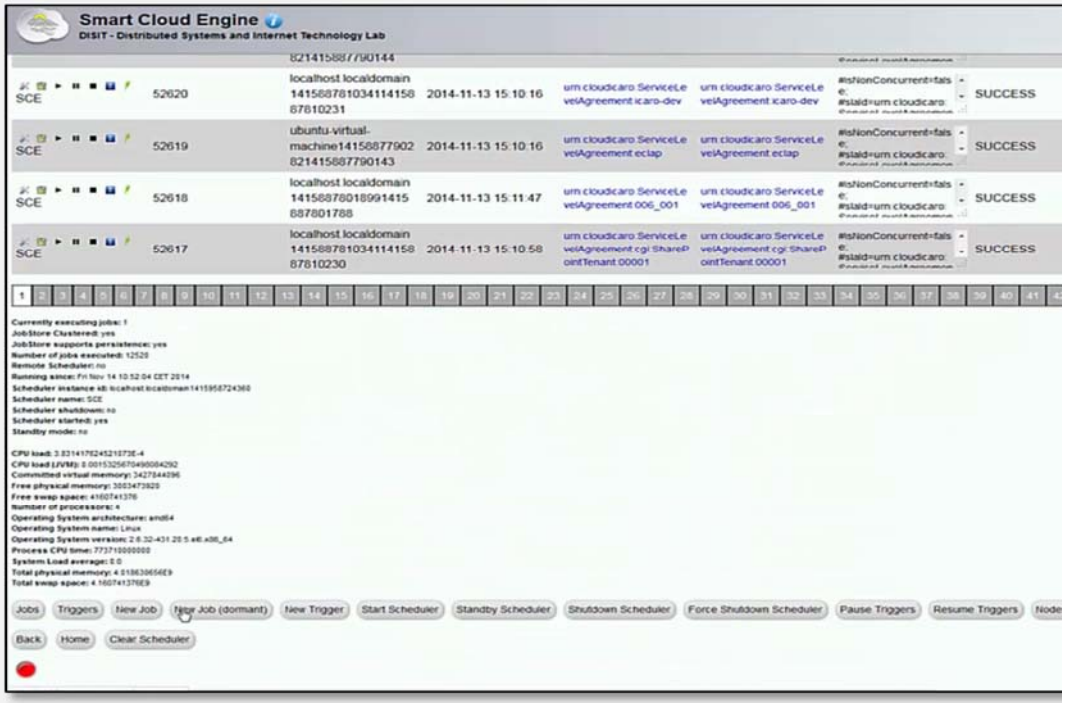
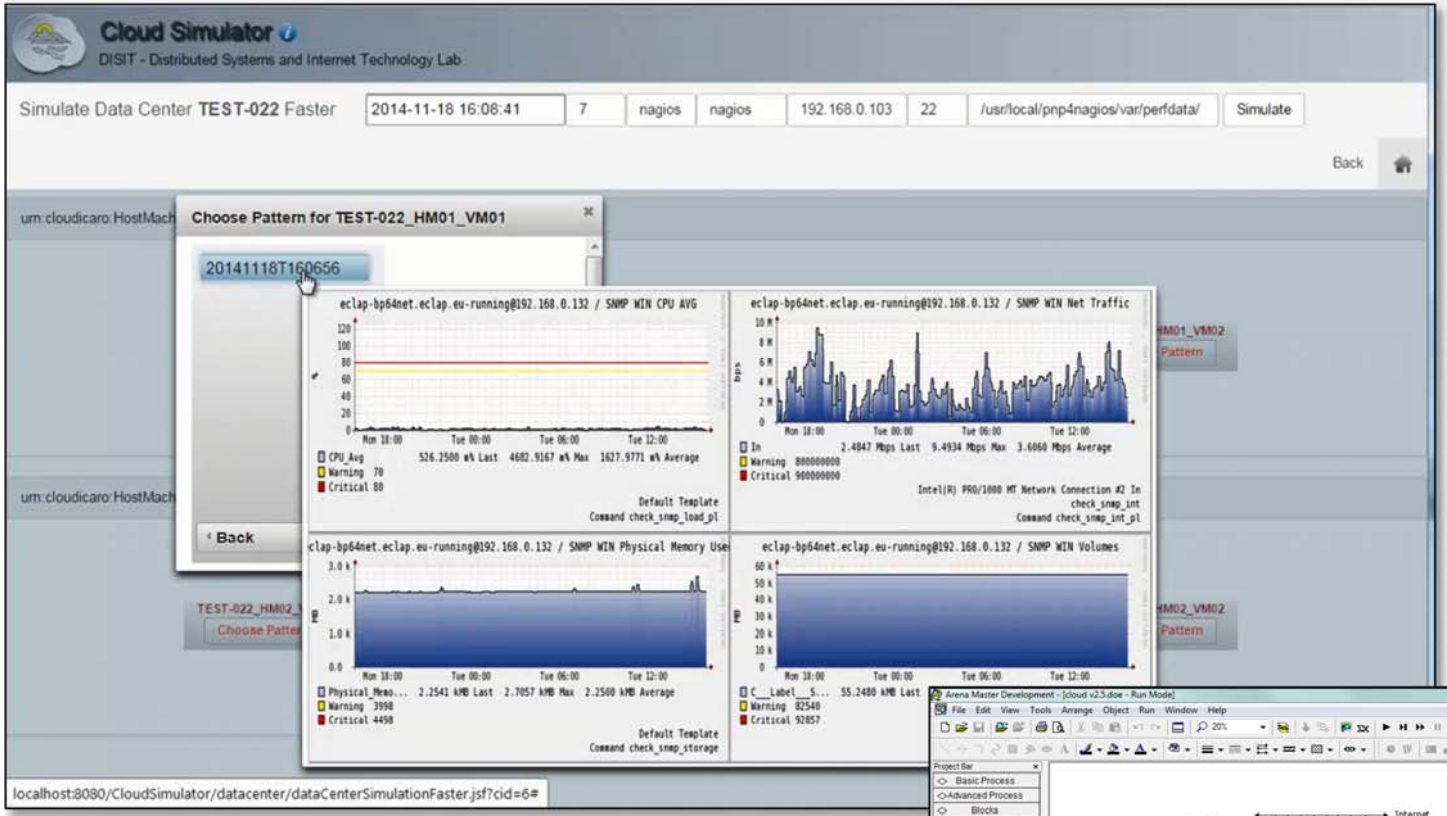
- **SCE Engine Algorithms**
  - Cloud configuration verification and validation
  - Monitoring services: IaaS, PaaS, SaaS, BPaaS !! With sophisticated metrics
  - Health V&V of Business configurations and SLA
  - Decision support for Scaling, cloning, migration, reconfiguration, etc.
  - Cloud optimization





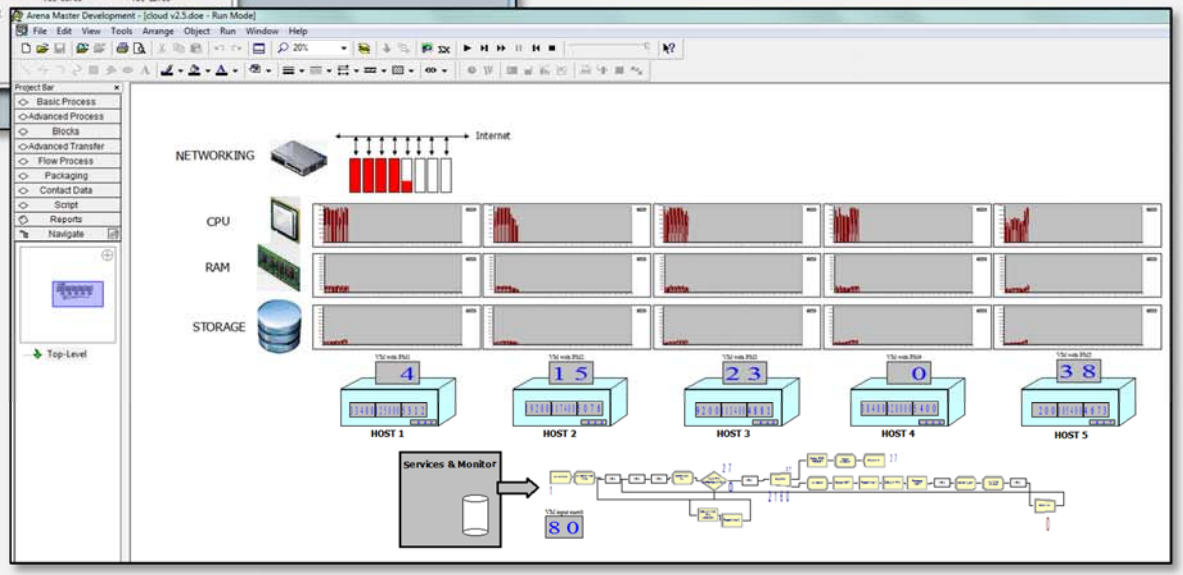
Cloud Simulator



To simulate complex cloud configurations

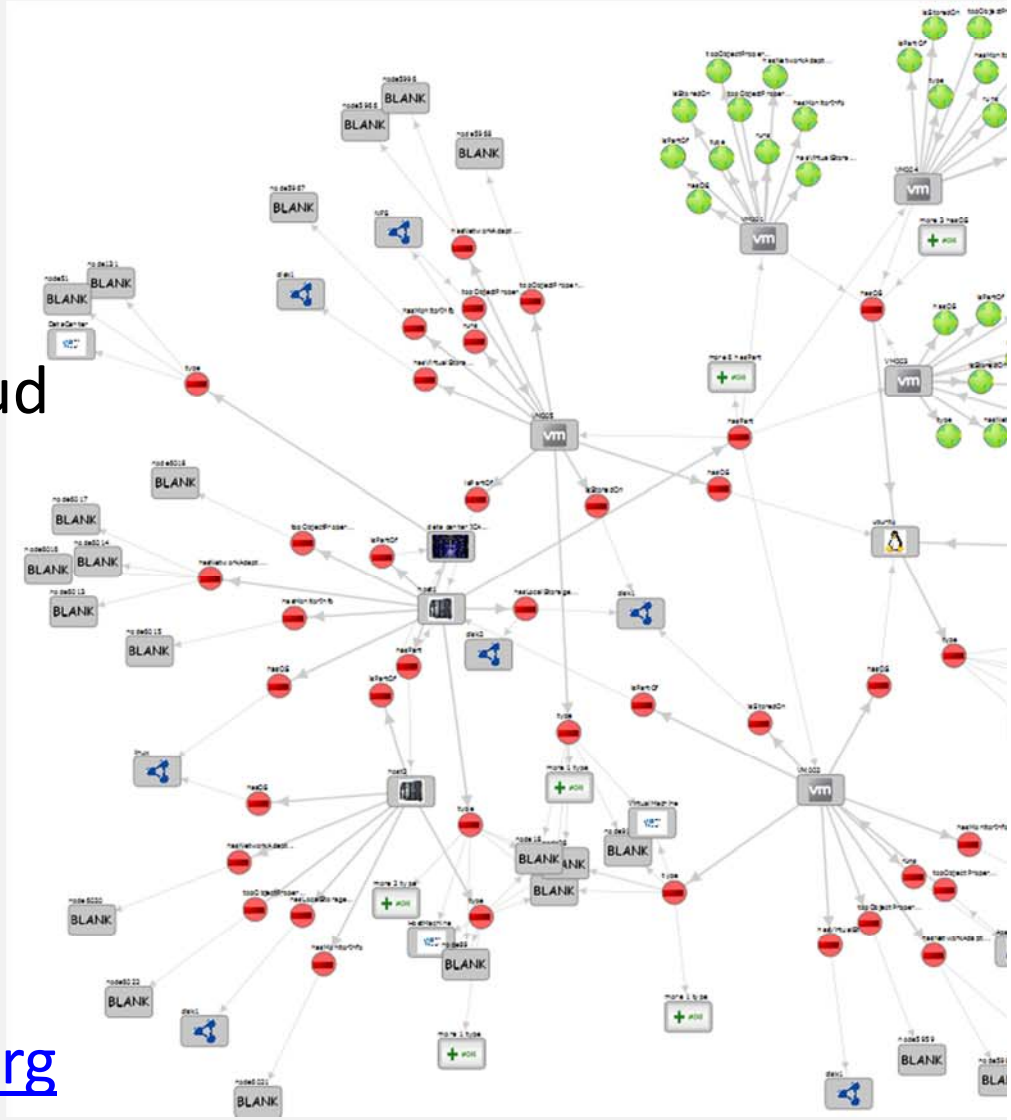
http://www.cloudicaro.it

Identification of optimal configurations allocations on the basis of effective workload

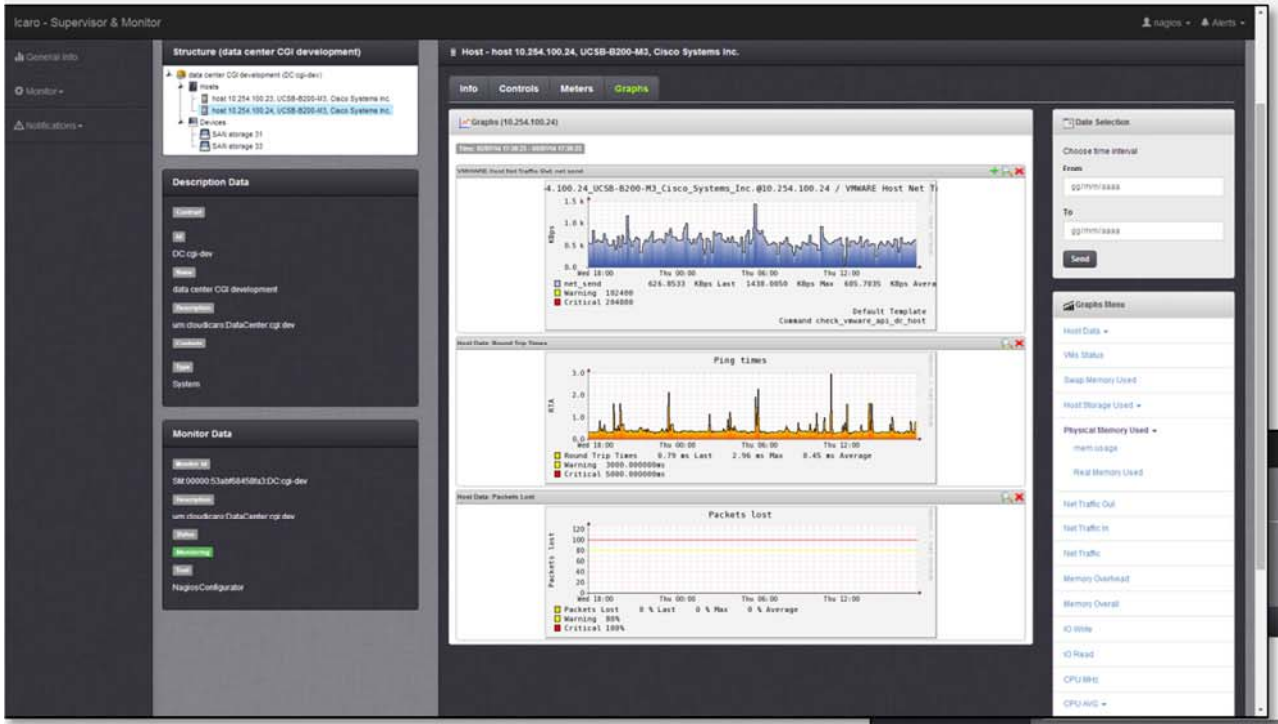


Knowledge Base & Tools

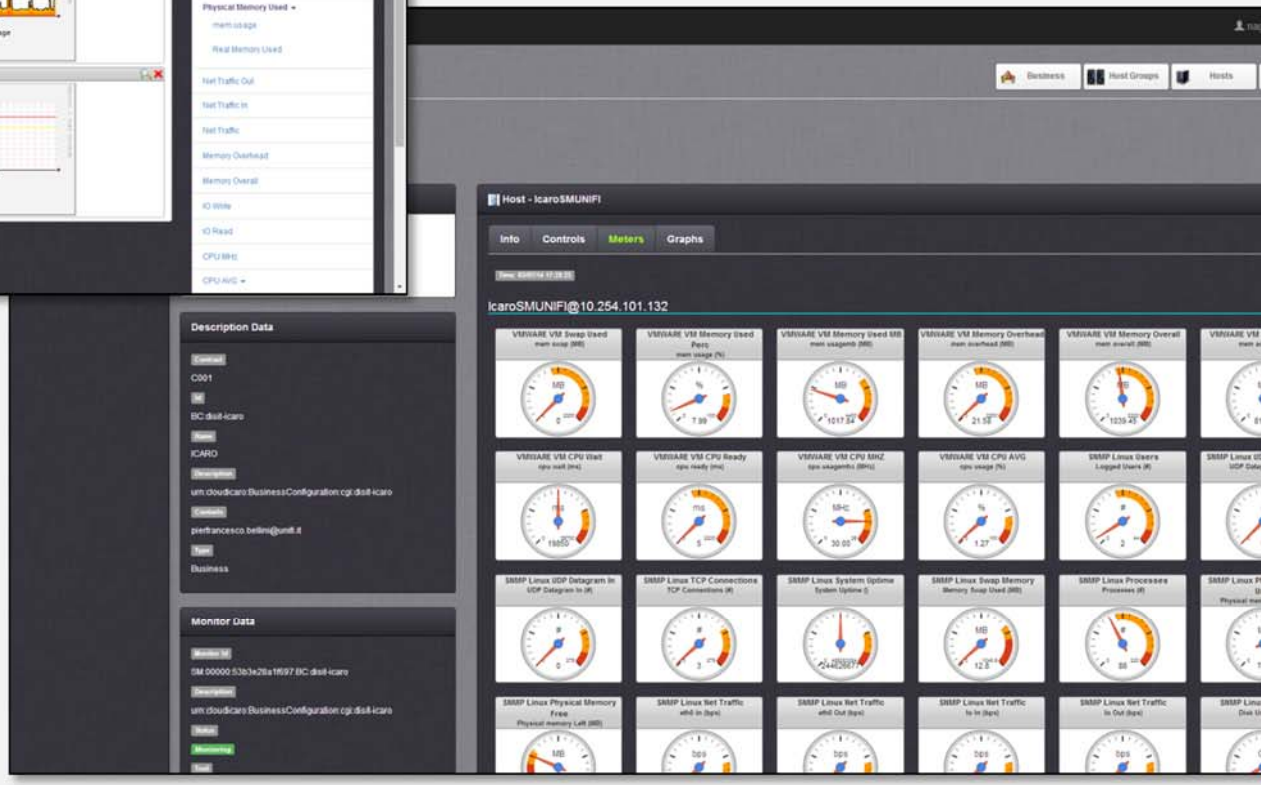
- **Smart Cloud Modeling**
  - Formalization of cloud models: layers, SLA (Service Level Agreement), consumptions, constraints reasoner
  - Decision support for Smart Cloud Engine directly connected with monitoring
- **Technologies**
  - Knowledge base: RDF store e inference engine
  - Smart Cloud Ontology: http://www.disit.org/5604
  - Example of accessible model in real time from http://log.disit.org



Cloud Supervisor & Monitor

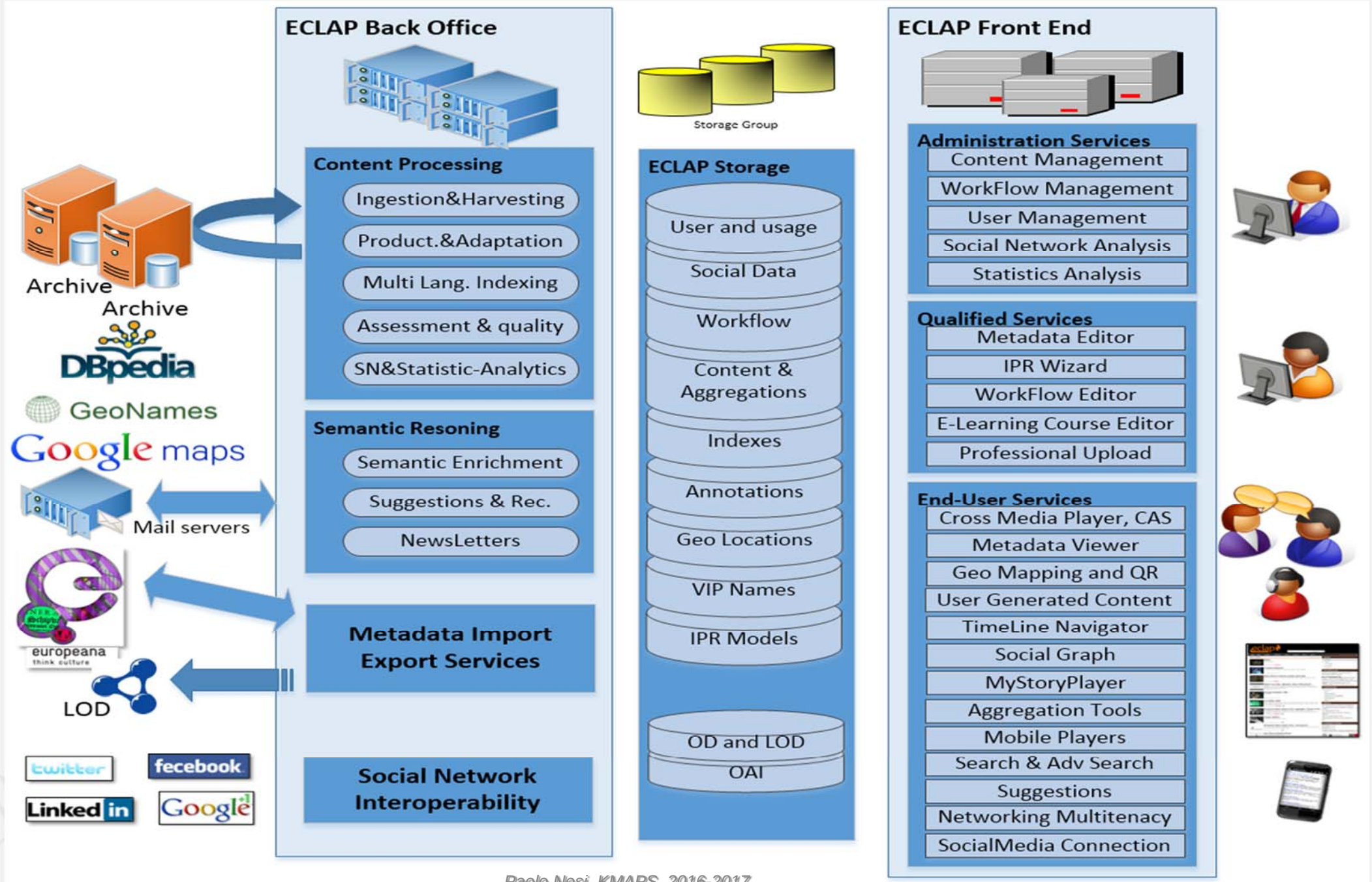


http://www.cloudicaro.it



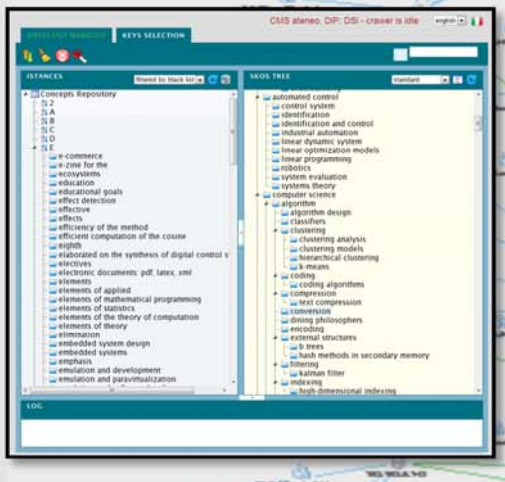
- Monitoring real business configuration, SLA
- Uplayer wrt classical monitoring tools

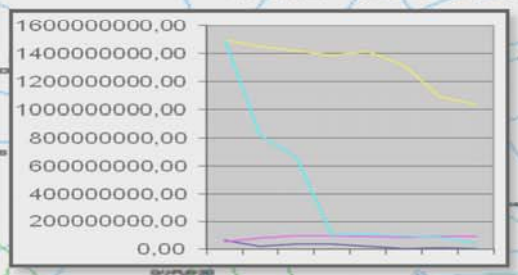
Cloud Scalable Social Networking



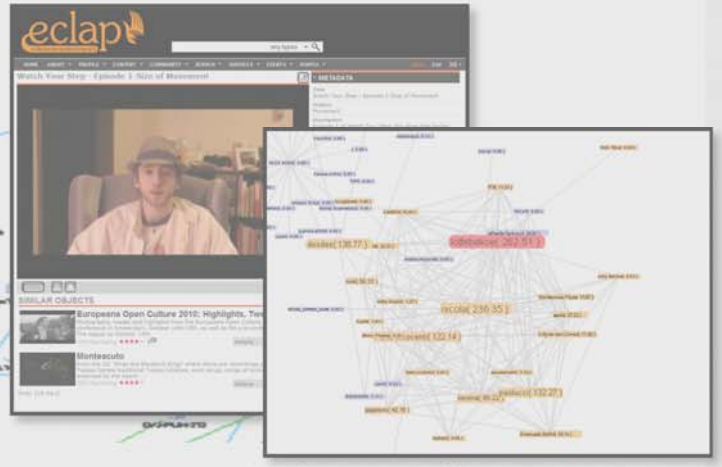
http://www.disit.dinfo.unifi.it

Text and Web Mining

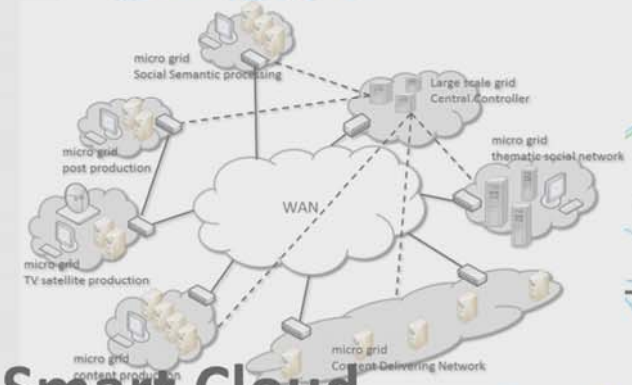




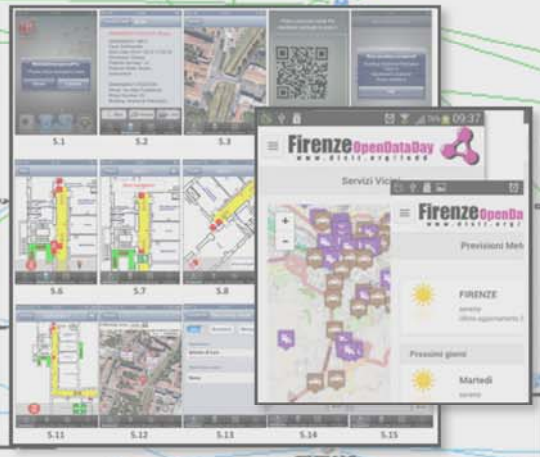
Data Analytics
Big data



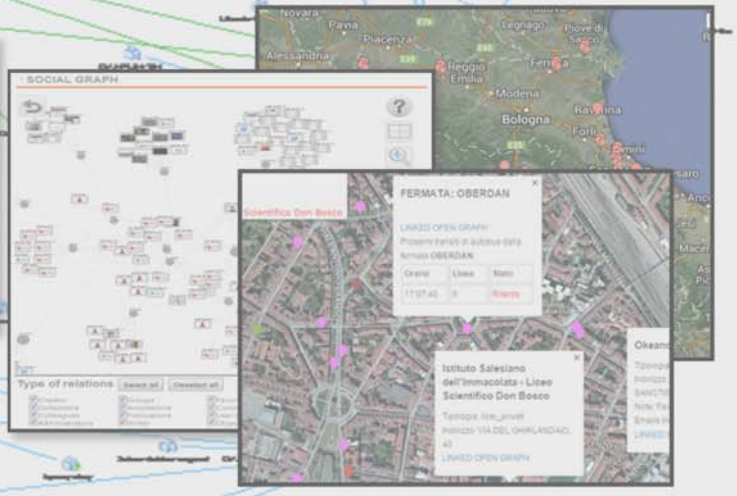
Social Media,
e-learning



Smart Cloud
Computing



Mobile Computing

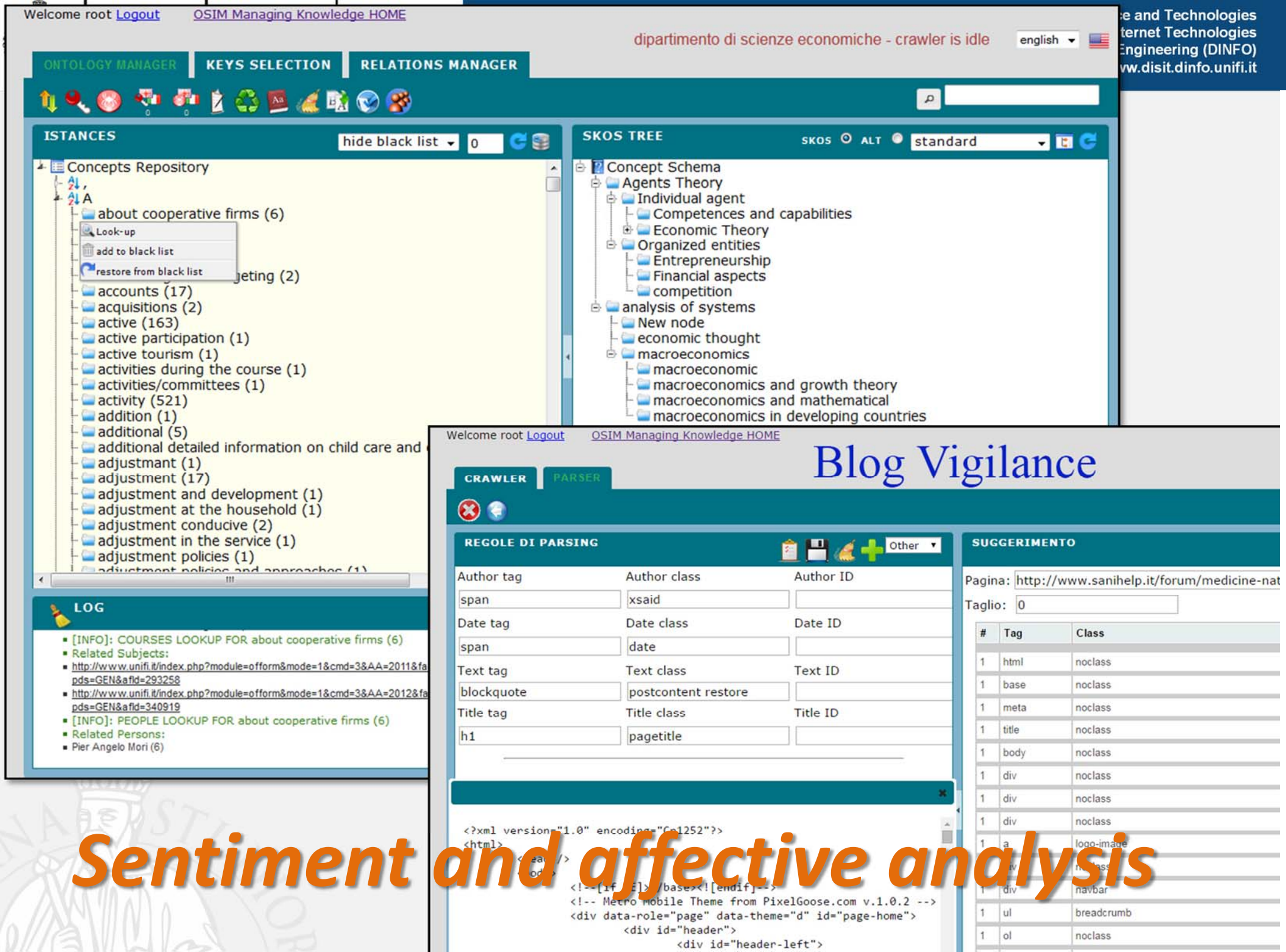


Smart Cities

Text and Web Mining

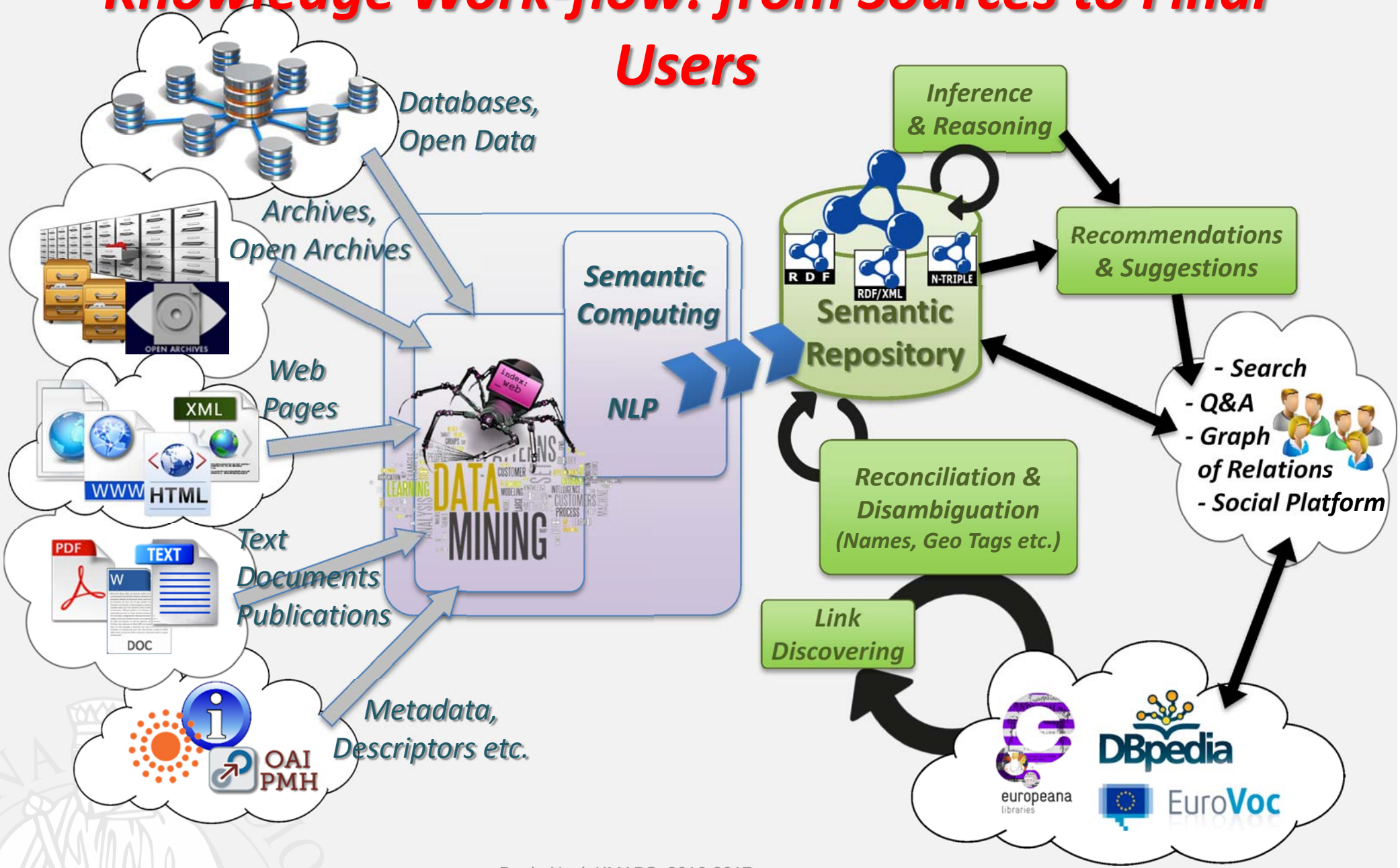
- **Projects:** http://www.disit.org/5501
  - OSIM: http://www.disit.org/5482
  - SACVAR: http://www.disit.org/5604
  - Blog/Twitter Vigilance
- **Tools:** http://www.disit.org/5489
  - Text and web mining, Natural Language Processing
  - Service localization
  - Web Crawling
  - Competence analysis
  - Blog Vigiliance, sentiment analysis

OSIM http://osim.disit.org


Welcome root Logout
OSIM Managing Knowledge HOME
dipartimento di scienze economiche - crawler is idle
english
ONTOLOGY MANAGER
KEYS SELECTION
RELATIONS MANAGER
ISTANCES
hide black list
0
Concepts Repository
A
about cooperative firms (6)
Look-up
add to black list
restore from black list
accounts (17)
acquisitions (2)
active (163)
active participation (1)
active tourism (1)
activities during the course (1)
activities/committees (1)
activity (521)
addition (1)
additional (5)
additional detailed information on child care and
adjustmant (1)
adjustment (17)
adjustment and development (1)
adjustment at the household (1)
adjustment conducive (2)
adjustment in the service (1)
adjustment policies (1)
SKOS TREE
SKOS
ALT
standard
Concept Schema
Agents Theory
Individual agent
Competences and capabilities
Economic Theory
Organized entities
Entrepreneurship
Financial aspects
competition
analysis of systems
New node
economic thought
macroeconomics
macroeconomic
macroeconomics and growth theory
macroeconomics and mathematical
macroeconomics in developing countries
LOG
[INFO]: COURSES LOOKUP FOR about cooperative firms (6)
Related Subjects:
http://www.unifi.it/index.php?module=offform&mode=1&cmd=3&AA=2011&fa
pds=GEN&afId=293258
http://www.unifi.it/index.php?module=offform&mode=1&cmd=3&AA=2012&fa
pds=GEN&afId=340919
[INFO]: PEOPLE LOOKUP FOR about cooperative firms (6)
Related Persons:
Pier Angelo Mori (6)
Welcome root Logout
OSIM Managing Knowledge HOME
Blog Vigilance
CRAWLER
PARSER
REGOLE DI PARSING
Other
Author tag
Author class
Author ID
span
xsaid
Date tag
Date class
Date ID
span
date
Text tag
Text class
Text ID
blockquote
postcontent restore
Title tag
Title class
Title ID
h1
pagetitle
SUGGERIMENTO
Pagina: http://www.sanihelp.it/forum/medicine-nat
Taglio: 0
Tag Class
1 html noclass
1 base noclass
1 meta noclass
1 title noclass
1 body noclass
1 div noclass
1 div noclass
1 div noclass
1 a logo-image
1 ul navbar
1 ul breadcrumb
1 ol noclass
<?xml version="1.0" encoding="Cp1252"?>
<html>
<!-- Metro Mobile Theme from PixelGoose.com v.1.0.2 -->

Sentiment and affective analysis

Knowledge Work-flow: from Sources to Final Users



OSIM Open Space Innovative Mind BETA Università degli Studi di Firenze

Home Documentation Search Managing Knowledge Browse Persons & Publications Contact DISIT

DISIT Lab, Distributed Data Intelligence and Technologies
Distributed Systems and Internet Technologies
Department of Information Engineering (DINFO)
http://www.disit.dinfo.unifi.it

http://OSIM.disit.org

Back

NESI PAOLO urn:u-gov:unifi:AC_AB0:8cf8e70205520a44e90211a34e6b7a9e

Registrato CINECA

More Info (on: Managing Person Knowledge)

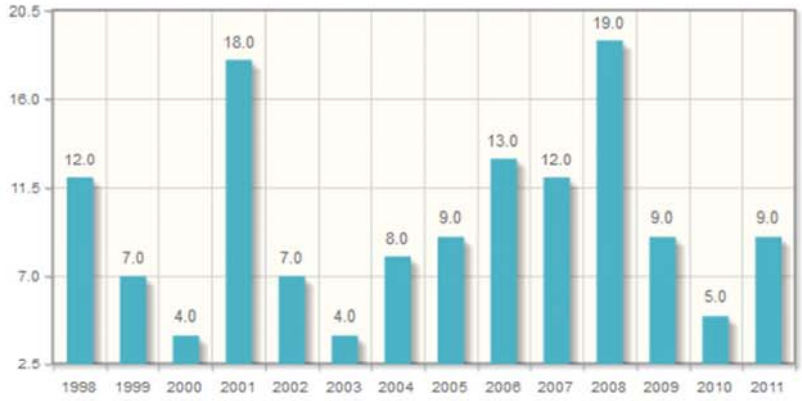
Author subject:

INGEGNERIA INDUSTRIALE E DELL'INFORMAZIONE
SC. E TEC. PER UNA SOCIETÀ DELL'INFORMAZIONE E DEL

Tipo di pubblicazioni dell'autore:

1a - Articolo su rivista (44)
1a - Articolo su rivista ISI (1)
2a - Art/Cap/Saggio libro scient/tech (11)
3f - Libro scientifico/tecnico (7)
4a - Articolo in atti di congresso (94)
5o - Rapporti di ricerca pubblicati (1)
7a - Curatela (8)
7d - Curatela di libro scientifico/tecnico (1)

Totale pubblicazioni: 167



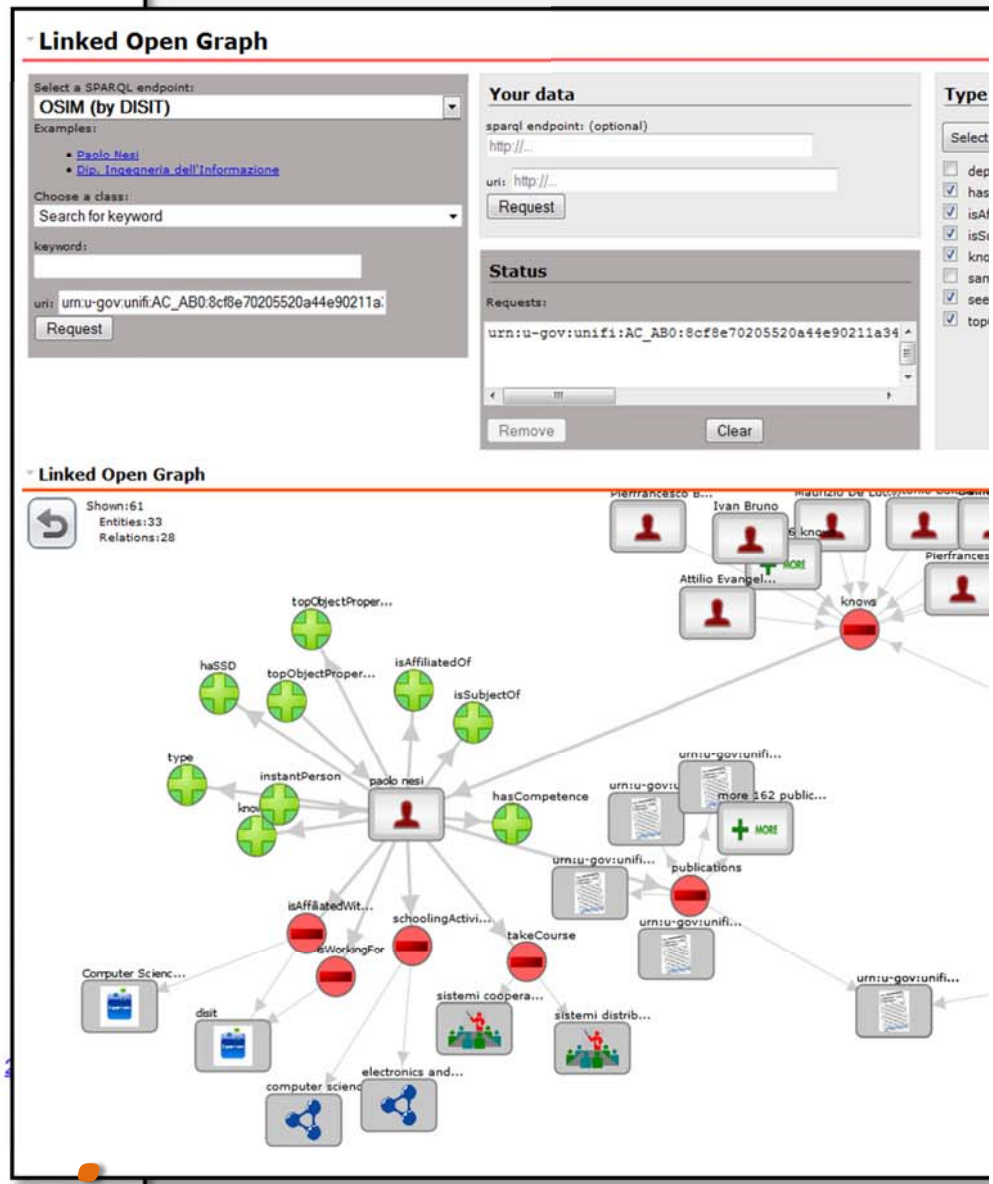
Anno:

1998 (12) 1999 (7) 2000 (4) 2001 (18) 2002 (7) 2003 (4) 2004 (8) 2005 (9) 2006 (13) 2007 (12) 2008 (19) 2009 (9) 2011 (9)

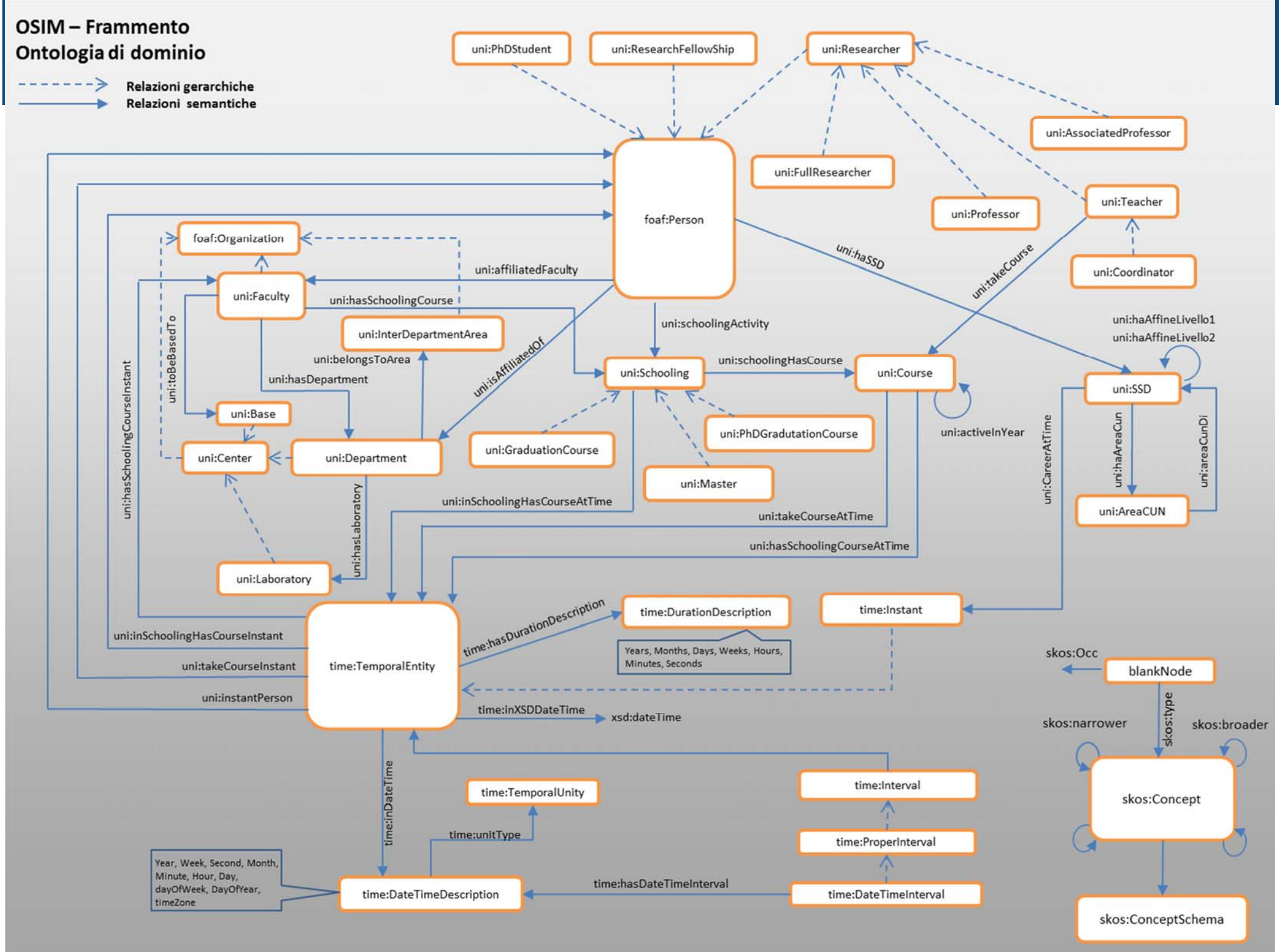
Elenco di tutte le pubblicazioni (167)

Autori di [illegible]

ARGENTI FABRIZIO (Registrato CINECA) Visualizza le pubblicazioni in comune (2)
BALDASSARRE ANTONIO (Registrato CINECA) Visualizza le pubblicazioni in comune (1)
BELLINI PIERFRANCESCO (Registrato CINECA) Visualizza le pubblicazioni in comune (41)
BRUNO IVAN (Registrato CINECA) Visualizza le pubblicazioni in comune (22)



Knowledge analysis


OSIM – Frammento
Ontologia di dominio
Relazioni gerarchiche
Relazioni semantiche
uni:PhDStudent
uni:ResearchFellowShip
uni:Researcher
uni:AssociatedProfessor
uni:FullResearcher
uni:Professor
uni:Teacher
uni:Coordinator
foaf:Person
foaf:Organization
uni:affiliatedFaculty
uni:Faculty
uni:hasSchoolingCourse
uni:InterDepartmentArea
uni:belongsToArea
uni:hasDepartment
uni:toBeBasedTo
uni:hasSchoolingCourseInstant
uni:Base
uni:Center
uni:Department
uni:isAffiliatedOf
uni:schoolingActivity
uni:Schooling
uni:schoolingHasCourse
uni:Course
uni:haAffineLivello1
uni:haAffineLivello2
uni:SSD
uni:haSSD
uni:takeCourse
uni:activeInYear
uni:CareerAtTime
uni:haAreaCun
uni:areaCunDi
uni:AreaCUN
uni:GraduationCourse
uni:PhDGradutationCourse
uni:Master
uni:inSchoolingHasCourseAtTime
uni:takeCourseAtTime
uni:hasSchoolingCourseAtTime
uni:hasLaboratory
uni:Laboratory
uni:inSchoolingHasCourseInstant
uni:takeCourseInstant
uni:instantPerson
time:TemporalEntity
time:hasDurationDescription
time:DurationDescription
Years, Months, Days, Weeks, Hours, Minutes, Seconds
time:Instant
time:inXSDDateTime
xsd:dateTime
skos:Occ
blankNode
skos:type
skos:narrower
skos:broader
skos:Concept
skos:ConceptSchema
time:inDateTime
time:TemporalUnity
time:unitType
time:Interval
time:ProperInterval
time:DateTimeInterval
time:hasDateTimeInterval
time:DateTimeDescription
Year, Week, Second, Month, Minute, Hour, Day, dayOfWeek, DayOfYear, timeZone

Linked Open Graph

http://log.disit.org

Select a SPARQL endpoint:
OSIM (by DISIT)
Examples:
- Paolo Nesi
- Dip. Ingegneria dell'Informazione

Choose a class:
Search for keyword
keyword:
uri: urn:u-gov:unifi:AC_AB0:8cf8e70205520a44e90211a:
Request

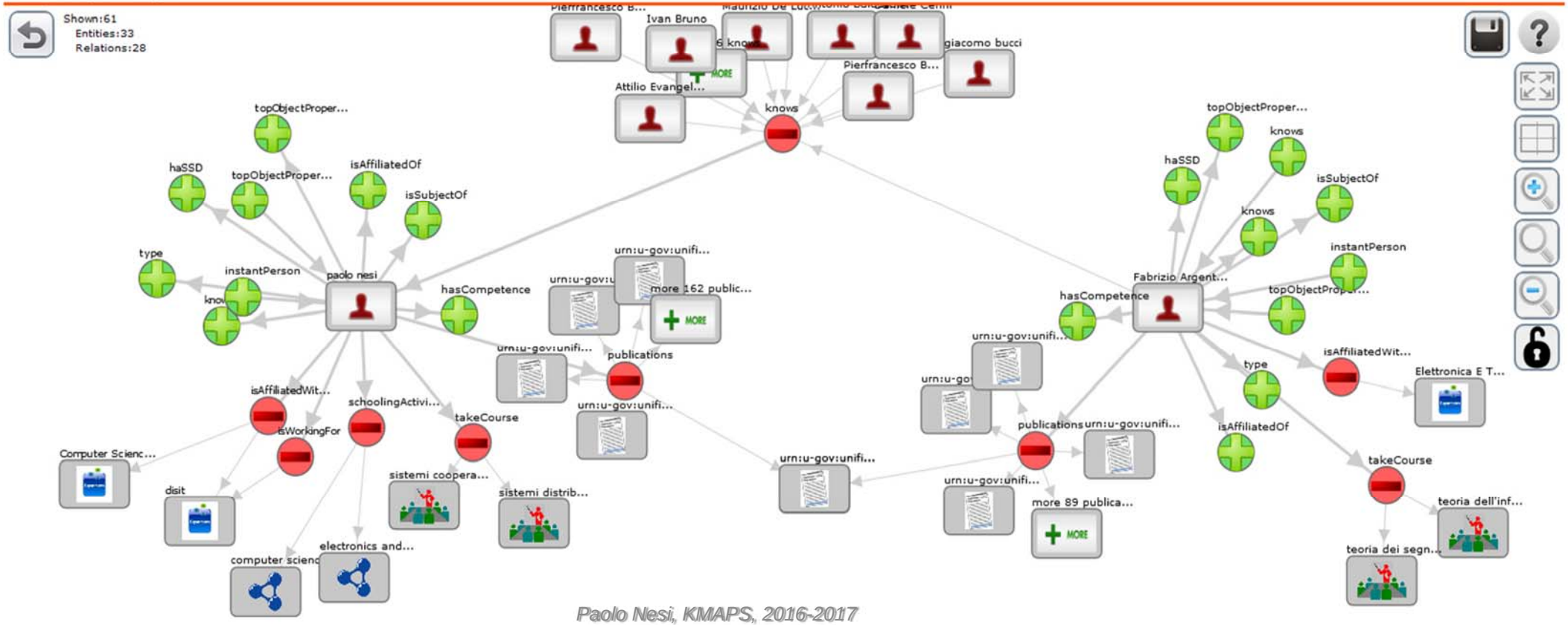
Your data
sparql endpoint: (optional)
http://...
uri: http://...
Request

Status
Requests:
urn:u-gov:unifi:AC_AB0:8cf8e70205520a44e90211a34
Remove Clear

Select all | Deselect all | Invert | Hide all inverse

depiction	haSSD
hasCompetence	instantPerson
isAffiliatedOf	isAffiliatedWith
isSubjectOf	isWorkingFor
knows	publications
sameAs	schoolingActivity
seeAlso	takeCourse
topObjectProperty	type

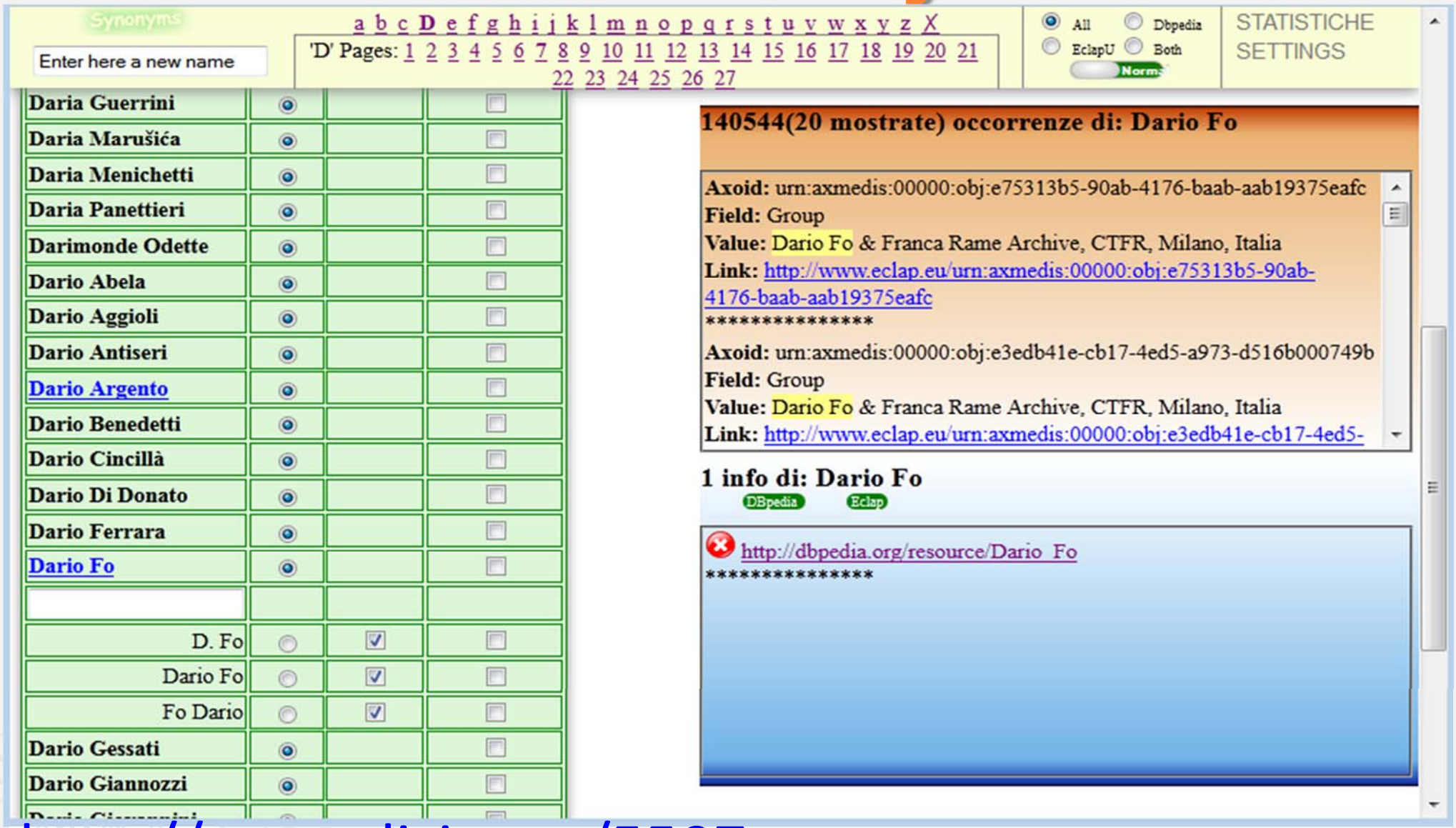
Linked Open Graph



RDF Store Enrichment, for service Localization via web crawling

- Using the **Ge(**o)**Lo(**cator) framework:
  - Mining, retrieving and geolocalizing web-domains associated to companies in Tuscany (thanks to a **Distribute Web Crawler** based on Apache Nutch + Hadoop)
  - Extraction of geographical information based on a hybrid approach (thanks to Open Source **GATE** Framework + using external gazetteers)
  - Validation in 2 steps: Evaluation of Complete Address Array Extraction, Evaluation of Geographic Coordinate Extraction
- New services found, can be transformed into RDF triples and added to the repository!

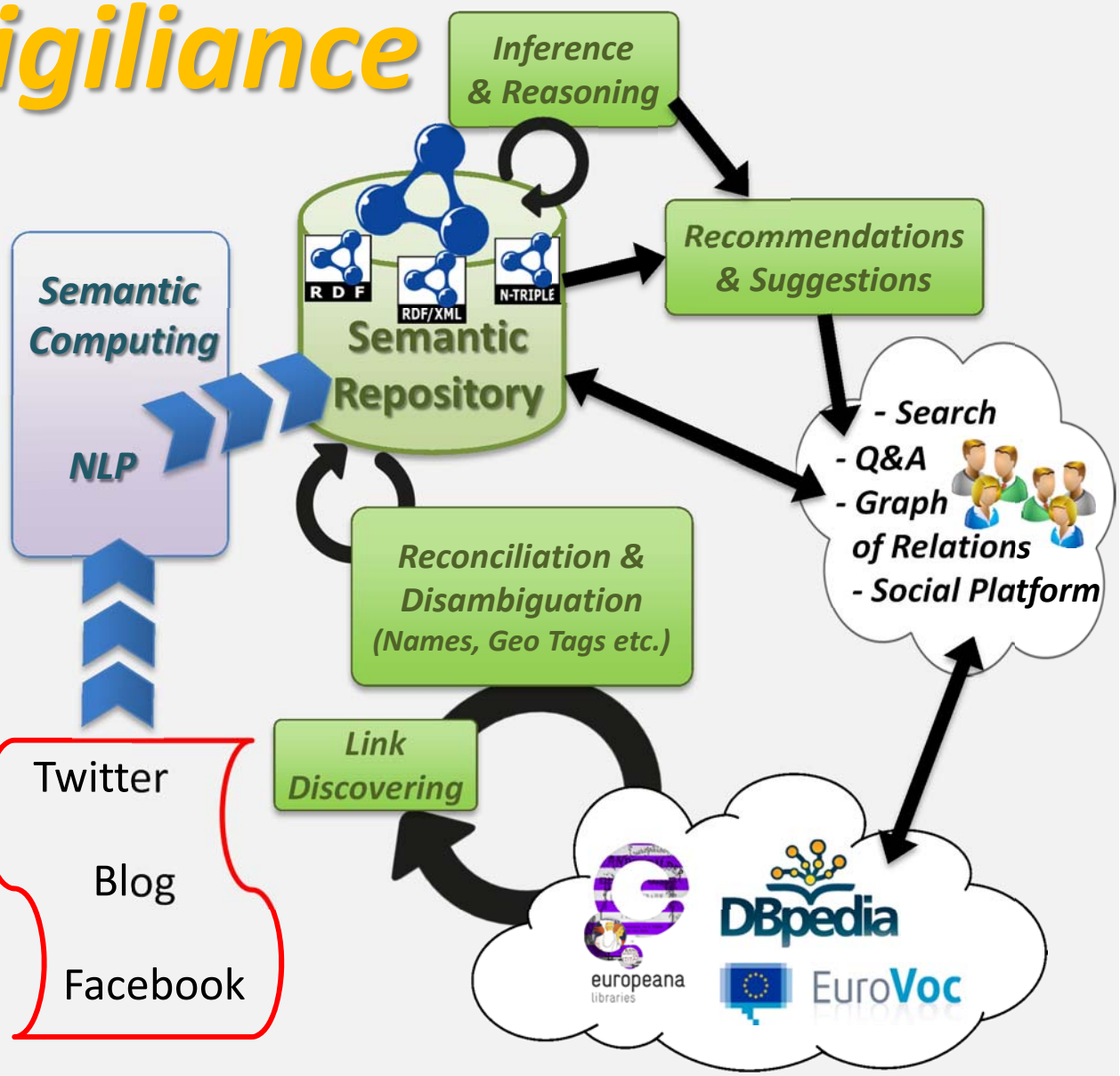
RDF Store Enrichment, VIP names identification

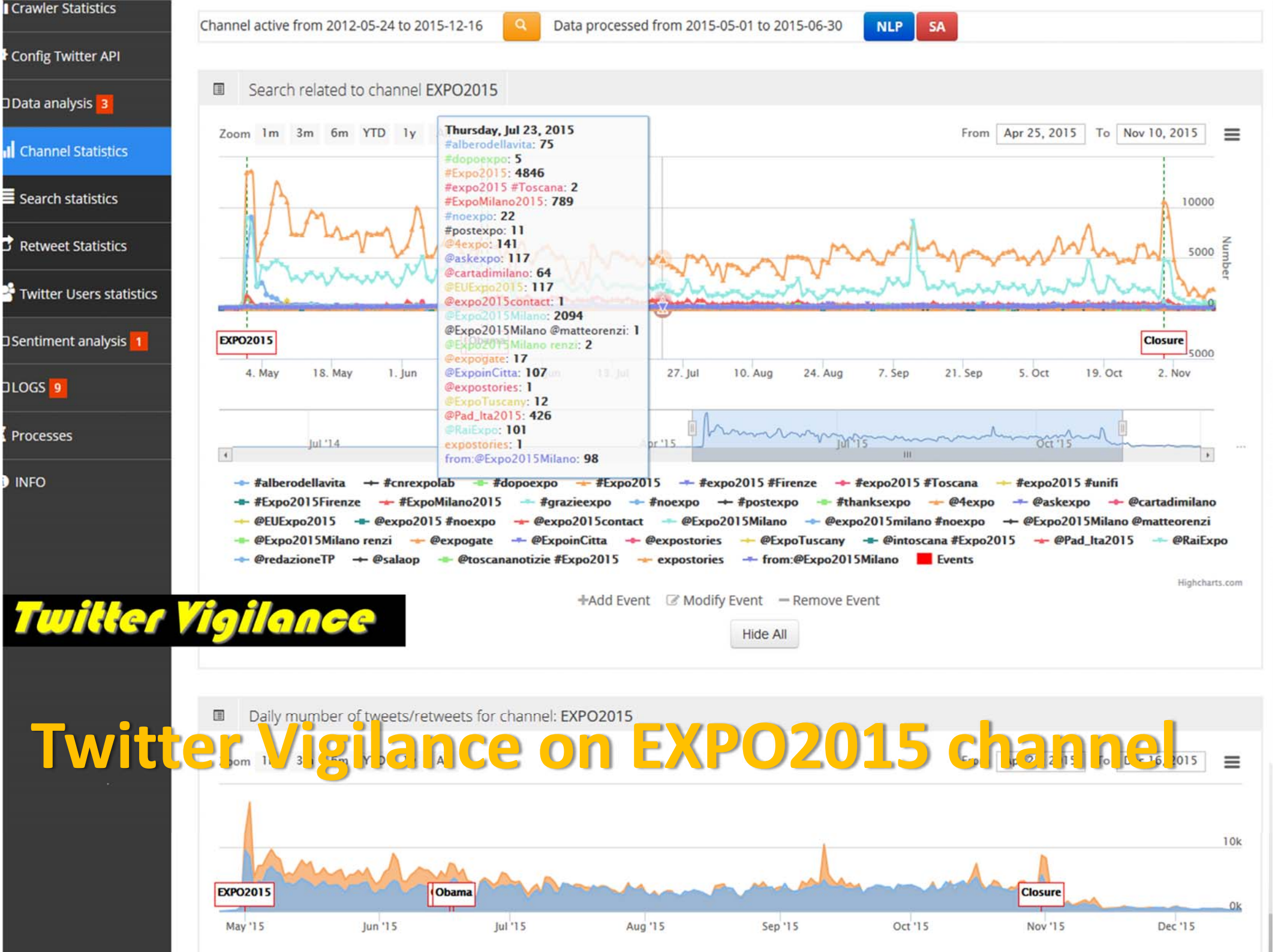


http://www.disit.org/5507

NLP e Blog Vigiliance

- Crawling textual information from: documents, blogs, twitters
- Verify and validate information versus other official sites.
- Extract information from Public web site and textual sources to populate alternative DB and/or enrich stores and semantic models: smart city, cultural heritage, mush up for other portals
- Exploit mined information for reasoning, predicting, linking, etc.

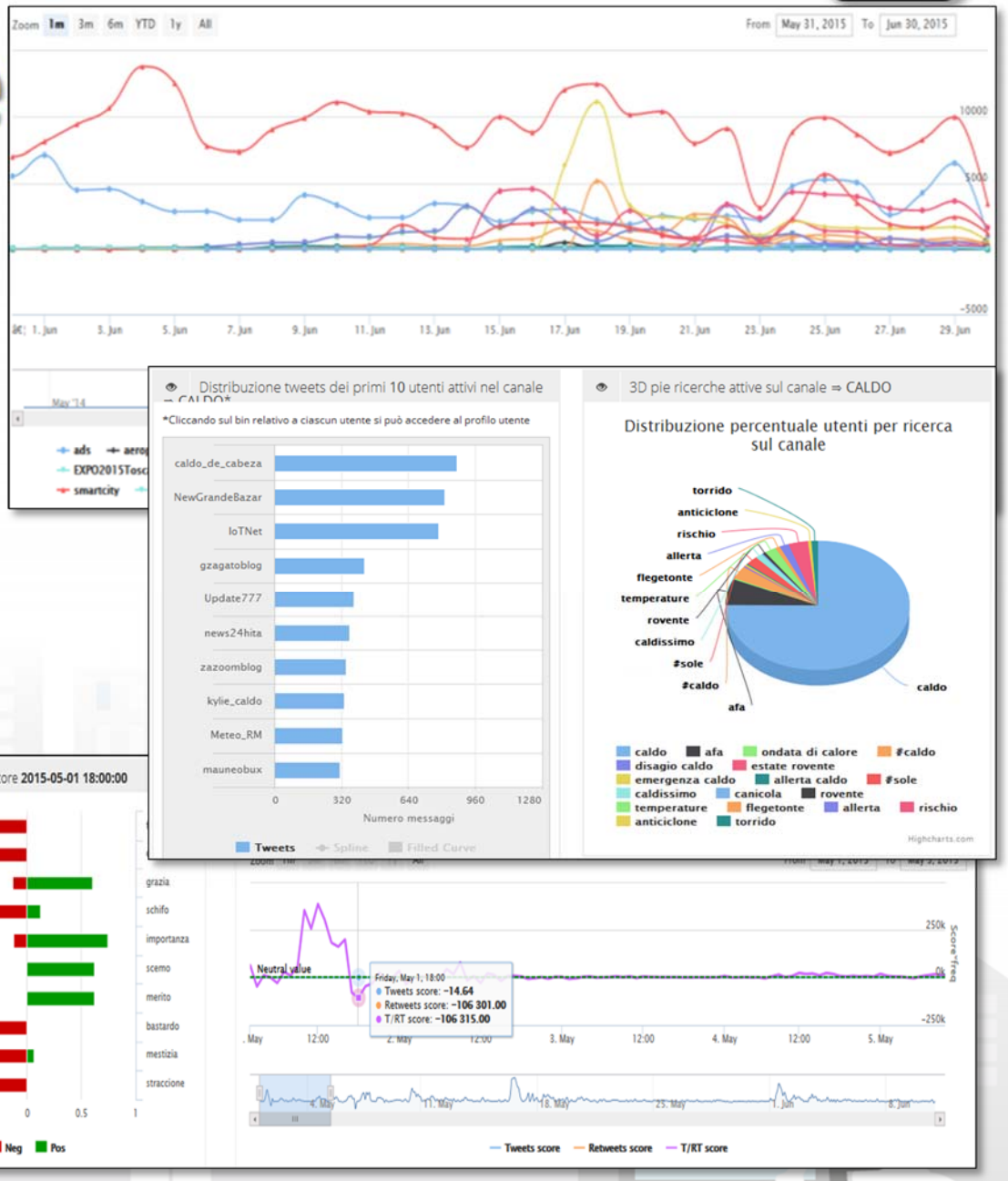




Twitter Vigilance on EXPO2015 channel

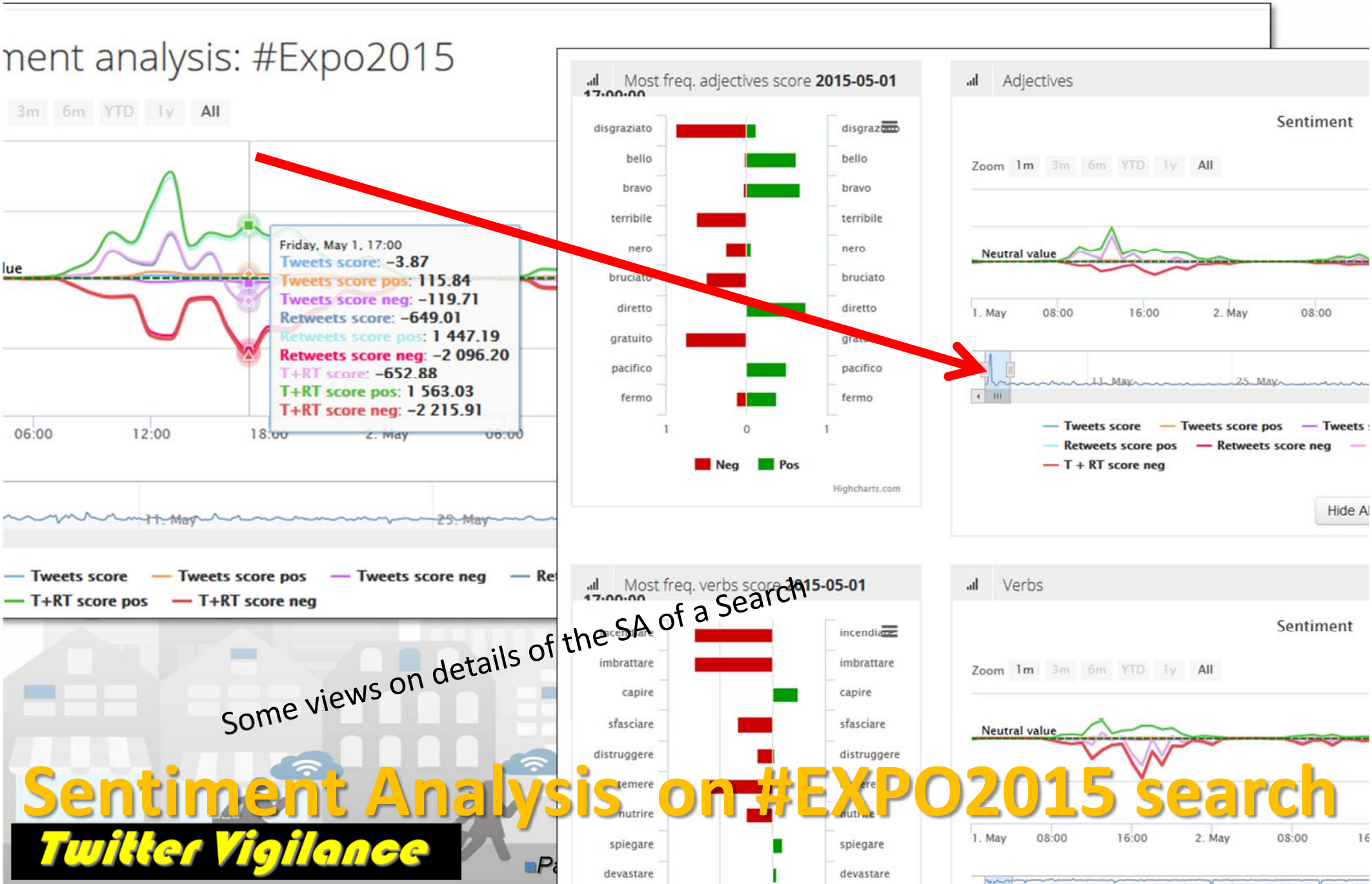
Twitter Vigilance

- http://www.disit.org/tv
- Citizens as sensors to
  - Assess sentiment on services, events, …
  - Response of consumers wrt…
  - **Early detection** of critical conditions
  - Information channel
  - Opinion leaders
  - Communities
  - Formation
  - **Predicting volume of visitors for tuning the services**



UNIVERSITÀ DEGLI STUDI FIRENZE | DINFO DIPARTIMENTO DI INGEGNERIA DELL'INFORMAZIONE | DISIT DISTRIBUTED SYSTEMS AND INTERNET TECHNOLOGIES LAB
http://www.disit.org

Twitter Vigilance



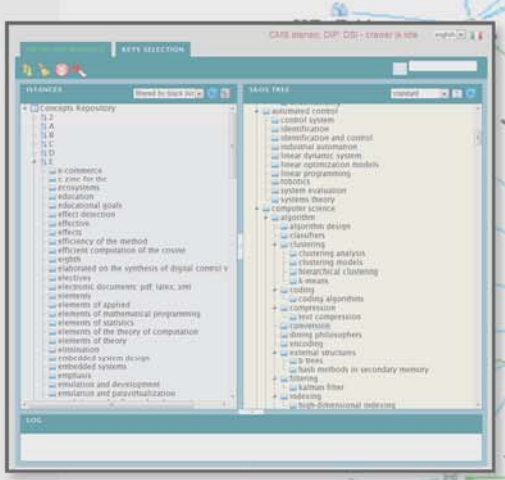
Some views on details of the SA of a Search

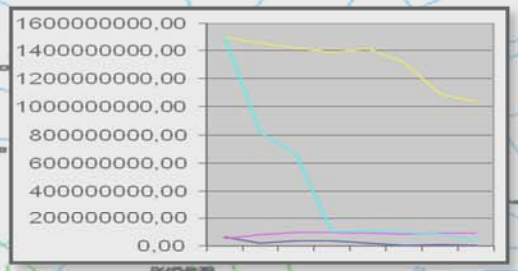
Sentiment Analysis on #EXPO2015 search

Twitter Vigilance

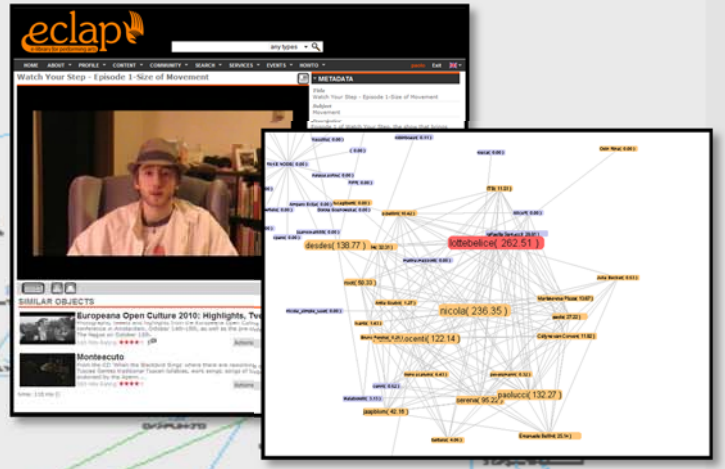
http://www.disit.dinfo.unifi.it

Text and Web Mining

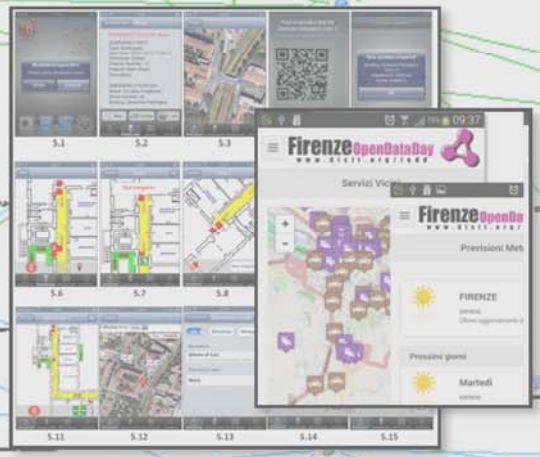


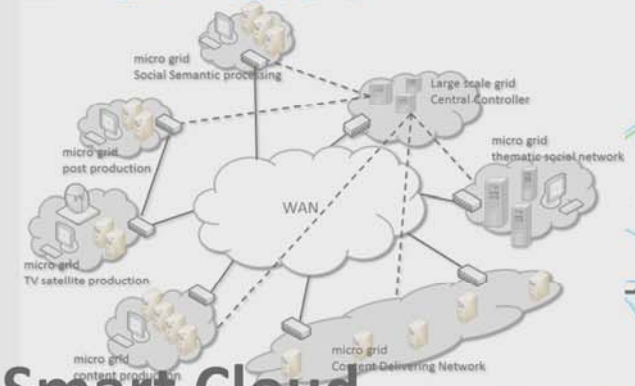


Data Analytics
Big data



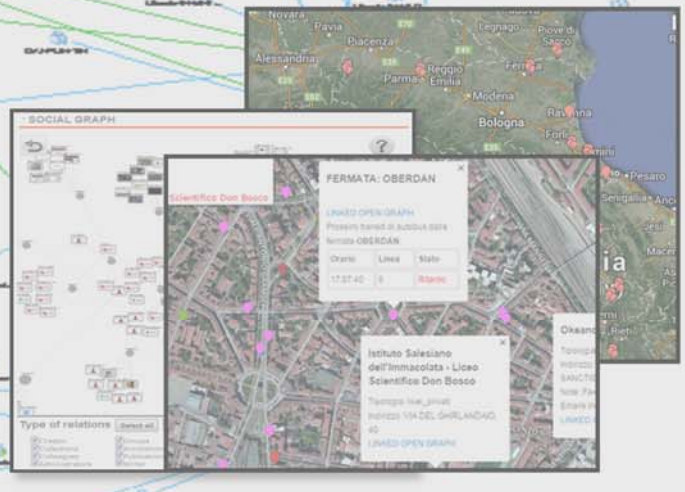
Social Media, e-learning





Smart Cloud Computing

Mobile Computing



Smart Cities

Social Media and e-Learning

- **Projects:** http://www.disit.org/5501
  - ECLAP, http://www.eclap.eu
  - ApreToscana: http://www.apretoscana.org
  - Others: AXMEDIS, VARIAZIONI, SMNET, etc.
  - Samsung Smart TV: http://www.disit.org/6534
- **Tools:** http://www.disit.org/5489
  - XLMS, Cross Media Learning System
  - IPR and content protection and distribution
  - Mobile and SmartTv Applications
  - Suggestions and recommendations
  - Matchmaking solutions
  - Media Tools for cross media content

Social Media, e-learning

- **ECLAP**: life long learning, social learning
  - http://www.eclap.eu
- **FirstClass**: certified blended learning, paid courses
  - http://fad.fclass.it
- **APRETOSCANA**: formation for researchers
  - http://www.apretoscana.org
- **DISIT.DINFO.UNIFI.IT**: research management and dissemination
  - http://www.disit.dinfo.uinifi.it
- **SMNET**: SentienMultimedia Network for KSI
  - http://smnet.disit.org

Dario Fo e Franca Rame, evento 20 ottobre 2011, live

RELOAD ACTIONS

RELATED OBJECTS BY TEXT


ECLAP MyStoryPlayer, ECLAP networking,


Dario Fo e Franca

ECLAP Opportunities


Una vista del portale

COMMENTS MORE

METADATA

Metadata languages

Title
Dario Fo e Franca Rame, evento 20 ottobre 2011, live

Creator marco

Classification
IPR information
Technical
Location

Subject
Dario Fo e Franca Rame, evento 20 ottobre 2011, live

Description
Dario Fo e Franca Rame, evento 20 ottobre 2011, live

Provider DSI

Short url http://www.eclap.eu/63497

ACTIONS

CONTENT

- Featured
- Popular
- Popular in the period
- Last Posted
- Top Rated
- Location
- Timeline

CLASSIFICATION

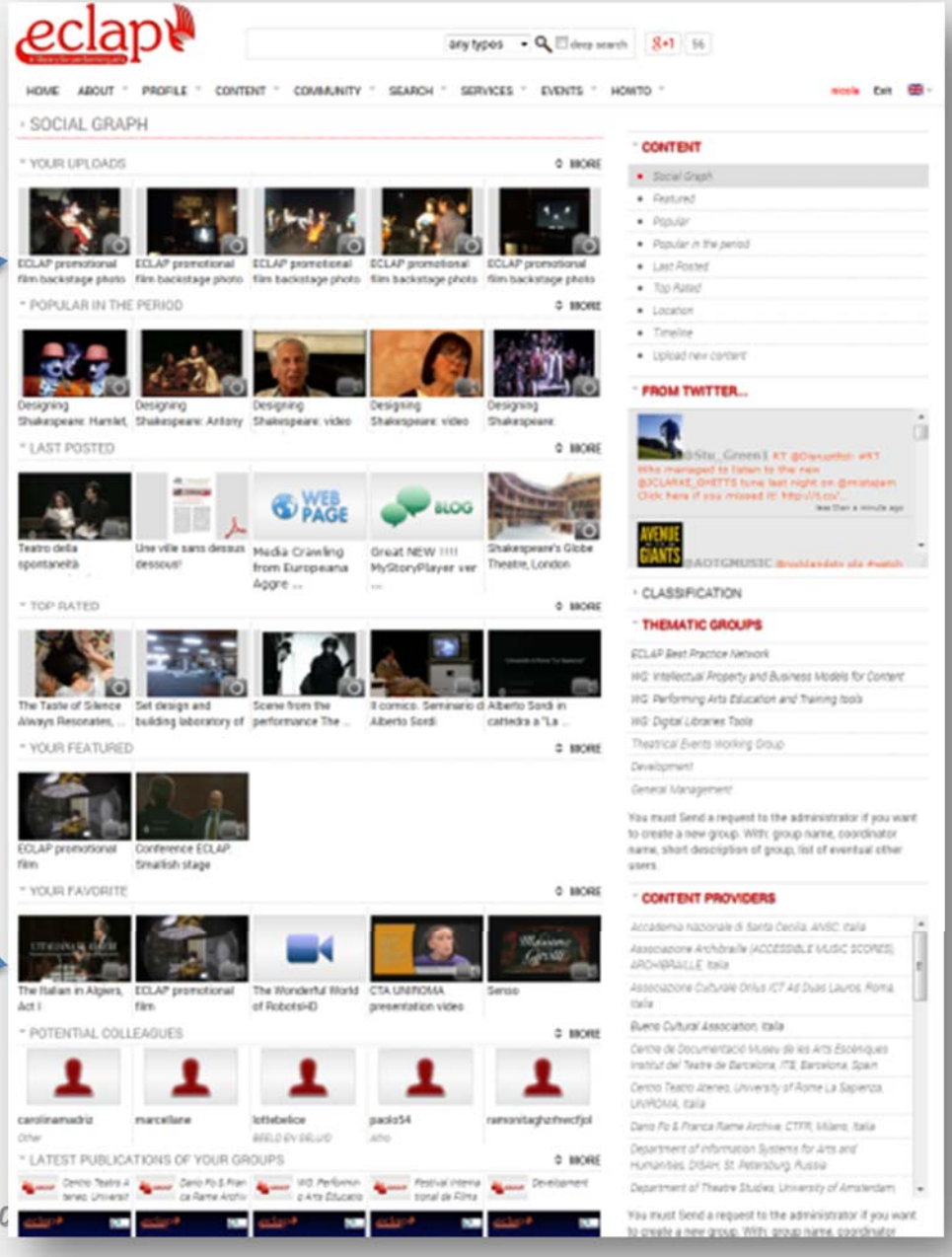
THEMATIC GROUPS

Best practice network for performing arts

Social Learning

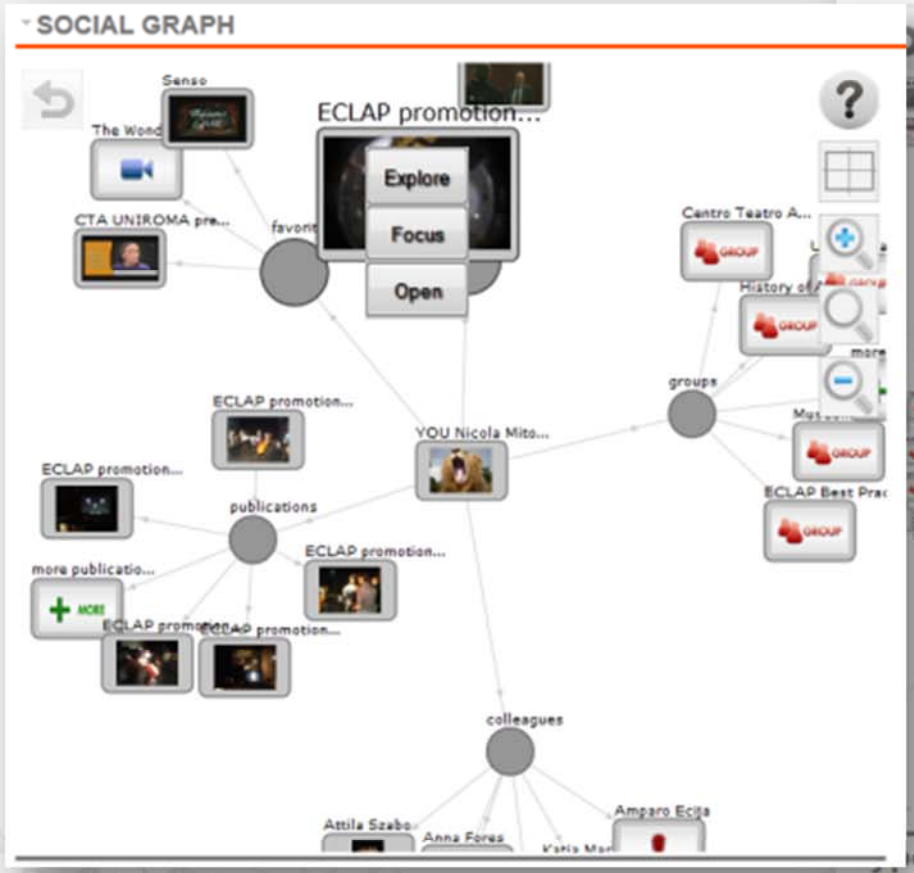
Registration of knowledge and skills

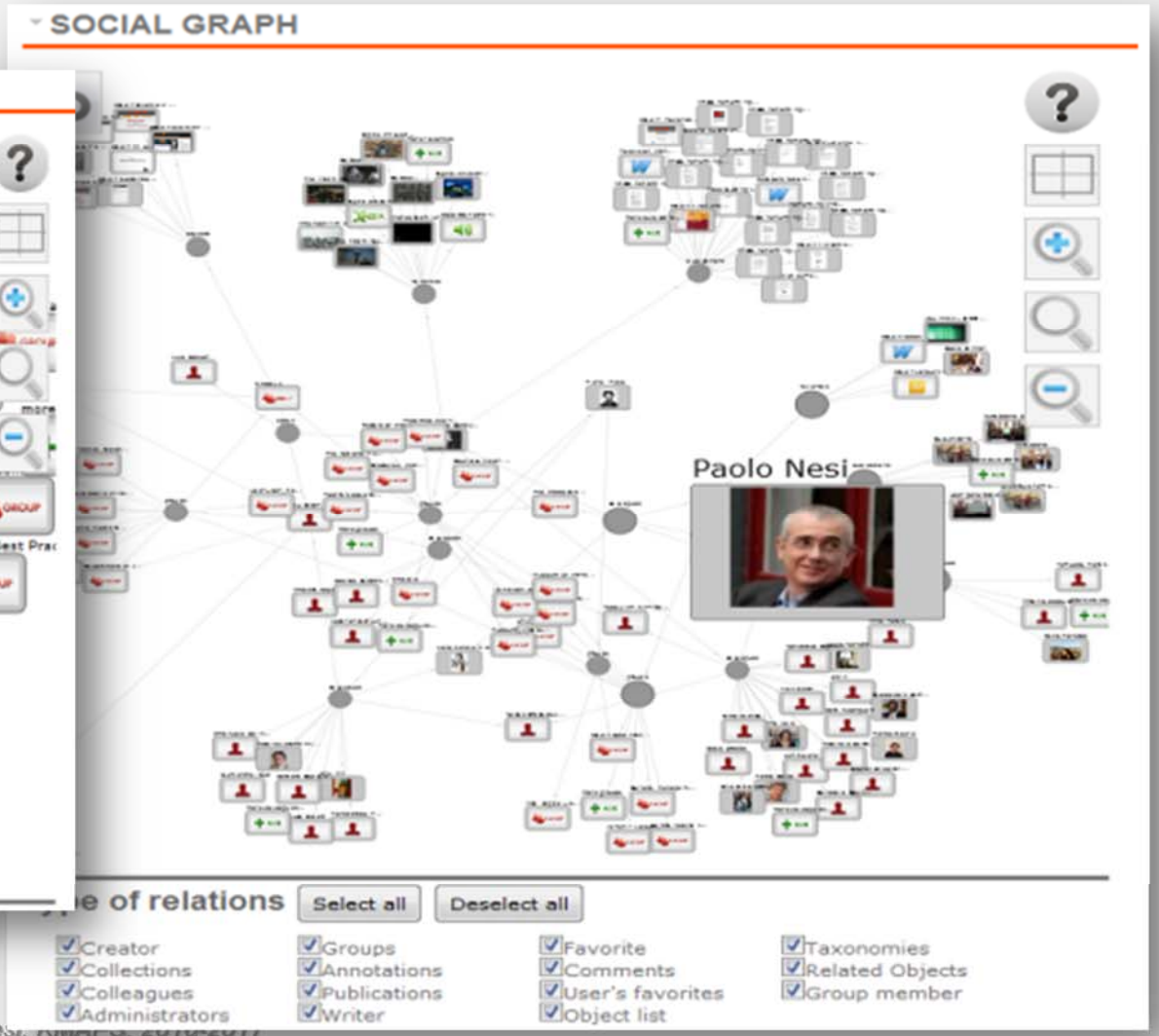
- **Each registered user has a personal homepage…**
  - The system take trace of the information in the user profile
  - The system monitors actions performed by the user on the portal (activities done, queries, content viewed, etc.)
  - The system suggests to the user contents, colleagues and thematic groups that could be interested for the users (on the basis of its interests)
  - Suggestions are personalized for the single user
  - Personalized newsletter



SocialGraph

- A tool for visualizing and browsing relations and connections among USERS and among Users and Content





MYSTORYPLAYER

Annotation info

toni servillo sincronizzazione giorno 2 parte 2

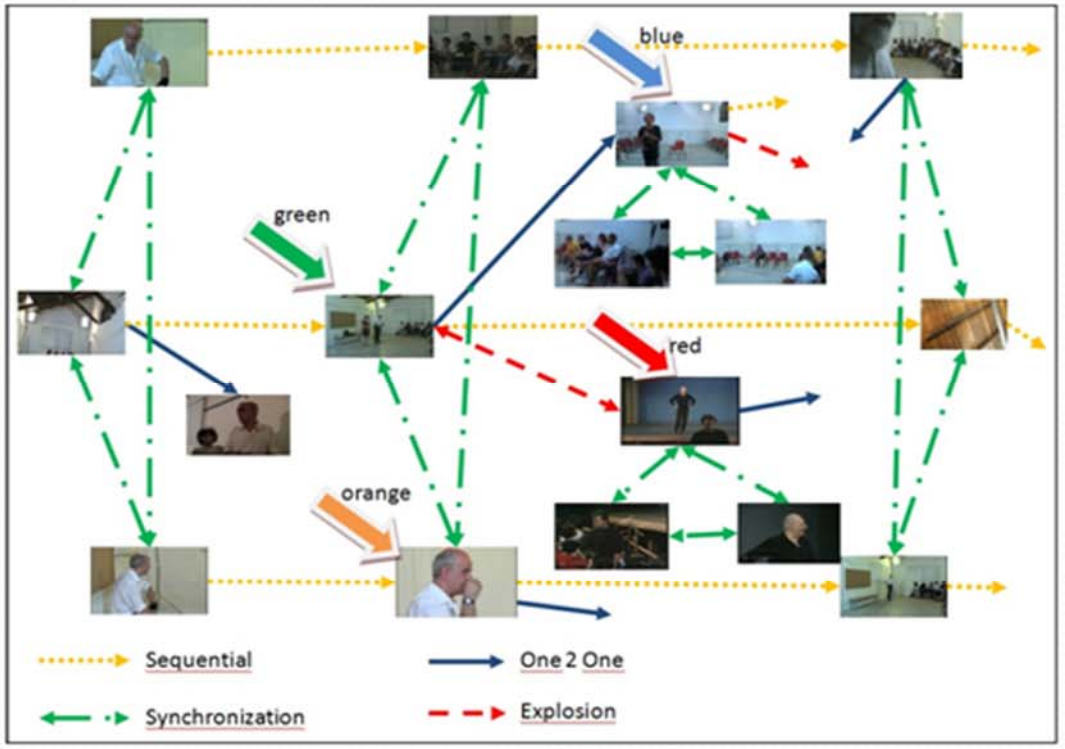
Start-end: 00:00:01 - 01:00:52

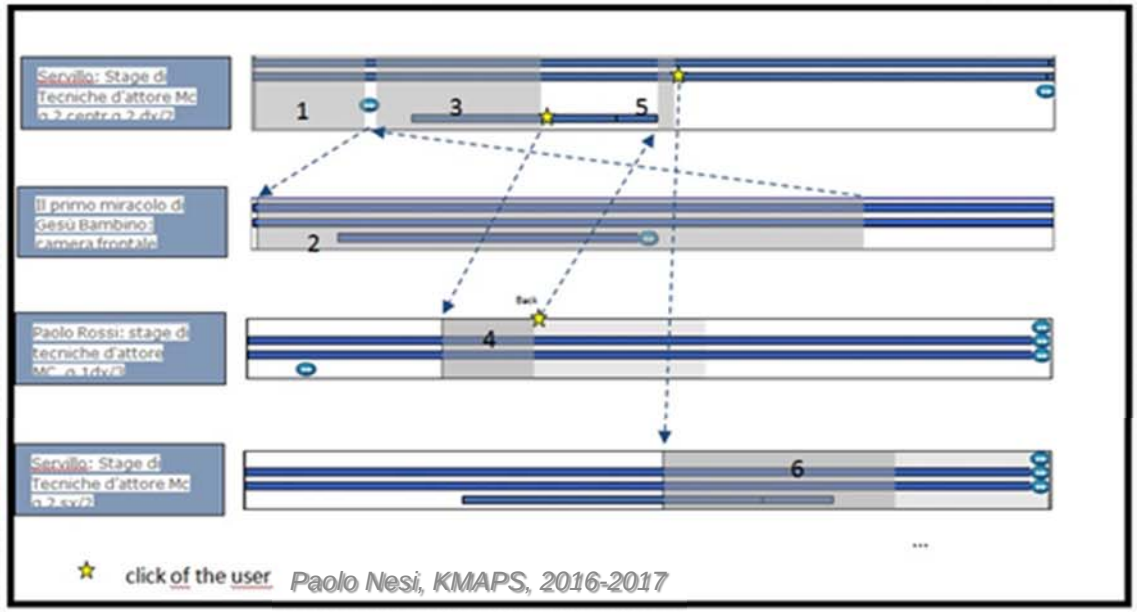
Multicamera synchronized streaming

MyStoryPlayer: personal experiences

(b)

(d)





Paolo Nesi, KMAPS, 2016-2017

ECLAP mobile applications

ECLAP Social TV on Samsung SmartTV

APRE TOSCANA
AGENZIA PER LA PROMOZIONE DELLA RICERCA EUROPEA

HOME CHI SIAMO SERVIZI EVENTI COMUNITÀ ADERIRE RICERCHE MIO

torna indietro

pal-1: disit lab (distributed sy...

responsabile: paolo nesi

evento: matchmaking - pisa cnr, 15-05-2014

disit e' un lab. di ricerca, innovazione e trasferimento tecnologico, ad accesso aperto sulle tecnologie della semantic computing, big data, smart city, social media, nlp, data intelligence, cloud ...

seleziona/rimuovi la tua prenotazione con questo laboratorio.

occupato | prenotato da te | tuoi meeting. | libero | no tavoli

9:30 - 10:00	Tav.1: viene Carlo | Megatech	
10:00 - 10:30	Tav.12: viene Gino Rossi | Eco bat	
10:30 - 11:00		
11:30 - 12:00	Tav. A1: vai da Ugo Red | It9	
12:00 - 12:30	Ala est. Tav.3: viene ELEN | ELEN	
12:30 - 13:00	**tua prenotazione**	✓
14:00 - 14:30		
14:30 - 15:00	Tav.54: vai J. R. Baric | Miscos	
15:00 - 15:30		
16:00 - 16:30	spazio esaurito	

MatchMaking: demand vs offers

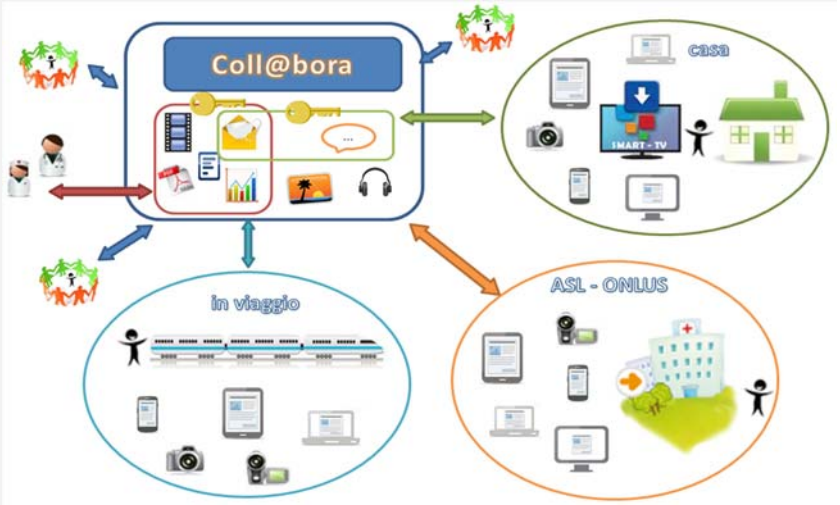
Coll@bora

http://www.disit.org/5479

Title: ***collaborative support for operators, families and disables***
(Smart City Social Innovation: technologies for the health, inclusion and medicine)

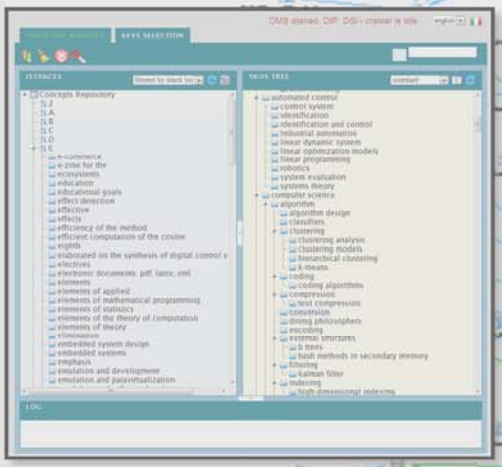
- **Objective:** solve the problems to manage protection of information needed to set up effective and secure collaborations in the team that follow the disables, and support the mechanism of second consultation

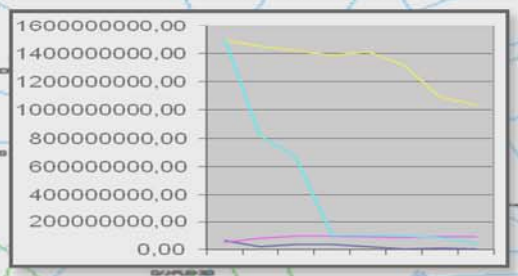
- **Technologies:**
  - Collaborative work;
  - Models for protection and privacy control of sensitive information as complex personal content based on cross media
  - Personalized services in the respect of user profiling and privacy



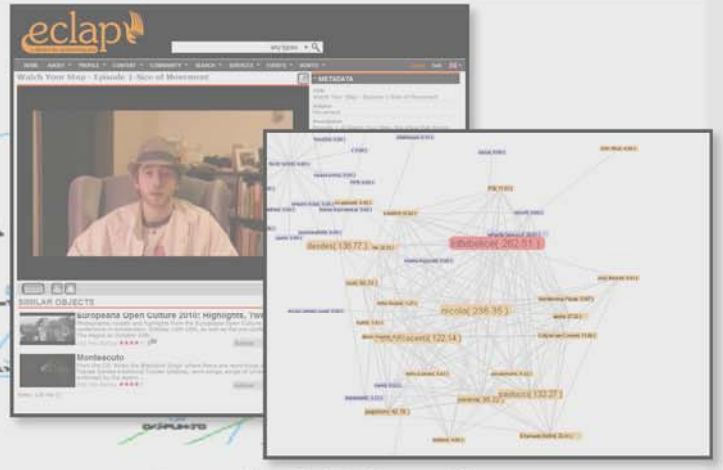
http://www.disit.dinfo.unifi.it

Text and Web Mining

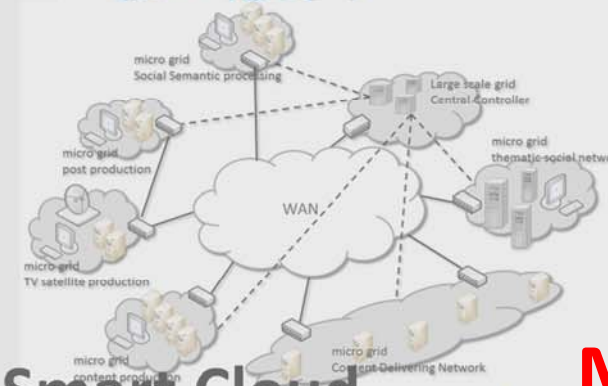




Data Analytics
Big data

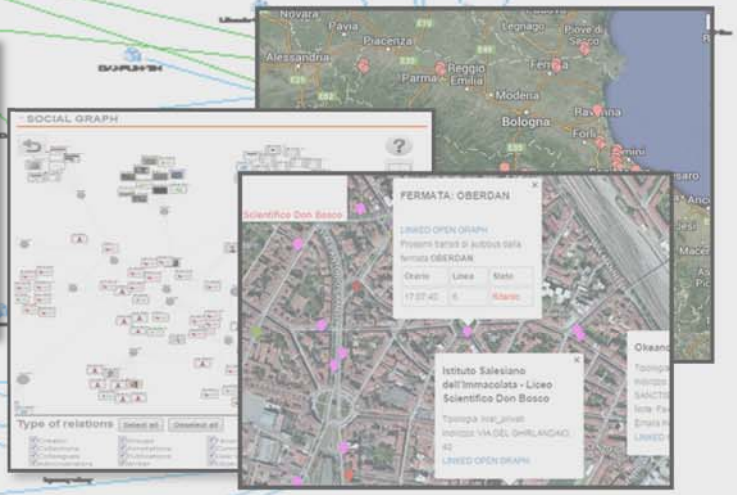


Social Media,
e-learning



Smart Cloud
Computing

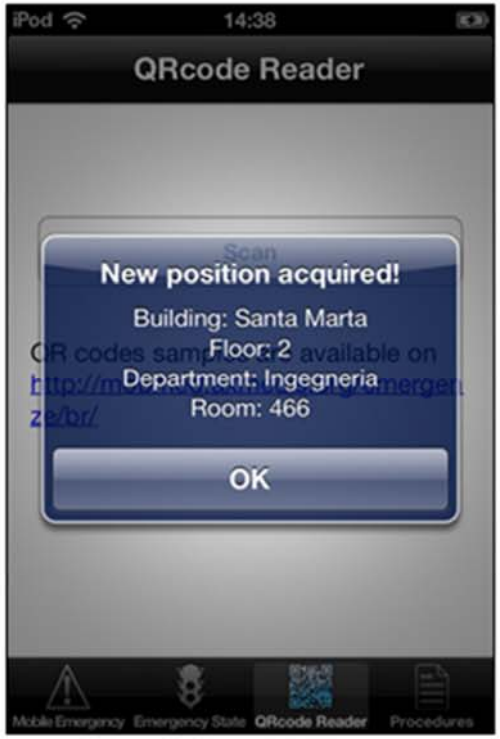
Mobile Computing



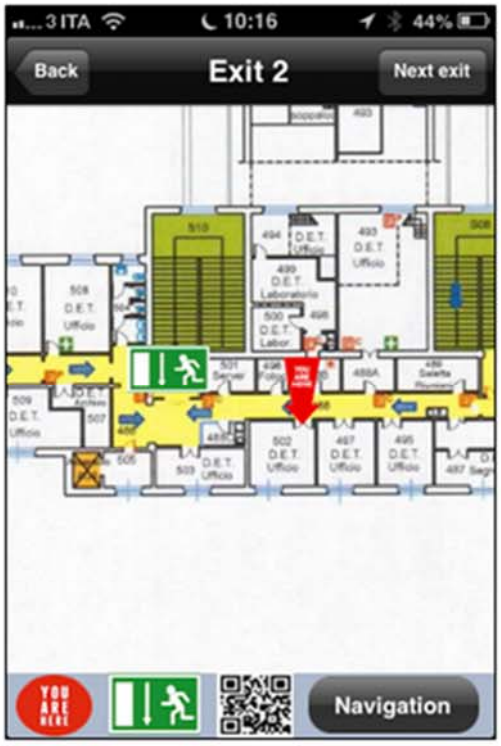
Smart Cities

Mobile Computing

- **Progetti:**
  - ECLAP: http://www.eclap.eu
  - Mobile Medicine: http://mobmed.axmedis.org
  - Mobile Emergency: http://www.disit.org/5500
  - Km4City tools: http://www.disit.org/km4city
  - Resolute: Mobiles as sensors: http://www.resolute-eu.org
  - Smart City, FODD 2015: http://www.disit.org/6593
- **Tools and support:**
  - Smart city and services
  - Integrated Indoor/outdoor navigation
  - Content distribution: e-learning
  - User networking and collaboration
  - OS: iOS, Android, Windows Phone, etc.
  - Tech: IOT, iBeacoms, NFC, QR, ….

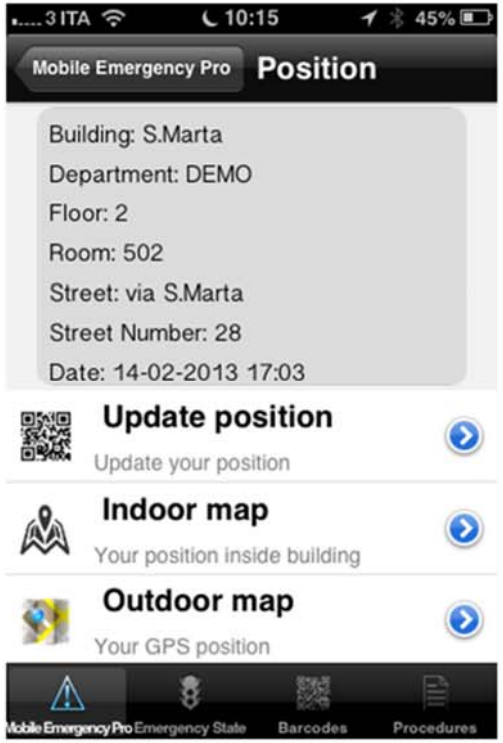


13.1

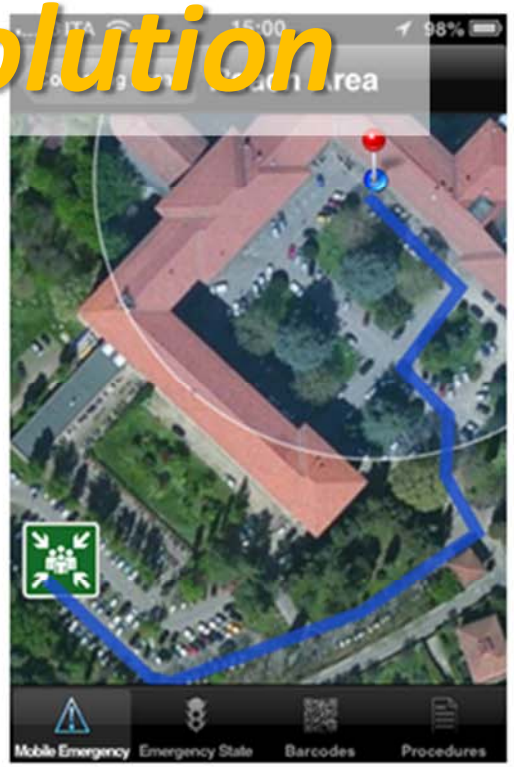


13.2

13.3



Integrated Indoor/outdoor solution



anywhere learning

Microsoft Windows

redhat

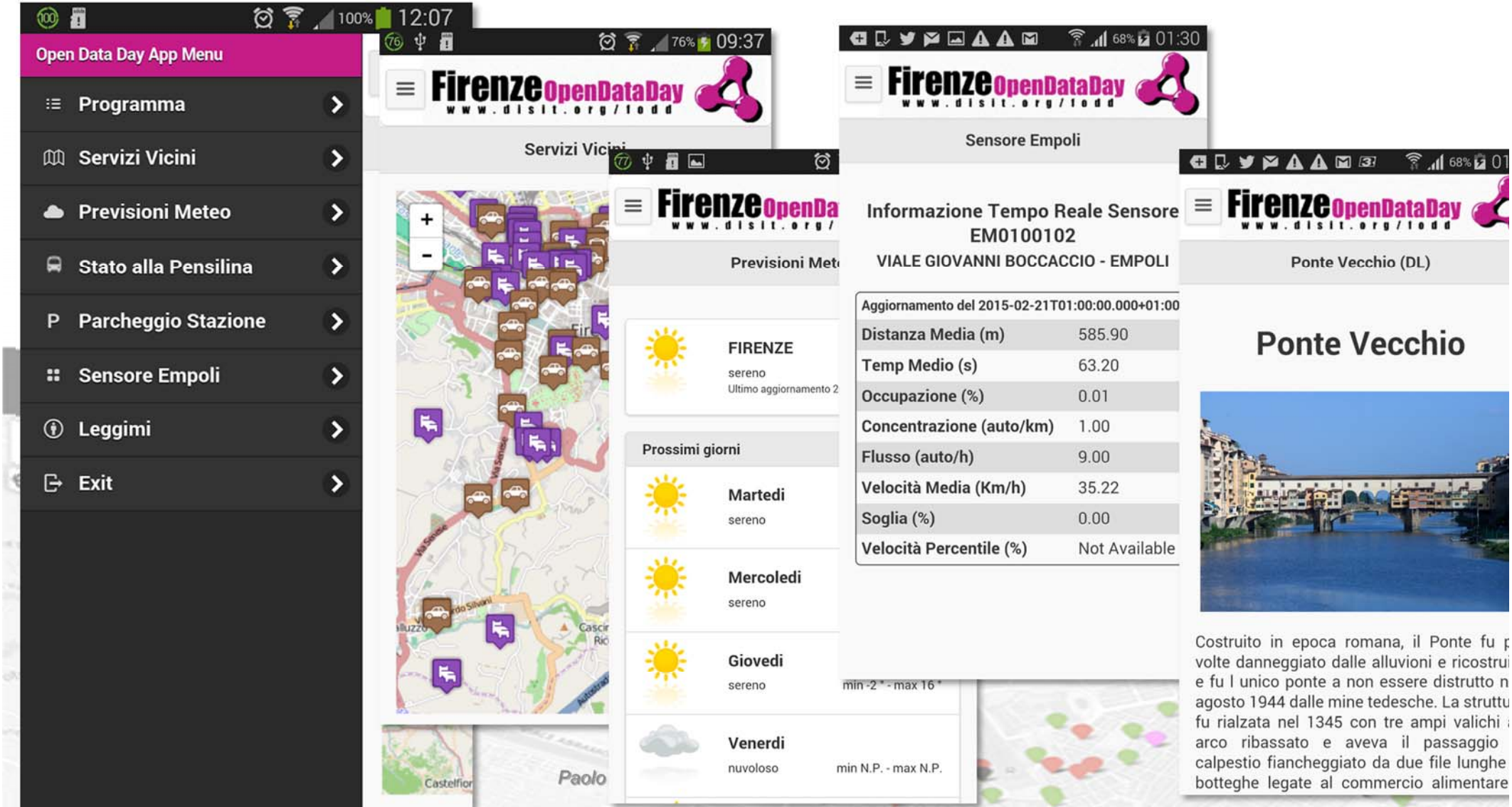
android

Available on the App Store

SAMSUNG SMART TV

https://www.disit.org/6596

Firenze OpenDataDay
www.disit.org/fodd



Km4CityMobile App: Google Play and Apple Store

- https://play.google.com/store/apps/details?id=org.disit.siiMobile
- https://itunes.apple.com/us/app/florence-km4city/id1028356115?mt=8

- web application
- http://www.km4city.org

si, KMAPS, 2016-2017

Mobile Computing

- **Content Organizer**: vedi Apple Store, Windows Market
- **Mobile Emergency**: vedi Apple Store, ridurre i tempi di reazione del personale in caso di Emergenze
- **Mobile medicine**: Vedi Apple Store, http://mobmed.axmedis.org
- **Emergenza sui Treni:** ridurre i tempi di reazione del personale in caso di Emergenze
- **White rabbit** per user engagement
- **iMonitoring**: monitoraggio camper e auto
- Assistenza per la comunicazione disabili
- ….
- …

Italia degli Innovatori

- SI VEDA Video e descrizioni su http://www.disit.dsi.unifi.it/

1. **Cross Media Learning Management System** .
   - ECLAP portal and EC CIP PsP project **ECLAP** Best Practice Network and e-learning support in connection with Europeana.
2. **Content Processing Media Grid, AXCP**. core technology for semantic computing and media grid the so called AXCP Media Grid computing tools. It is going to appear on IEEE Multimedia in the 2011 and it has been developed starting from one of the results of AXMEDIS
3. **Mobile Medicine http://mobmed.axmedis.org**
4. **Mobile Emergency**. A tool to manage emergency in the hospital area. Developed in collaboration with the Maxi Emergency group

ITALIA DEGLI INNOVATORI
Agenzia per la Diffusione delle Tecnologie per l'Innovazione
Presidenza del Consiglio dei Ministri

DISIT Lab

Distributed Data Intelligence and Technologies Lab
Distributed Systems and Internet Technologies Lab

Paolo Nesi

Department of Information Engineering

University of Florence

Via S. Marta 3, 50139, Firenze, Italy

tel: +39-055-2758515, fax: +39-055-2758570

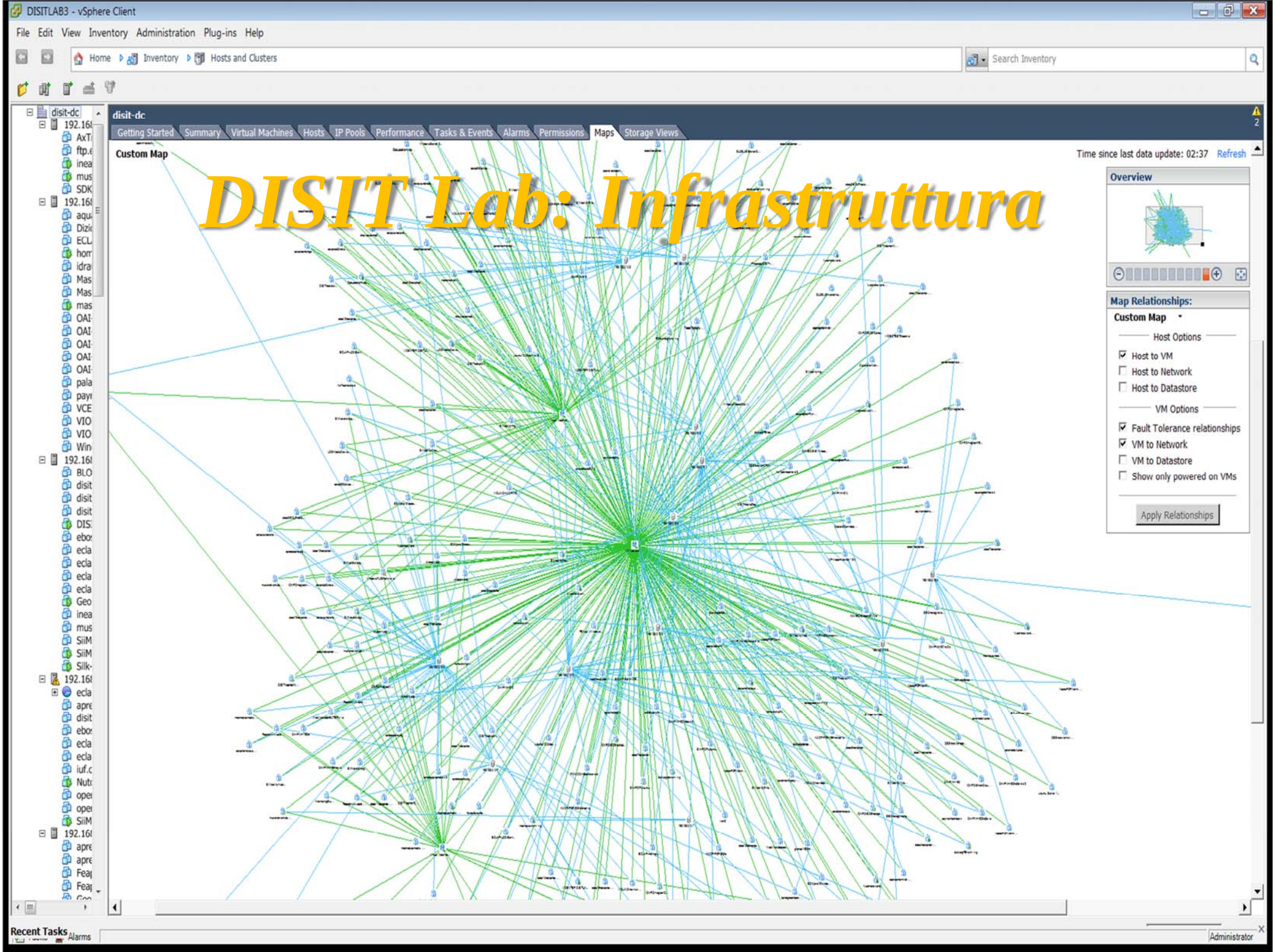
http://www.disit.dinfo.unifi.it/

paolo.nesi@unifi.it , http://www.disit.dinfo.unifi.it/nesi/

Infrastructure and support for

- **Research group with more than 20 years of activities**
- **Cloud and data center** with several servers and more than 500Tbyte storage in raid 50.
  - Managing several infrastructure: Km4City, ECLAP, ApreToscana, IUF, SMNET, etc.
  - Connection wwith CMF, TIM, ENEL, CDF, etc.
- **IOT center**: reference center for Fluctus, UDOO, e Intel Galileo
- **Open Data and Linked Open Data center**
  - **Integration of more than 700 different Open Data** sets coming from Tuscany area (geographical information, ambient and weather, transportation and mobility, public administration and services, statistics, point of interest, sensors, events, time lines, etc.)
  - **LOD** see a list on http://LOG.disit.org
- **Technology Transfer** to SMEs via APRETOscana http://www.apretoscana.org/ and CSAVRI center for TT and incubator.
- Management of Call for proposals in EC projects
- Project Management, Dissemination Management, Exploitation Plan


Distributed Systems and Internet Technologies Lab
Distributed Data Intelligence and Technologies Lab
Department of Information Engineering (DINFO)
University of Florence
http://www.disit.dinfo.unifi.it
qualsiasi tipo
deep search
HOME
ABOUT
RESEARCH
INNOVATION
CORSI E TESI
COME FARE
EVENTI
MIO PROFILO
paolo nesi
Uscire
Mostra
Modifica
ELABORATI, STAGE E TESI AL DISIT, 2014-2015
L'obiettivo di questa pagina è fornire le informazioni di base che possono essere utili ai candidati in fase di scelta dello Stage e/o Tesi per la Laurea in Ingegneria (area dell'informazione: Informatica, Elettronica e Telecomunicazioni) oppure di Informatica di Scienze, triennale e/o Specialistica/Magistrale in modo che, stimolati da questi argomenti, possano sentirsi maggiormente motivati ed interessati ad un eventuale colloquio per discutere del/della loro Stage/Tesi presso il Laboratorio DISIT, Si veda la pagina relativa ai progetti DISIT, oppure presso il INEA LAB, "Laboratorio per l'Ingegneria Elettroacustica".
Le Tesi/Stage fanno riferimento sia al vecchio che al nuovo ordinamento, e nel caso del nuovo ordinamento, sia alla Laurea triennale sia Magistrale/Specialistica; per Ingegneri Informatici, Telecomunicazionisti ed Elettronici, e anche per Laureandi in Informatica. Inoltre vi sono anche svariate tesi di dottorato.
Ogni tesista viene seguito in tutte le fasi da uno o piu' esperti/ricercatori della materia e dispone delle risorse del laboratorio DISIT e del data center DISIT.
Si informa inoltre del Bando Aperto per Borse di Dottorato: Sono disponibili borse di dottorato triennali in vari ambiti, e di borse di Dottorato in Apprendistato con importanti aziende del settore ICT. Se interessati constattate il Prof. Paolo Nesi.
2014-2015: ARGOMENTI DI TESI/ELABORATI PER INFORMATICA, ELETTRONICA E TELECOMUNICAZIONI, VECCHIO E NUOVO ORDINAMENTO, TRIENNALE E/O MAGISTRALE/SPECIALISTICA:
bigdata analysis, data mining, massive crawling, noSQL db, massive e parallel processing
smart city, gestione delle mobilita', motori di smart intelligence per la mobilia' ed i servizi al cittadino
sistemi di progettazione e programmazione data knowledge per Open Data e/o Linked Open Data
blog analisi, analisi e comprensione di eventi ed opinioni su social media
Tracciamento di percorsi ferroviari e bus su mappe, open
e-learning: i MOOC e integrazione con modelli tradizionali
tecnologia indossabile a supporto di esperienze collettive
modelli collaborativi fra team medici e famigli per il supporto alla famiglia
modelli cooperativi per l'educazione in classe e a distanza
generazione di applicazioni mobili
sistemi di navigazione integrati inerziali indoor/outdoor per sistemi mobili
problematiche di protezione e data intelligence
CONTENUTI
Ultime Attività
In primo piano
Più visti
Most Viewed (last 250)
Ultimi caricati
Più votati
Mie collezioni pubblicate
Miei contenuti
Carica un nuovo contenuto
CLASSIFICAZIONE
Lista dei termini
application fields (2404)
content kind (686)
models and systems (1815)
project kind (425)
research topics (5370)
standard (134)
E-LEARNING: CORSI
Tutti i corsi
Tutte le categorie di corsi
Tutti gli insegnanti
Le mie attività e-learning


DISITLAB3 - vSphere Client
File Edit View Inventory Administration Plug-ins Help
Home Inventory Hosts and Clusters
Search Inventory
disit-dc
Getting Started Summary Virtual Machines Hosts IP Pools Performance Tasks & Events Alarms Permissions Maps Storage Views
Custom Map
Time since last data update: 02:37 Refresh
DISIT Lab: Infrastruttura
Overview
Map Relationships:
Custom Map
Host Options
Host to VM
Host to Network
Host to Datastore
VM Options
Fault Tolerance relationships
VM to Network
VM to Datastore
Show only powered on VMs
Apply Relationships
Recent Tasks
Alarms
Administrator

Supporto alla didattica

- **Corsi e Laboratorio di ricerca:**
  - **Sistemi Distribuiti**, Laurea triennale in Ingegneria Informatica o Telecomunicazioni (Nesi)
  - **KMAPS**, Laurea Magistrale in Informatica o Telecomunicazioni (Nesi)
  - **Sistemi Operativi**: per la triennale (Bellini)
  - + altri corsi di base.
- **Master in Big Data Analytics and Technologies for Management, MABIDA**
- **Scuola di Specializzazione in Data Intelligence e Sicurezza Nazionale**
- **altri Corsi Universitari correlati a DISIT**

- **Stage e Tesi di Laurea al DISIT:**
  - Laurea Triennale e/o Magistrale in Ingegneria
- **Assegni di Ricerca su progetti**
- **Dottorato di ricerca al DISIT:**
  - **Su progetti, in apprendistato, industriale, etc..**

Cosa vediamo Oggi

- Modello del corso
- Laboratorio DISIT
- Progetti in corso e attività correlate
- Visione generale del corso

Knowledge Management and Protection Systems (KMaPS)

Corso di Laurea Magistrale in Ingegneria

Prof. Paolo Nesi

DISIT Lab http://www.disit.dinfo.unifi.it/

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paolo.nesi@unifi.it, http://www.disit.dinfo.unifi.it/nesi

Argomenti del Corso: 2016-2017

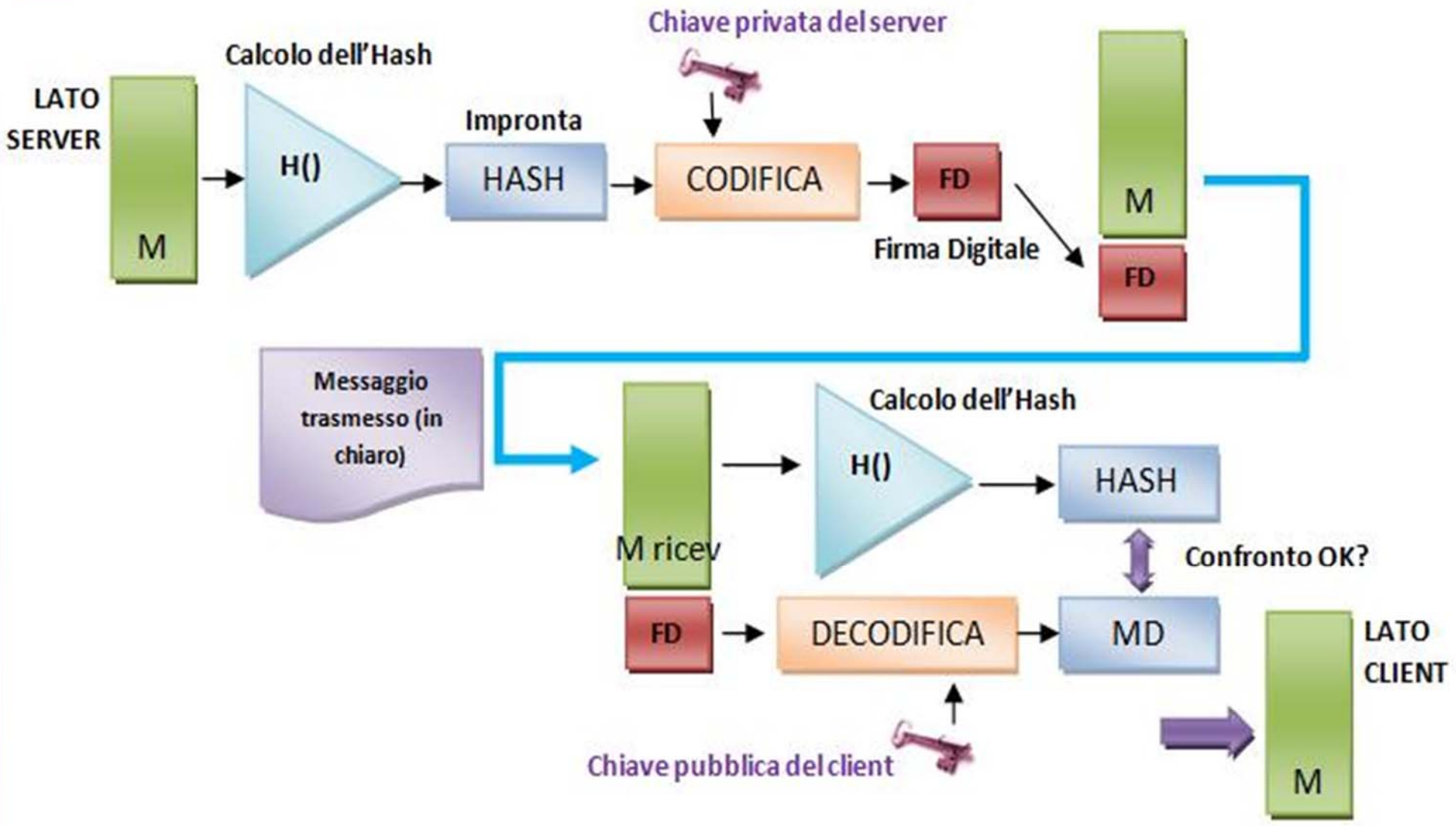
- Parte 0: descrizione del corso: obiettivi, argomenti, e benefici
- Parte 1: sistemi di protezione dei contenuti digitali, DRM e CAS
- Parte 2: none……..
- Parte 3: XML, RDF, Ontologies
- Parte 4: knowledge management
- Parte 5: Crawling, data mining and Natural Language Processing
- Parte 6: Social Media technologies
- Parte 7: raccomandazioni e semantic computing
- Parte 7b: internet advertising and social network
- Parte 8: anatomy of a Social Network
- Parte 9: Big data stores and tools
- Parte 10: Hadoop and applications
- Parte 11: Smart City and Km4City at DISIT Lab
- Parte 12: Smart City: data ingestion and mining

Parte 1: Sistemi di protezione

- sistemi di protezione dei contenuti digitali e multimediali
  - Formalizzazione di Licenze, gestione dei diritti
  - DRM e CAS (esempi del digitale terrestre, Windows DRM, iTune, OMA, etc.),
  - protezione su sistemi mobili.
  - Standard per la protezione

- **Attività in DISIT come progetti:**
  - AXMEDIS….SIAE, AFI, SDAE, etc. http://www.axmedis.org
  - MPEG-21…
  - ECLAP IPR Model: http://www.eclap.eu

Digital Signature

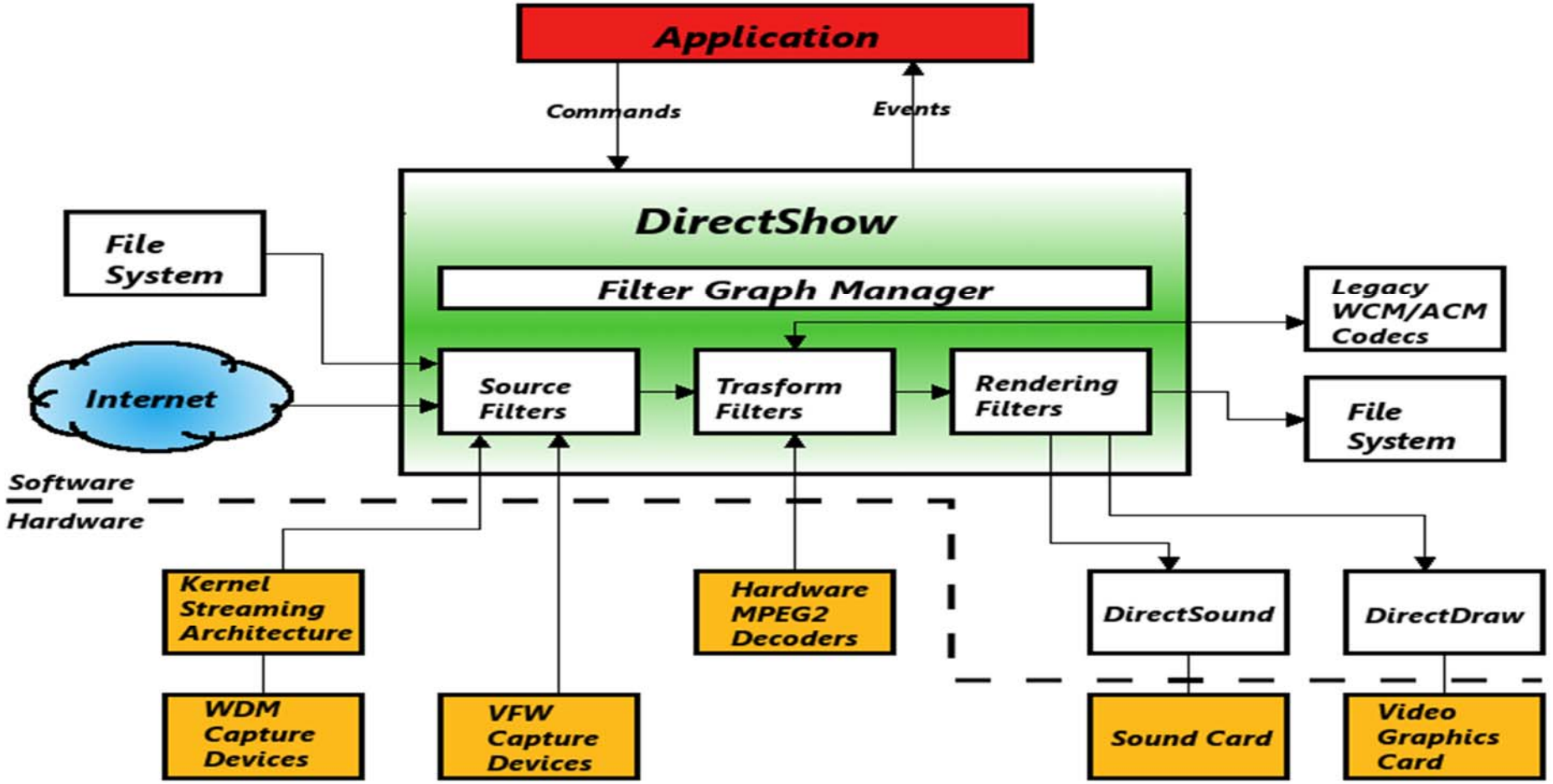


Esempi di Licenze: creator to distrib

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<!-- License model for giving right adapt to the distributor -->
<r:license xmlns:dsig="http://www.w3.org/2000/09/xmldsig#" xmlns:mx="urn:mpeg:mpeg21:2003:01-REL-
    MX-NS" xmlns:r="urn:mpeg:mpeg21:2003:01-REL-R-NS" xmlns:sx="urn:mpeg:mpeg21:2003:01-REL-
    SX-NS" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="urn:mpeg:mpeg21:2003:01-REL-R-NS ../schemas/rel-r.xsd
    urn:mpeg:mpeg21:2003:01-REL-SX-NS ../schemas/rel-sx.xsd urn:mpeg:mpeg21:2003:01-REL-MX-NS
    ../schemas/rel-mx.xsd">
    <r:grantGroup>
    <r:grant>  <r:keyHolder>  <r:info><dsig:KeyName>AXDID:Distributor</dsig:KeyName> </r:info>
               </r:keyHolder>
               <mx:adapt/>
                <mx:diReference><mx:identifier>AXOID:Identifier</mx:identifier> </mx:diReference>
          </r:grant>
    </r:grantGroup>
    <!--The license is issued by the creator.-->
    <r:issuer> <r:keyHolder> <r:info> <dsig:KeyName>AXCID:Creator</dsig:KeyName></r:info>
          </r:keyHolder>
    </r:issuer>
</r:license>
```

Microsoft DirectShow, direct X

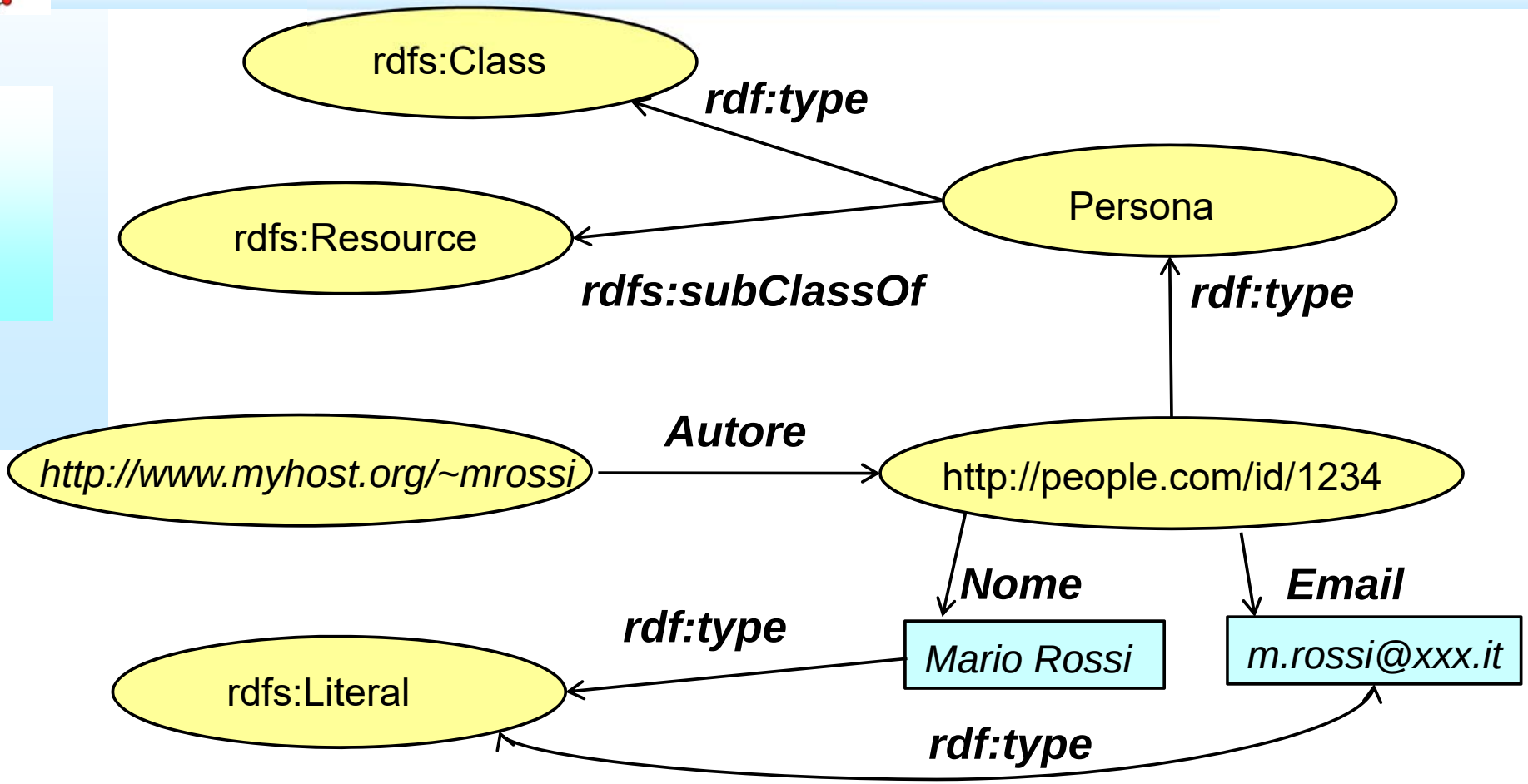
- Basato sul concetto di Filtro.
- Isolamento dell'applicazione dall'Hardware a disposizione.
- Supporto ad un gran numero di formati e possibilità di estensione.



Parte 3: XML, RDF, ontologie

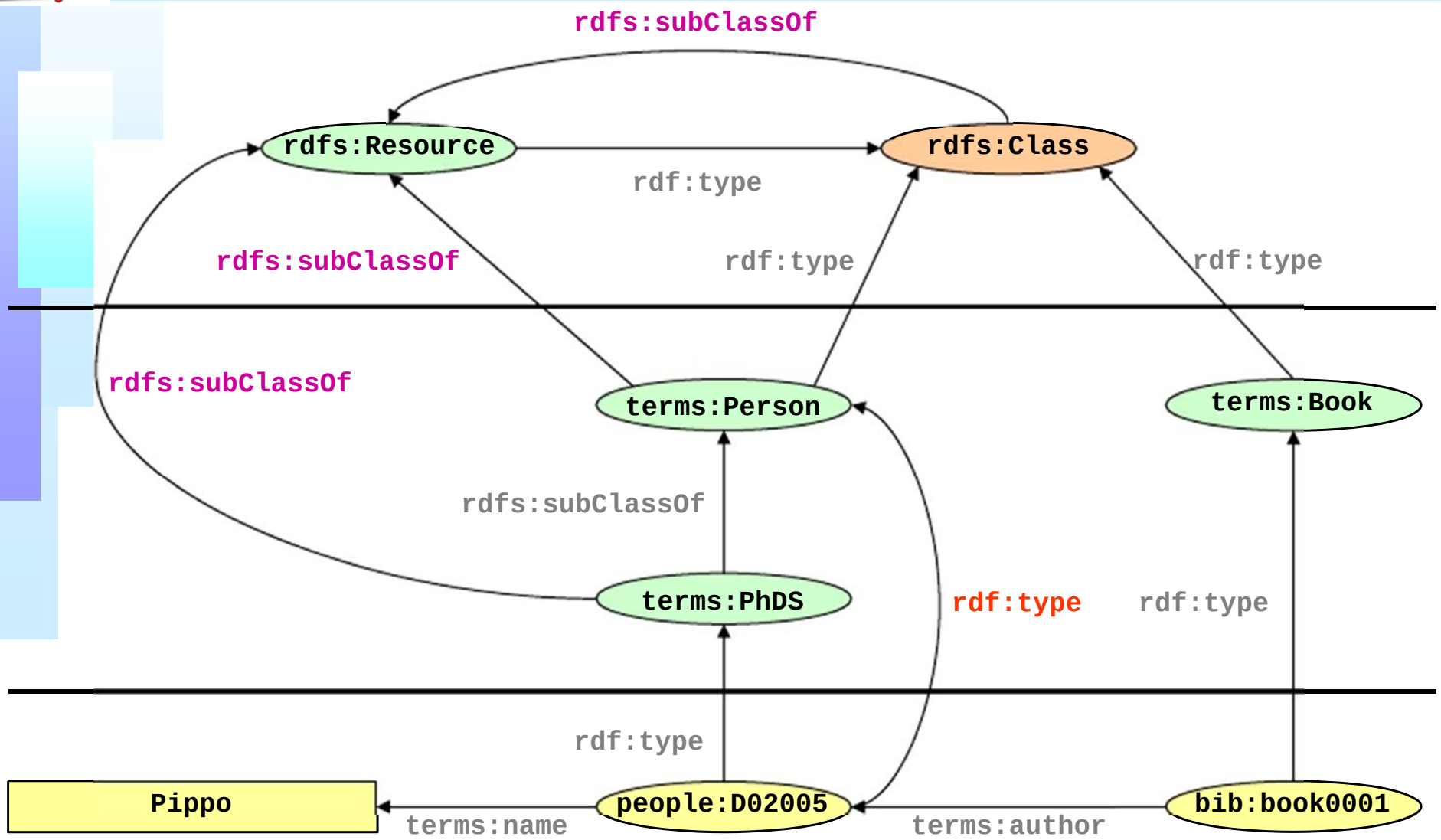
- XML: *Extensible Markup Language*
  - Introduzione
  - Classi e Istanze
  - Proprietà
  - Applicazioni XML
- RDF: *Resource Description Language*
  - Introduzione
  - Classi e Istanze
  - Proprietà

Classi e Proprietà (2)




```
<rdf:Description rdf:ID="Persona">
    <rdf:type rdf:resource="http://www.w3.org/2000/01/rdf-schema#Class"/>
    <rdfs:subClassOf rdf:resource="http://www.w3.org/2000/01/rdfschema#Resource"/>
</rdf:Description>
```

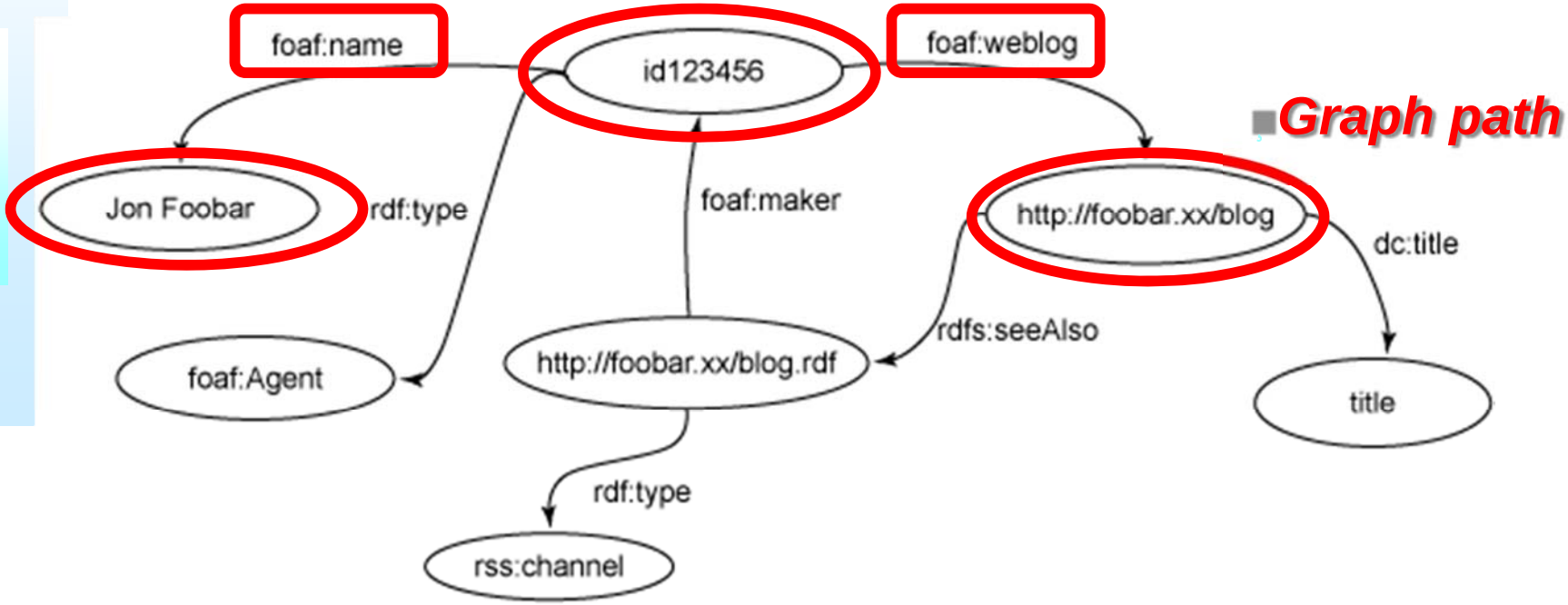
Esempio di reasoning



Parte 4: knowledge management

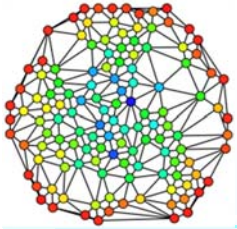
- Rappresentazione della Conoscenza e Ontologie
  - La conoscenza
  - Linguaggi di Rappresentazione
  - Ragionamento Automatico
  - Sistemi di rappresentazione della conoscenza
- OWL: *Ontology Web Language*
  - Introduzione
  - Descrizione di Classi e Assiomi
  - Proprietà
  - Individui e Fatti
  - Servizi di Ragionamento
- Linked Data, Linked Open Data
  - Interrogare la Conoscenza: SPARQL

Interrogare la conoscenza (2)



- *Trova l'url del blog creato dalla persona "Jon Foobar"*

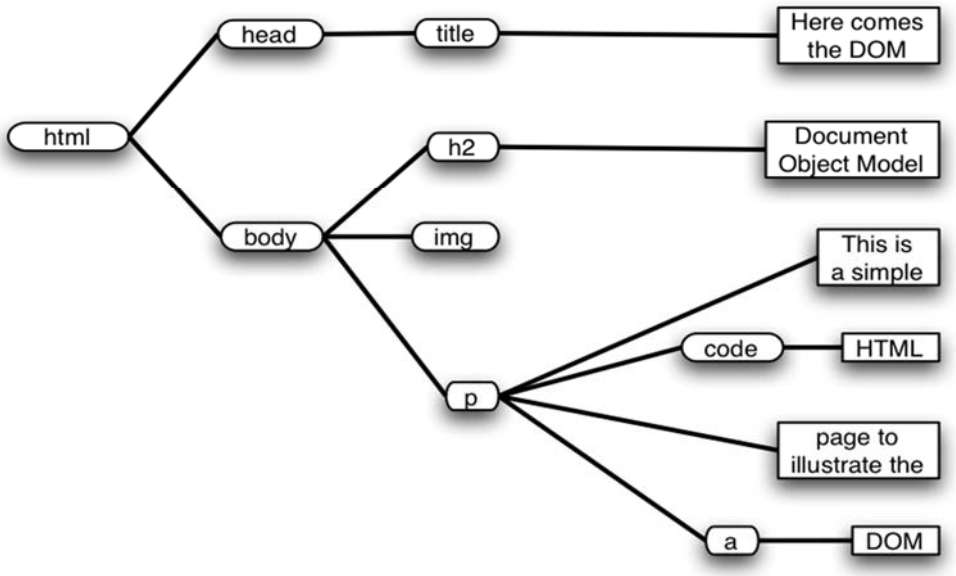
- ***PREFIX** foaf: <http://xmlns.com/foaf/0.1/>*
- ***SELECT** ?url*
- ***FROM** <bloggers.rdf>*
- ***WHERE** { ?contributor foaf:name "Jon Foobar" . ?contributor foaf:weblog ?url . }*



Considerazioni implementative: Parsing

- I documenti HTML hanno una struttura ad albero - DOM (Document Object Model)
- Spesso i documenti HTML non rispettano gli standard di sintassi
- Occorre trattare le entità HTML e gli unicode nei testi
- Vi sono molti formati diversi di files:
  - Flash, SVG, RSS, AJAX…

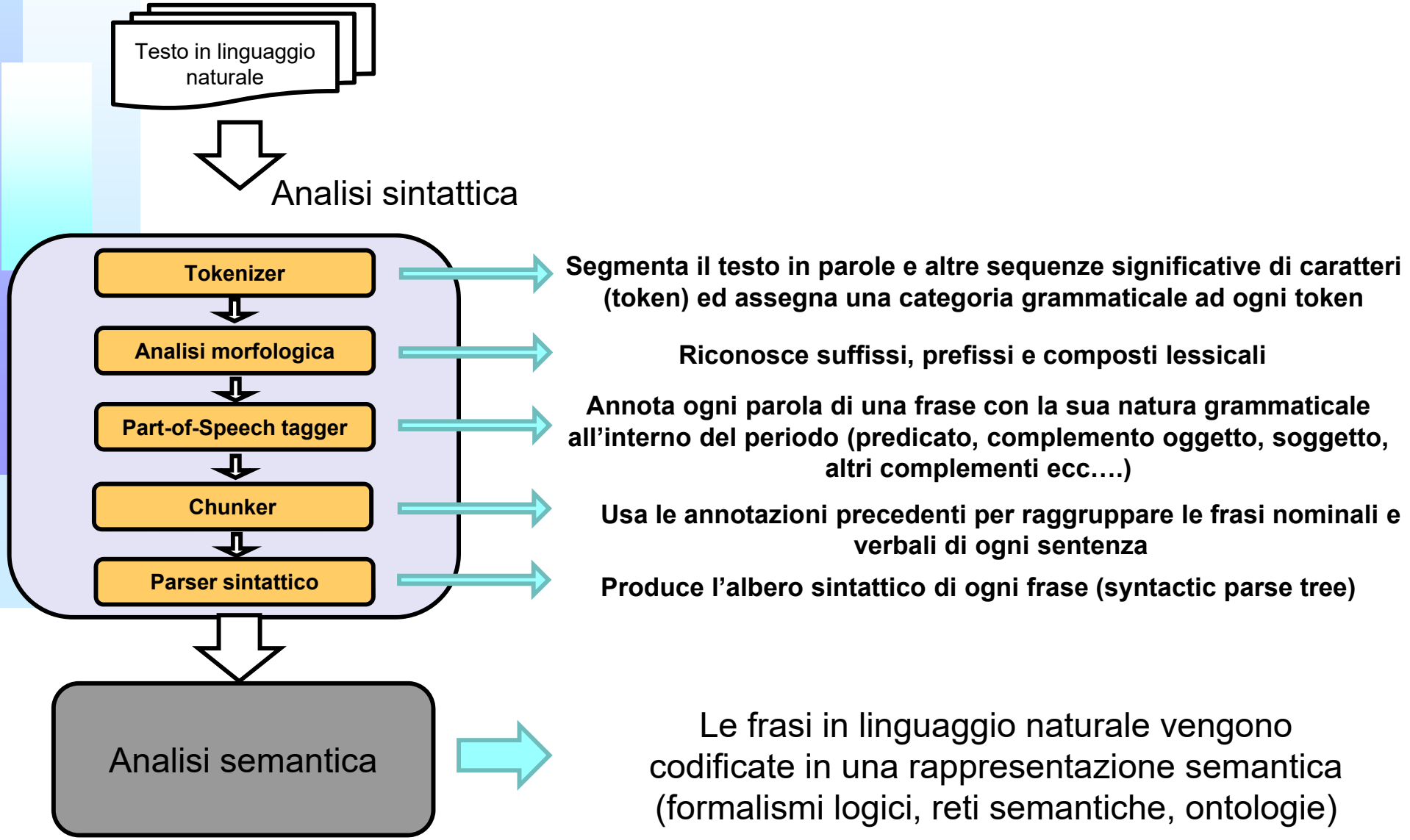
```
<html>
  <head>
    <title>Here comes the DOM</title>
  </head>
  <body>
    <h2>Document Object Model</h2>
    <img align="right" alt="dom pict" src="dom.png">
    <p>
      This is a simple
      <code>HTML</code>
      page to illustrate the
      <a href="http://www.w3.org/DOM/">DOM</a>
    </p>
  </body>
</html>
```



Parte 5: Crawling & Natural Language Processing

- Sistemi di Web Crawling
  - Strategie di Crawling
  - Robot Exclusion Protocol
  - Concorrenza
- NLP: Natural Language Processing
  - Stato dell'Arte
  - Fasi dell'Elaborazione in Linguaggio Naturale
  - NLP Tools: GATE
- Progetto OSIM
  - Architettura e Funzionalità del Sistema
  - Modello Ontologico
  - Interrogare la Conoscenza – Query Wizard
- Sistemi di Question-Answering in NLP: Aqualog

Fasi dell'elaborazione in Linguaggio Naturale (2)



Segmenta il testo in parole e altre sequenze significative di caratteri (token) ed assegna una categoria grammaticale ad ogni token

Riconosce suffissi, prefissi e composti lessicali

Annota ogni parola di una frase con la sua natura grammaticale all'interno del periodo (predicato, complemento oggetto, soggetto, altri complementi ecc.…)

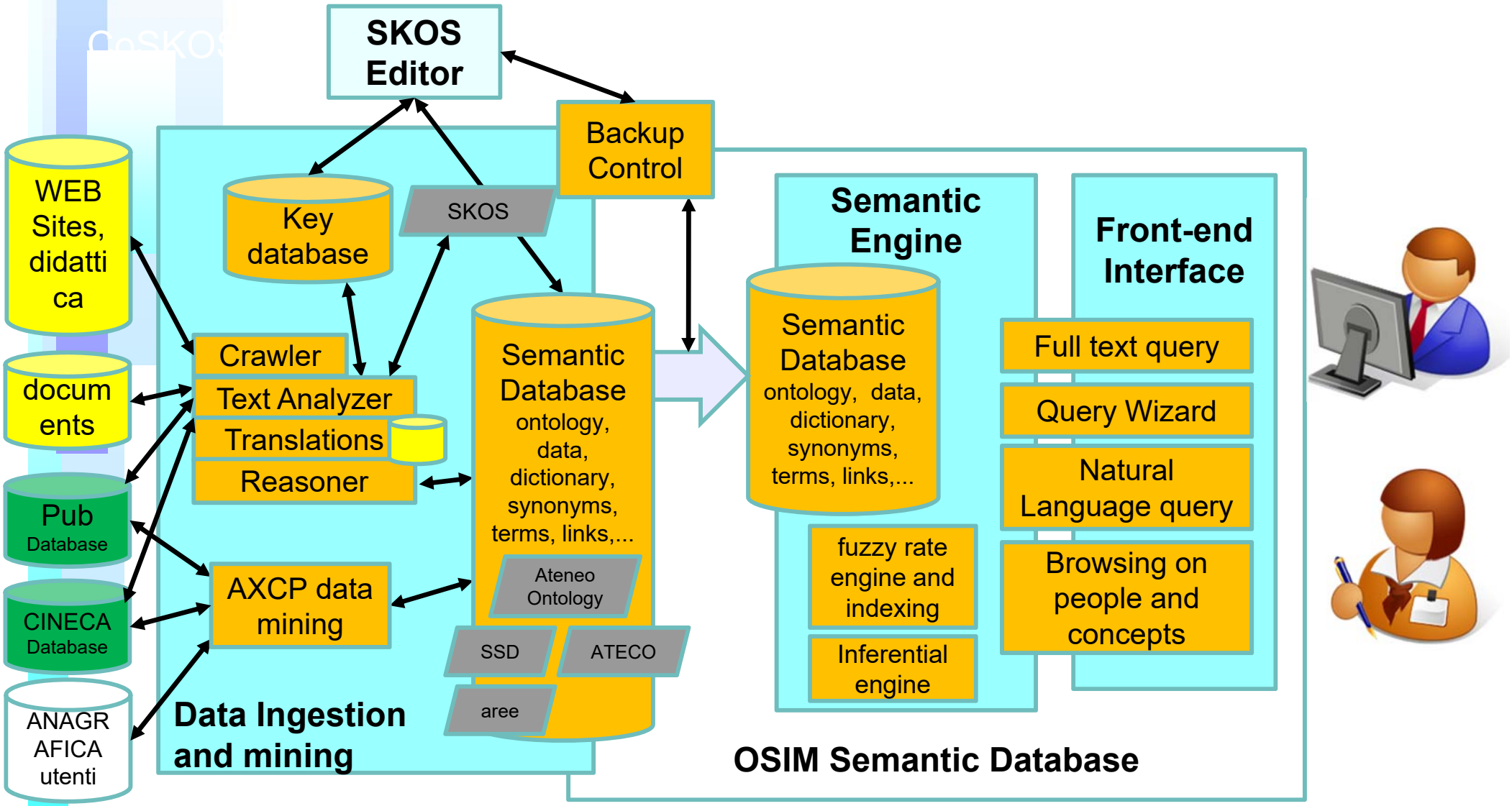
Usa le annotazioni precedenti per raggruppare le frasi nominali e verbali di ogni sentenza

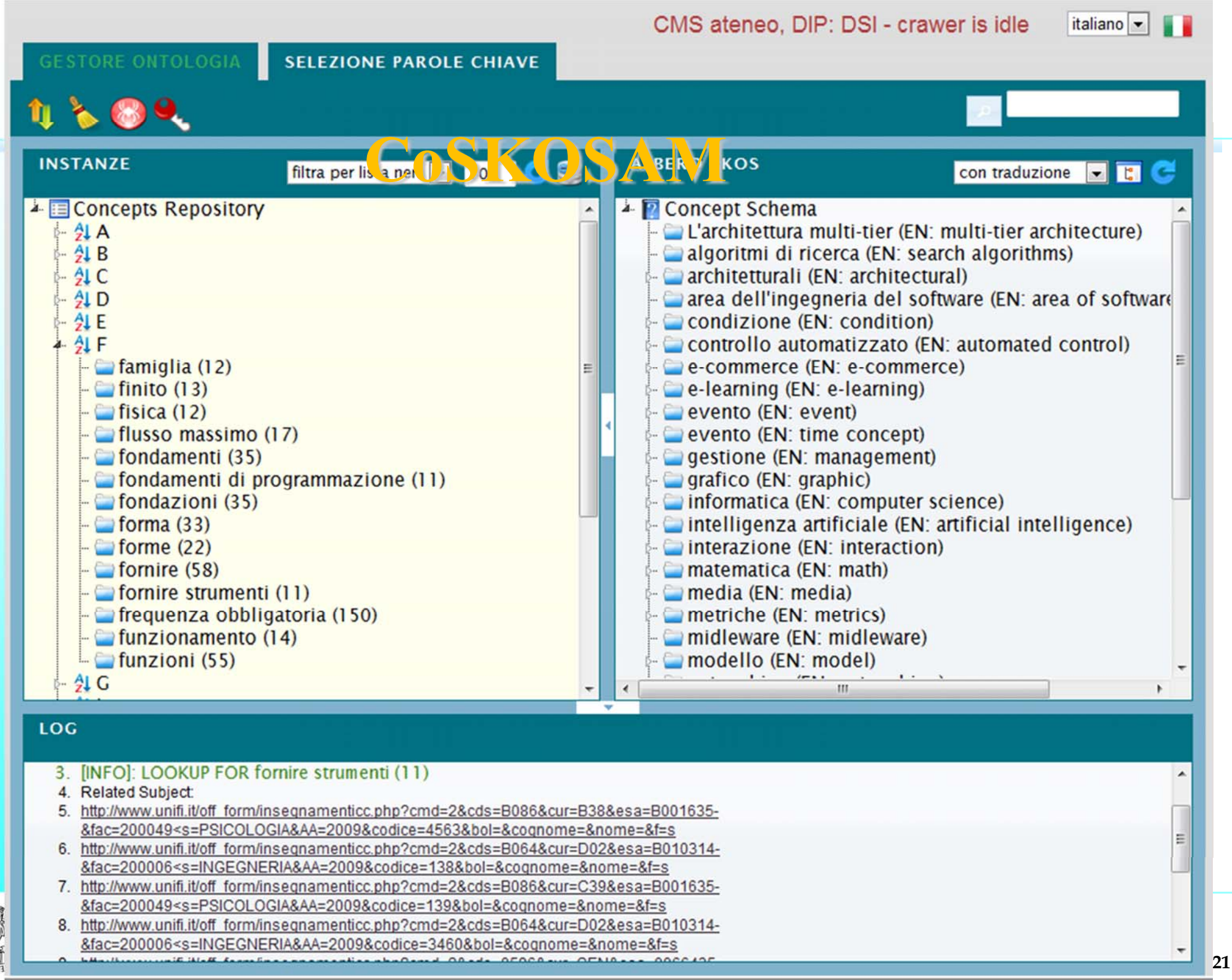
Produce l'albero sintattico di ogni frase (syntactic parse tree)

Le frasi in linguaggio naturale vengono codificate in una rappresentazione semantica (formalismi logici, reti semantiche, ontologie)

http://openmind.axmedis.org

OSIM Architetture

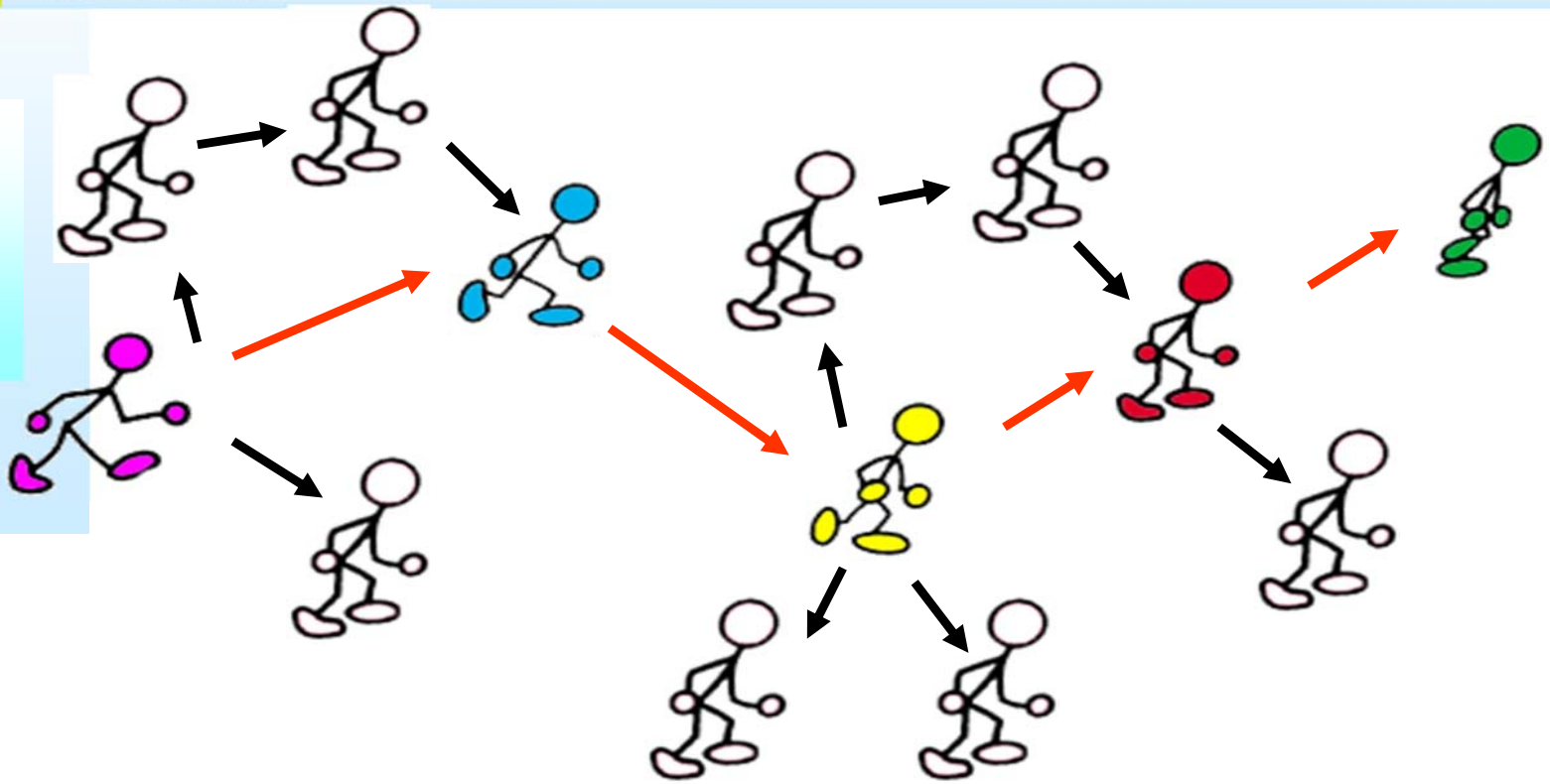



CMS ateneo, DIP: DSI - crawer is idle
italiano
GESTORE ONTOLOGIA
SELEZIONE PAROLE CHIAVE
CoSKOSAM
INSTANZE
filtra per lista nel
con traduzione
Concepts Repository
A
B
C
D
E
F
famiglia (12)
finito (13)
fisica (12)
flusso massimo (17)
fondamenti (35)
fondamenti di programmazione (11)
fondazioni (35)
forma (33)
forme (22)
fornire (58)
fornire strumenti (11)
frequenza obbligatoria (150)
funzionamento (14)
funzioni (55)
G
Concept Schema
L'architettura multi-tier (EN: multi-tier architecture)
algoritmi di ricerca (EN: search algorithms)
architetturali (EN: architectural)
area dell'ingegneria del software (EN: area of software
condizione (EN: condition)
controllo automatizzato (EN: automated control)
e-commerce (EN: e-commerce)
e-learning (EN: e-learning)
evento (EN: event)
evento (EN: time concept)
gestione (EN: management)
grafico (EN: graphic)
informatica (EN: computer science)
intelligenza artificiale (EN: artificial intelligence)
interazione (EN: interaction)
matematica (EN: math)
media (EN: media)
metriche (EN: metrics)
midleware (EN: midleware)
modello (EN: model)
LOG
3. [INFO]: LOOKUP FOR fornire strumenti (11)
4. Related Subject:
5. http://www.unifi.it/off_form/insegnamenticc.php?cmd=2&cds=B086&cur=B38&esa=B001635-&fac=200049<s=PSICOLOGIA&AA=2009&codice=4563&bol=&cognome=&nome=&f=s
6. http://www.unifi.it/off_form/insegnamenticc.php?cmd=2&cds=B064&cur=D02&esa=B010314-&fac=200006<s=INGEGNERIA&AA=2009&codice=138&bol=&cognome=&nome=&f=s
7. http://www.unifi.it/off_form/insegnamenticc.php?cmd=2&cds=B086&cur=C39&esa=B001635-&fac=200049<s=PSICOLOGIA&AA=2009&codice=139&bol=&cognome=&nome=&f=s
8. http://www.unifi.it/off_form/insegnamenticc.php?cmd=2&cds=B064&cur=D02&esa=B010314-&fac=200006<s=INGEGNERIA&AA=2009&codice=3460&bol=&cognome=&nome=&f=s

Parte 6, 7, 8: Social Media technologies

- **Collaborative systems**
  - Definition and Terminology
- **Social Network**
  - Forrester Trend for Social Networking
  - Motivations for Social Networking
  - Application, classification of Social Networking
  - Examples of Social Networks
  - factors of Social Networks
- **User/Content Social Network**
  - User Generated Content, UGC
  - Content descriptors
  - User and group descriptors
- **Measures of Social Networks**
  - User profile problems
  - Measures of Social Networks
  - Metrics and examples: Centrality, Clustering, ….
  - Direct measures of user actions
- ***Business of Social Networks***
  - Penetration of social networks
  - Numbers of Social Networks
- ***interoperability and standards***
  - Social icons
  - Embedding
  - Authentication
- **Suggestion and Clustering**
  - Raccomandazioni / suggerimenti
  - Metrics Similarity Distances
  - Clustering algorithms comparison
  - Performances, Incremental Clustering
  - Suggerimenti U→U an improvement
  - Validazione del modello di suggerimento

Averaged shortest path from one person to another



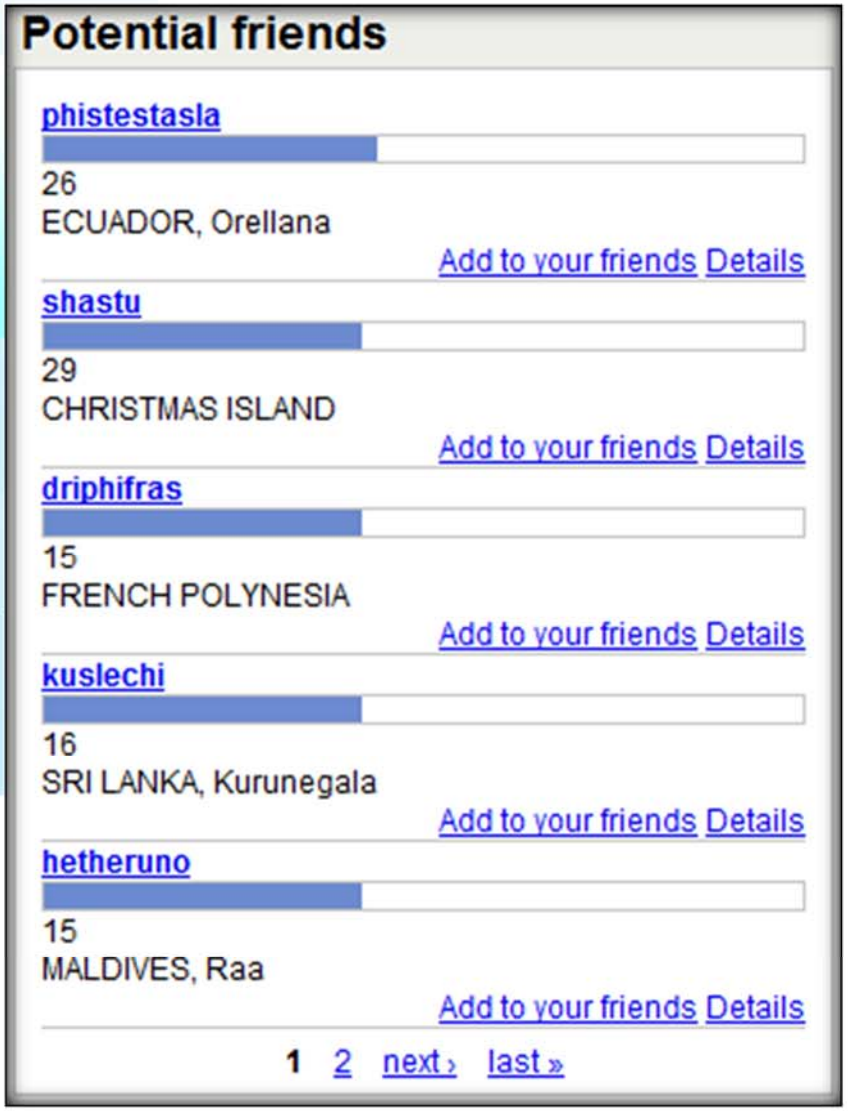
- *MIT: 6.4 hops*
- *Stanford: 9.2 hops*

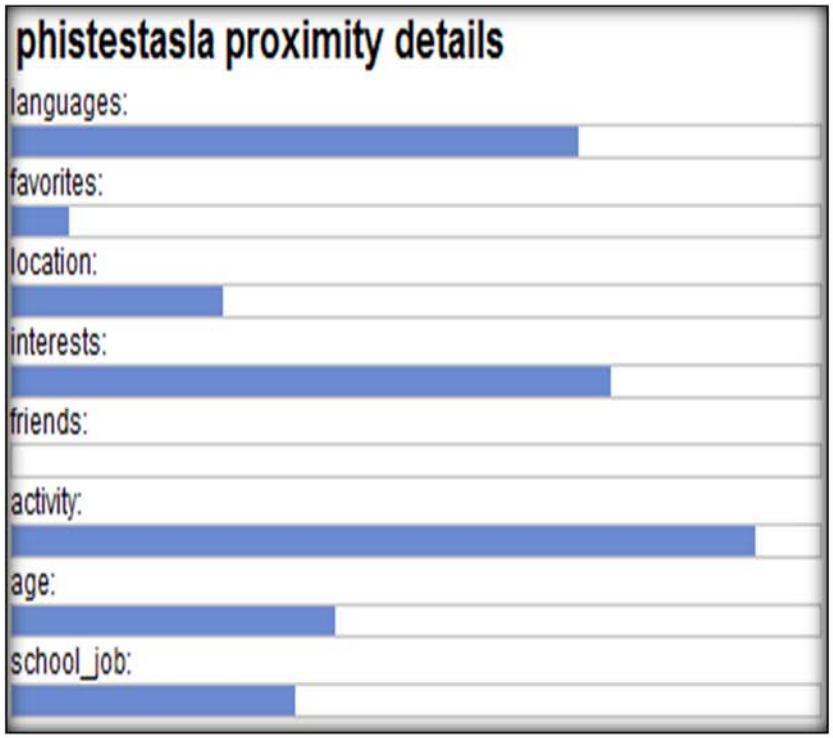
- *Our example: 1.97 hops*
  - *Sum of shortest paths: 89*
  - *10 Nodes*
  - *45 possible connections*

Interoperability among Social Networks

- **SN may be interoperable** with other portals and SN
- **Allowing**:
  - **posting** comments and contributions via the so called ***Social Icon*** interface
  - **importing** user registration/profile and info or directly with some SSO
  - **exporting** SN content in other portals, for example via some API.
  - **hosting** SN players into other WEB portal pages, via some HTML segment to be copied
  - **hosting** widgets/applications into the WEB pages of the Social Network, via some programming model

Visualizzazione di Suggerimenti e dist



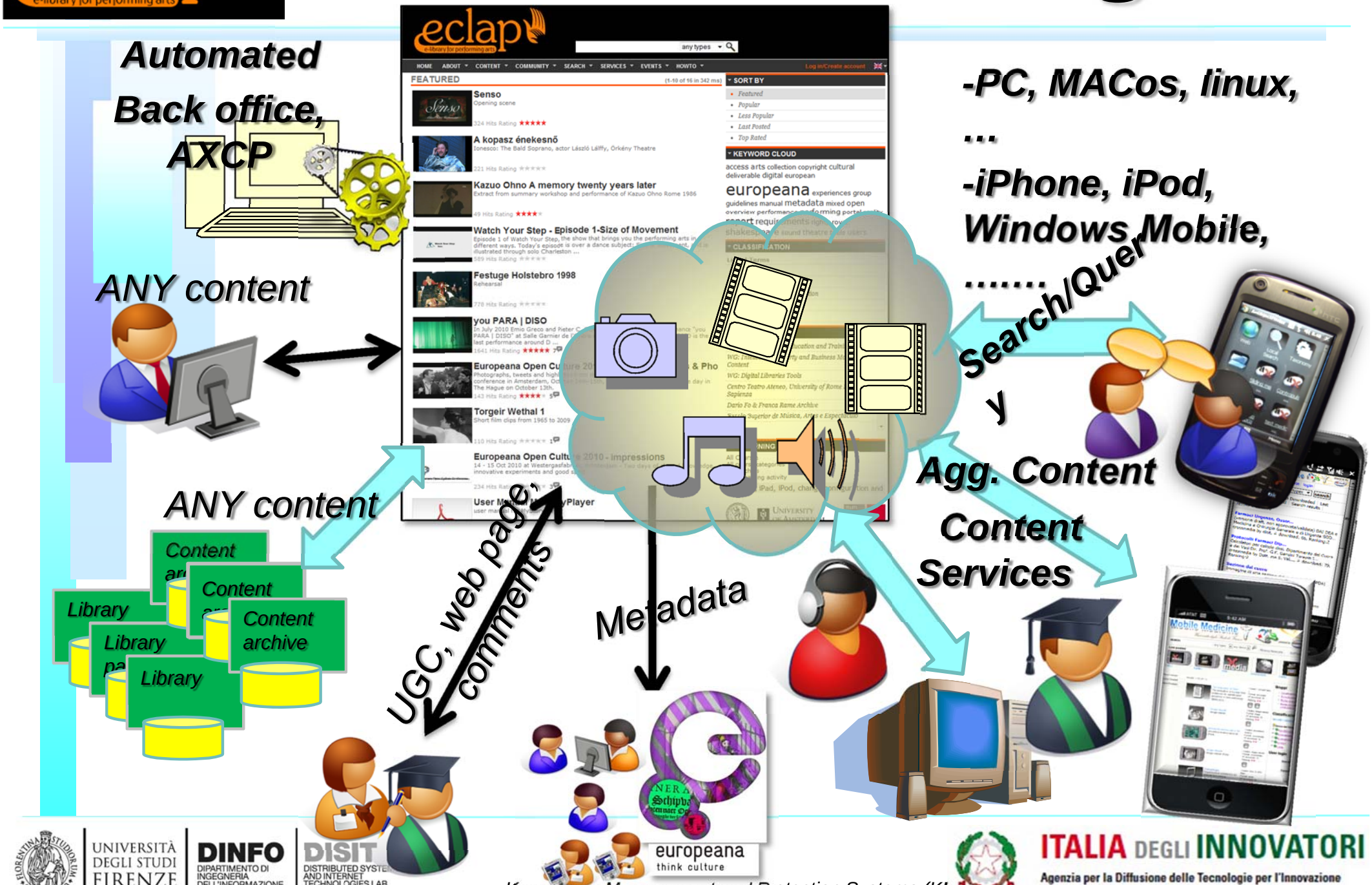


ECLAP overview real SN

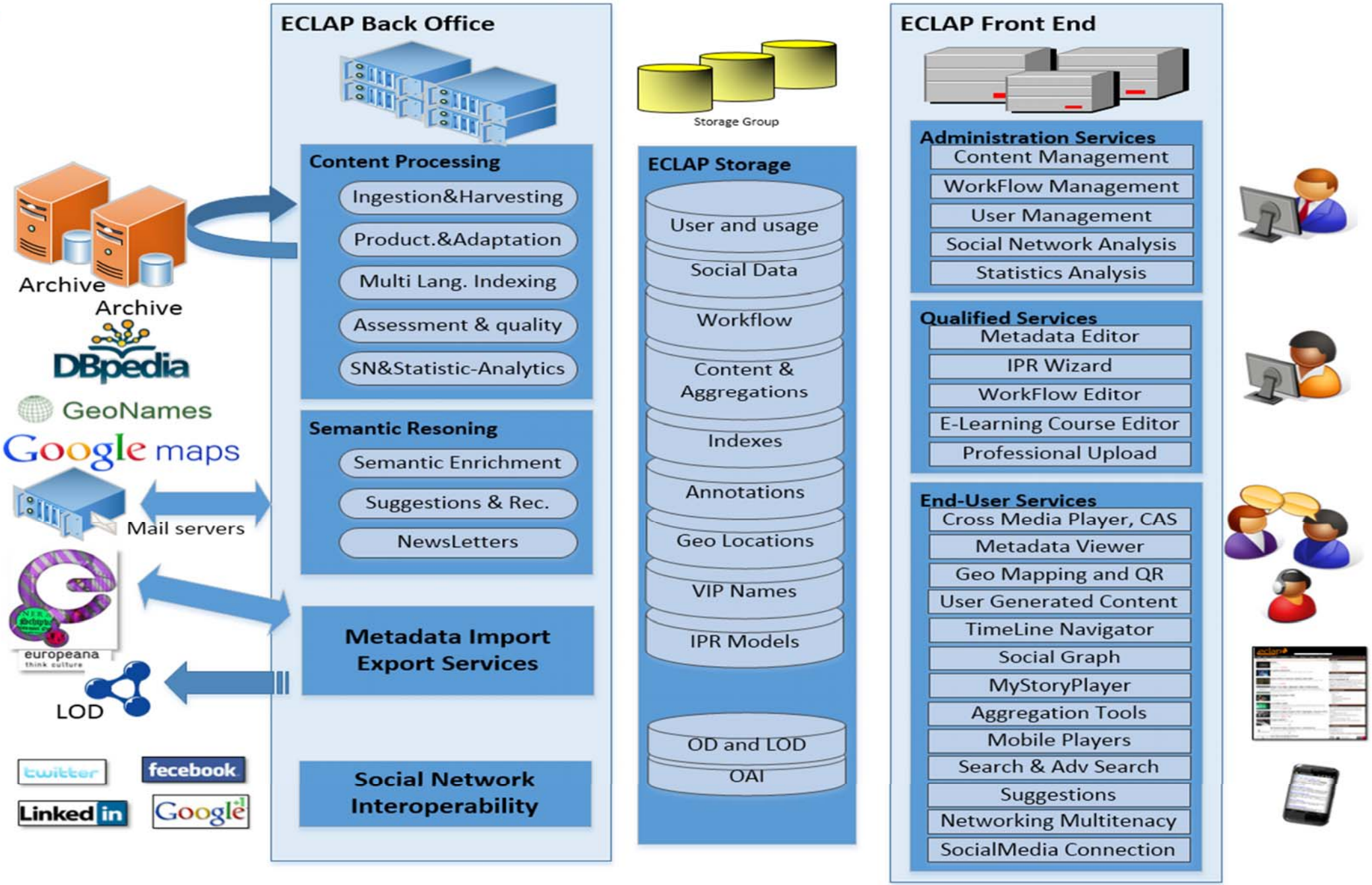
- Objective and overview
- Networking & Tools
- Content & Tools
- ECLAP Architecture
- Comparison with other Social Networks


Centro Teatro Ateneo
Centro di Ricerca Sullo Spettacolo
Sapienza
Università di Roma
museum
UCLM
Universidad de Castilla-La Mancha
ESMAE
Politécnico do Porto
Theaterwissenschaft
München
Ludwig-Maximilians-Universität
la bellone
maison du spectacle
University of Amsterdam
Institute of Polish Culture
University of Warsaw
Faculty of Polish Studies
mnaa
museum of archaeology & anthropology
University of Glasgow
Department of History of Art
Fondazione Rinascimento digitale
nuove tecnologie per i beni culturali
Films de Femmes
Beeld en Geluid
Diputació Barcelona
Institut del Teatre
mae
Centre de Documentació i Museu de les Arts Escèniques
AXMediaTech
Content Management Technologies
országos színháztörténeti múzeum és intézet
Associazione Culturale Onlus
ICT Ad Duas Lauros
www.duaslauros.it - duaslauros@gmail.com
artea
Teatro Napoletano
Digital Culture
Dario Fo e Franca Rame
irtem
istituto di ricerca per il teatro musicale
Accademia Nazionale di Santa Cecilia
Fondazione
Fondazione Fabbrica Europa
per le arti contemporanee
National Audiovisual Institute
Instytut im. Jerzego Grotowskiego
The Grotowski Institute
digilab
mediateca delle scienze umanistiche
Liber Liber
University of Derby
UNISA
university of south africa

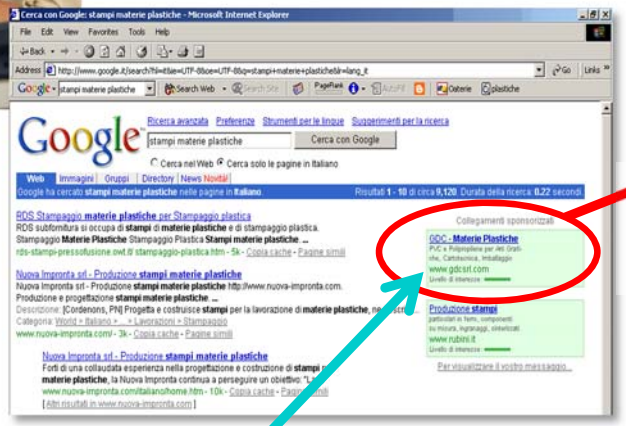
Social Networking



eCloud Scalable Social Networking



Pay per click, mediated via advertisers



Visit

WEB Page of the Seller

click

Advertising Management & Semantic Computing

profiling

Advertising

WEB portal capable to:

present products

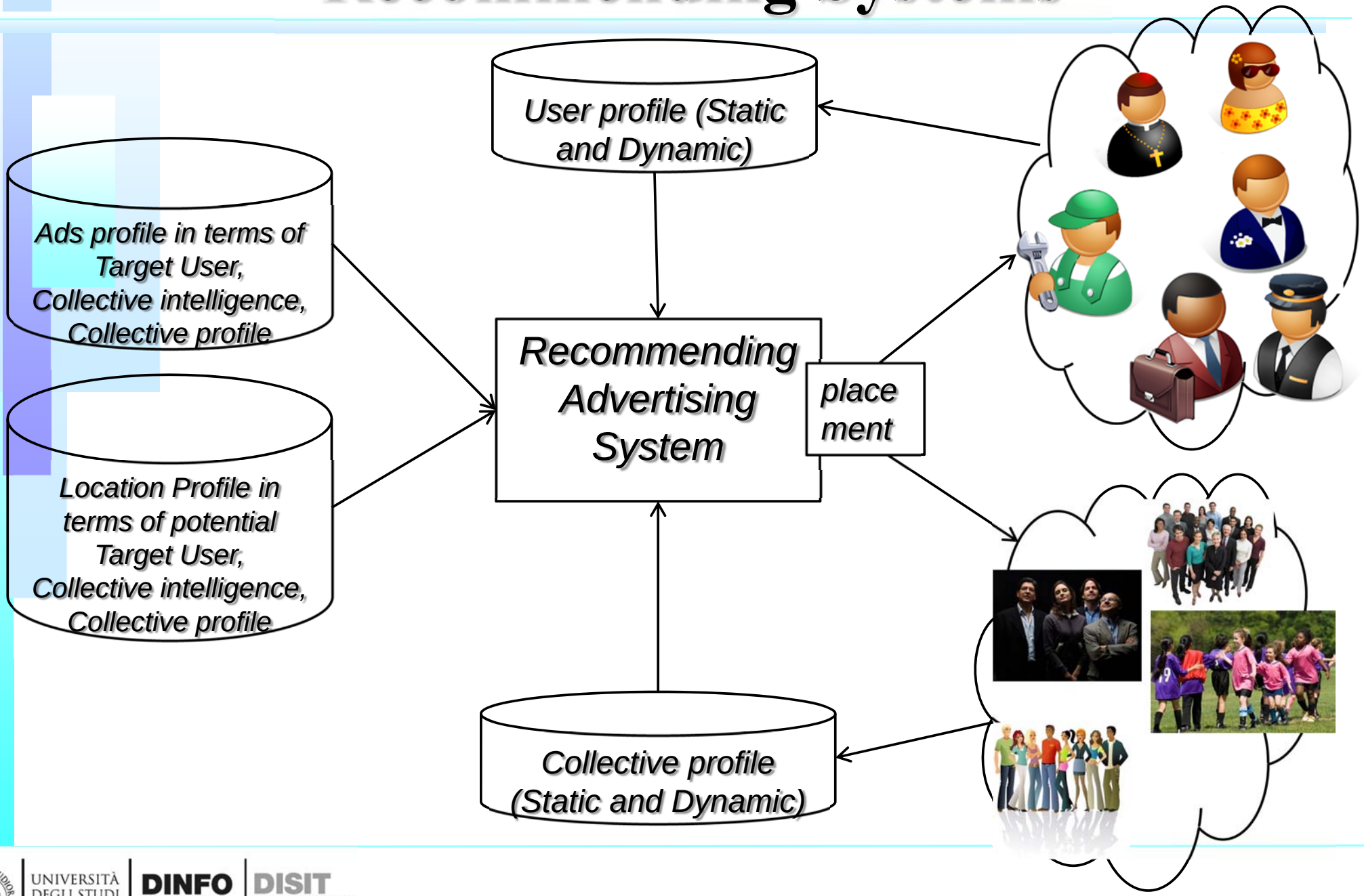
monitor user actions, IPs, etc.

ask for registration

collect contact

provide more and more……

Recommending Systems



UNIVERSITÀ DEGLI STUDI FIRENZE

DINFO DIPARTIMENTO DI INGEGNERIA DELL'INFORMAZIONE

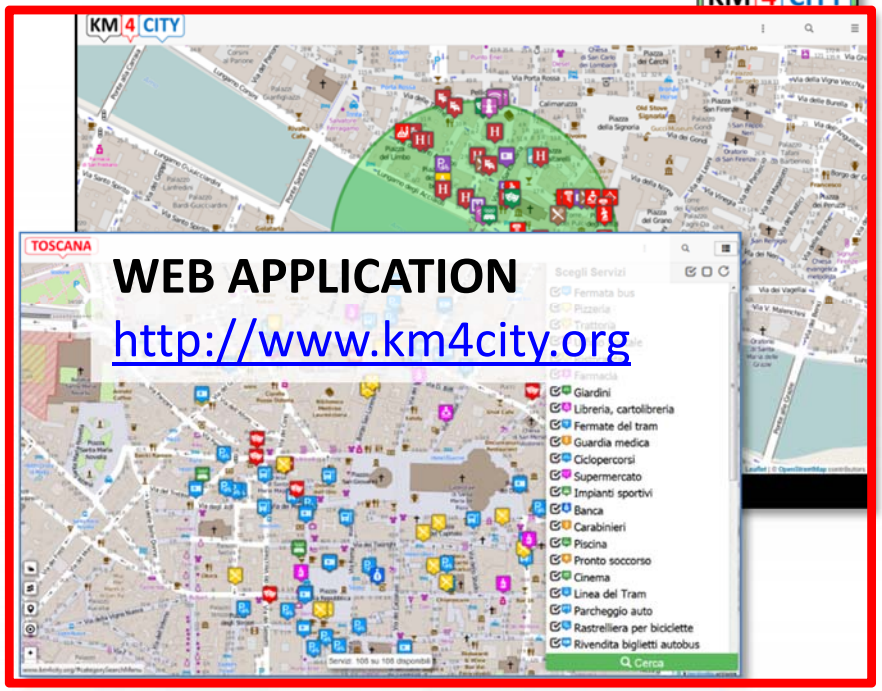
DISIT DISTRIBUTED SYSTEMS AND INTERNET TECHNOLOGIES LAB

http://www.disit.org

Mobile APPLICATION

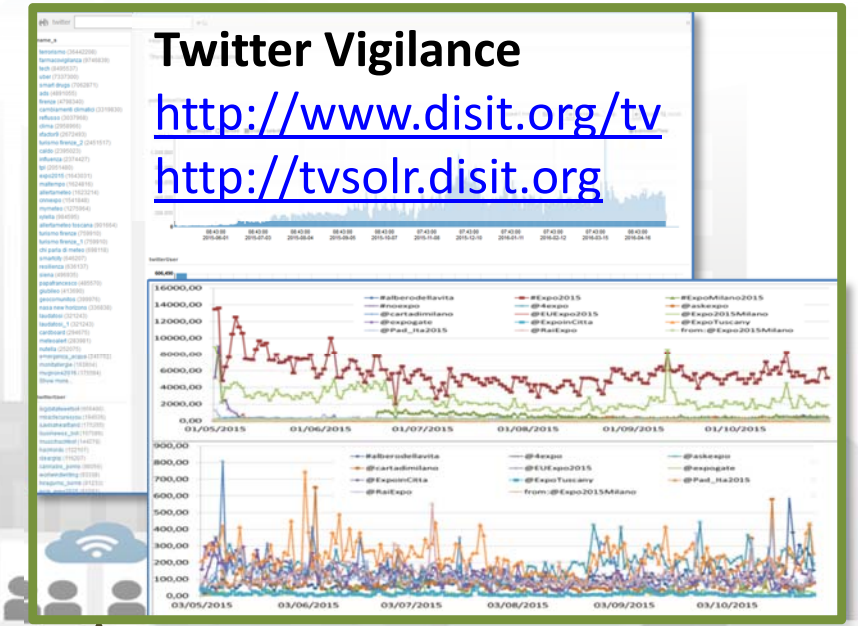
Geo Located Services

Get Suggestions on demand



WEB APPLICATION

http://www.km4city.org



Twitter Vigilance

http://www.disit.org/tv

http://tvsolr.disit.org

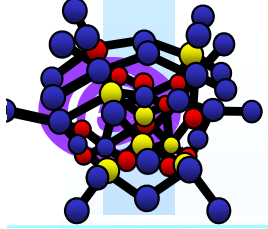
Get Social Media Monitoring Info

Paolo Nesi, KMAPS, 2016-2017

Parte 9: Big data

- What is Big Data
- 5V of Big Data
- CAP Principle
- Big Data Application Fields
- Big Data Problems, Criticality and Risk
- NoSQL: different kinds….
- Big Data Analysis Pipeline
- Big Data Solutions
- -- RDF Stores,. …..

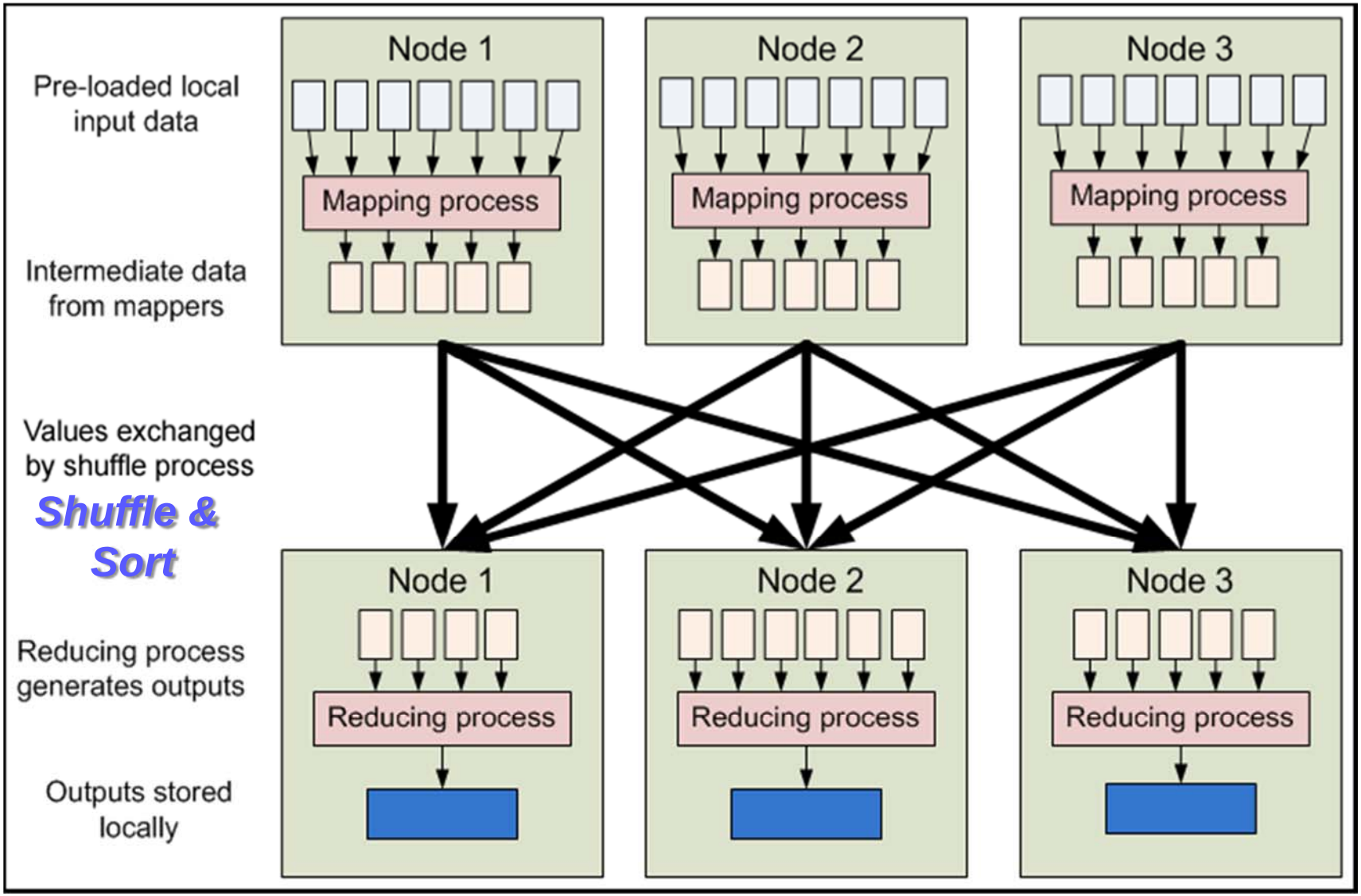




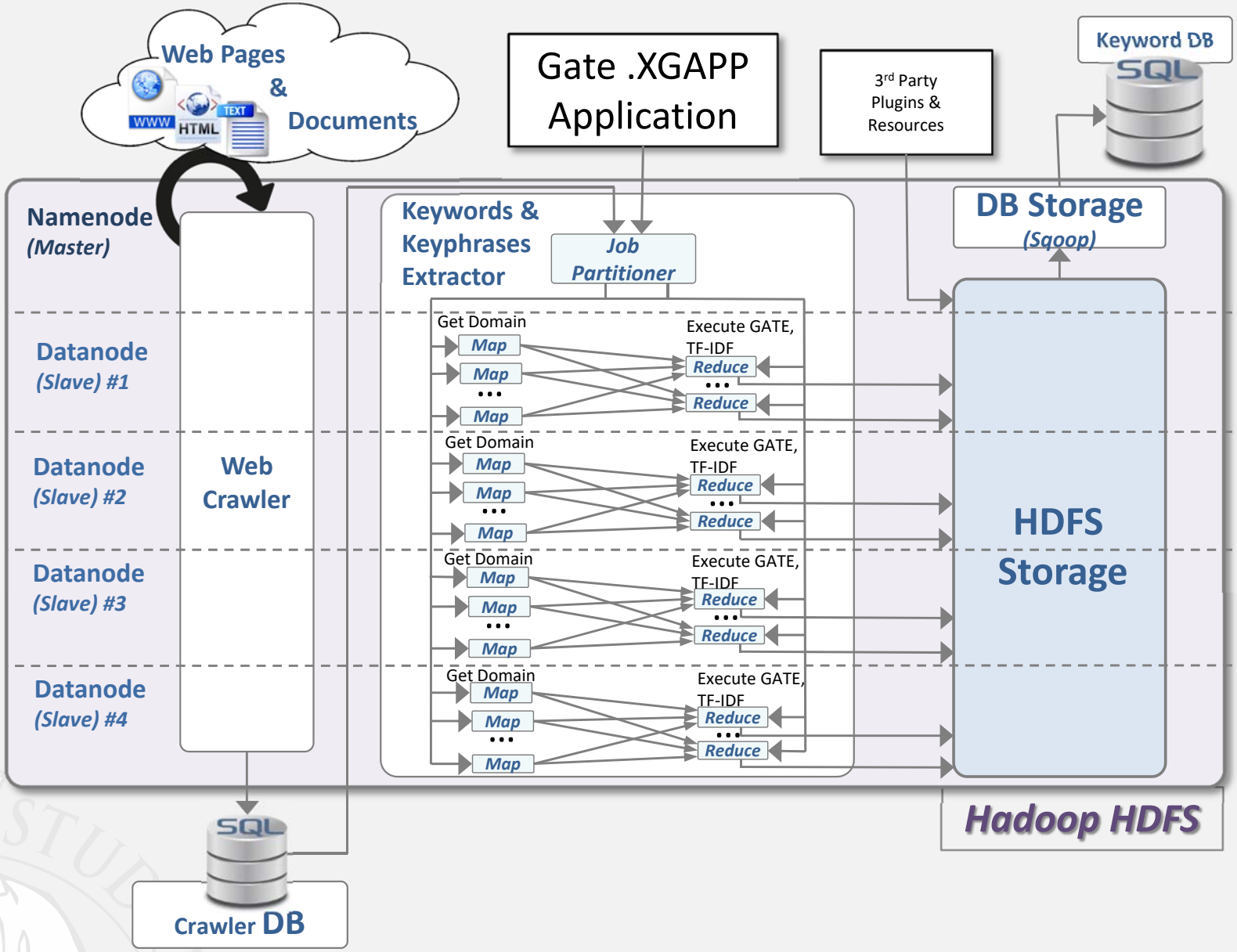
Parte 10: *Hadoop and Applications*

- Introduzione to Hadoop
- Hadoop Architecture: HDFS, MapReduce
- How Hadoop Works
- Example 1: Inverted Index Creation
- Example 2: A Simple Word Count
- Example 3: A Real Implementation Case
- Hadoop Pros & Cons
- Hbase: Data Model, Client API
- Integrazione di NLP su Hadoop

Mappers and Reducers

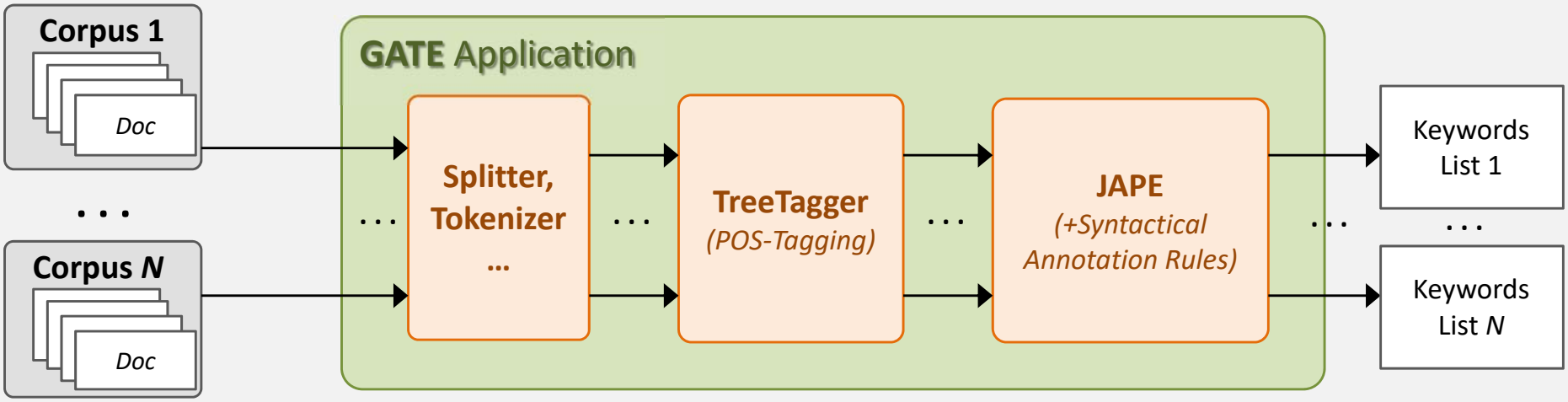


General Architecture



Keywords & Keyphrases Extractor Module, .xgapp

- The **Map** function that associates key/value record pairs where the key is the URL of the single web page, and the value is the corresponding web domain (grouping web pages of the same domain).
- The **Reduce** function, in turn, fulfills the following operations:
  - Setup, launch and execution of a multi-corpora **GATE** application for keywords / keyphrases extraction:

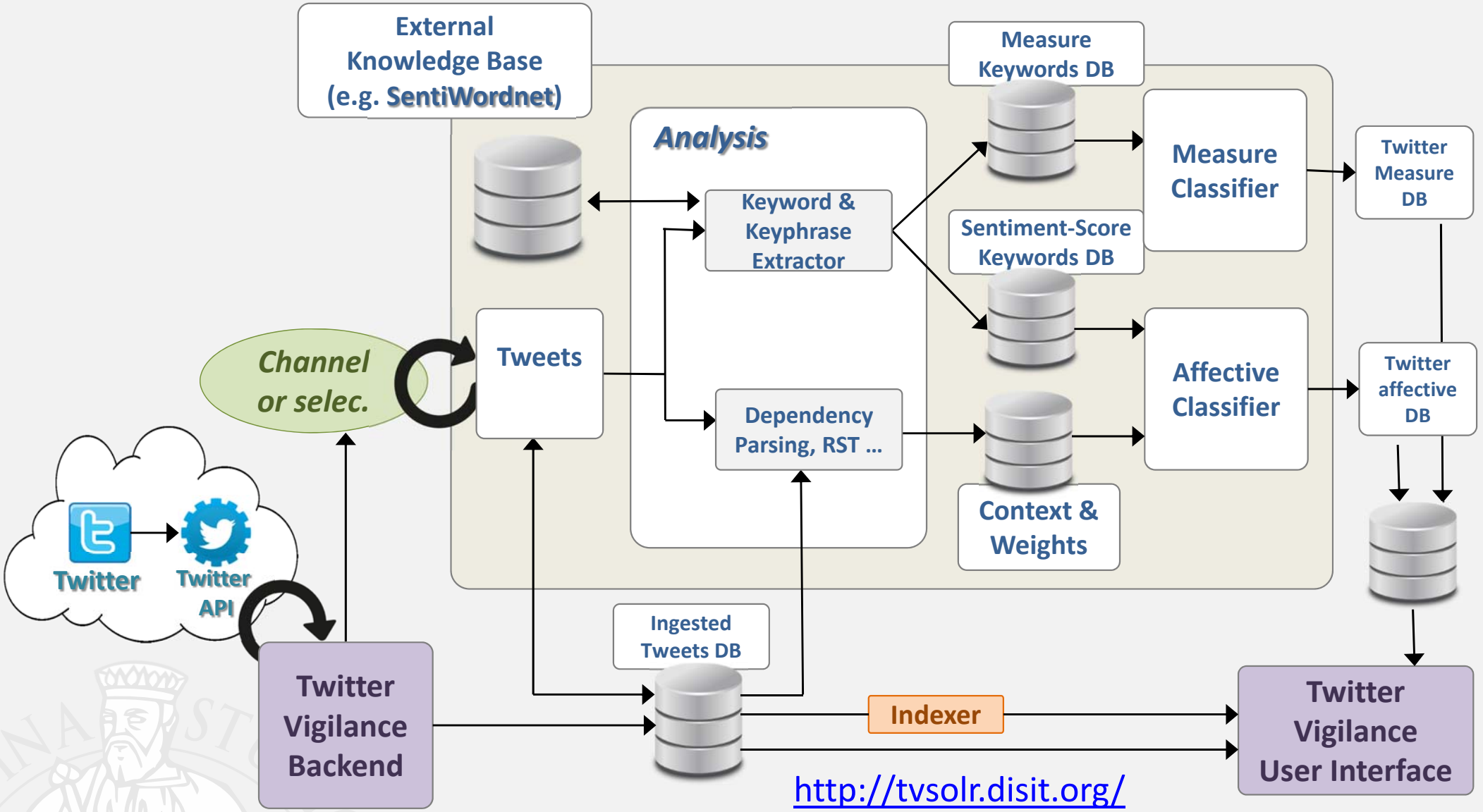


  - Estimation of extracted keywords / keyphrases relevance at web domain level, by implementing the **TF-IDF** function:

$$\langle TF{-}IDF \rangle_k = TF_k \cdot IDF_k$$

$$TF_k = \frac{f_k}{n_d}, \qquad IDF_k = \log \frac{N_D}{N_k}.$$

Sentiment and Measure Analysis of Social Media (Twitter)



http://tvsolr.disit.org/

http://www.disit.org/tv/

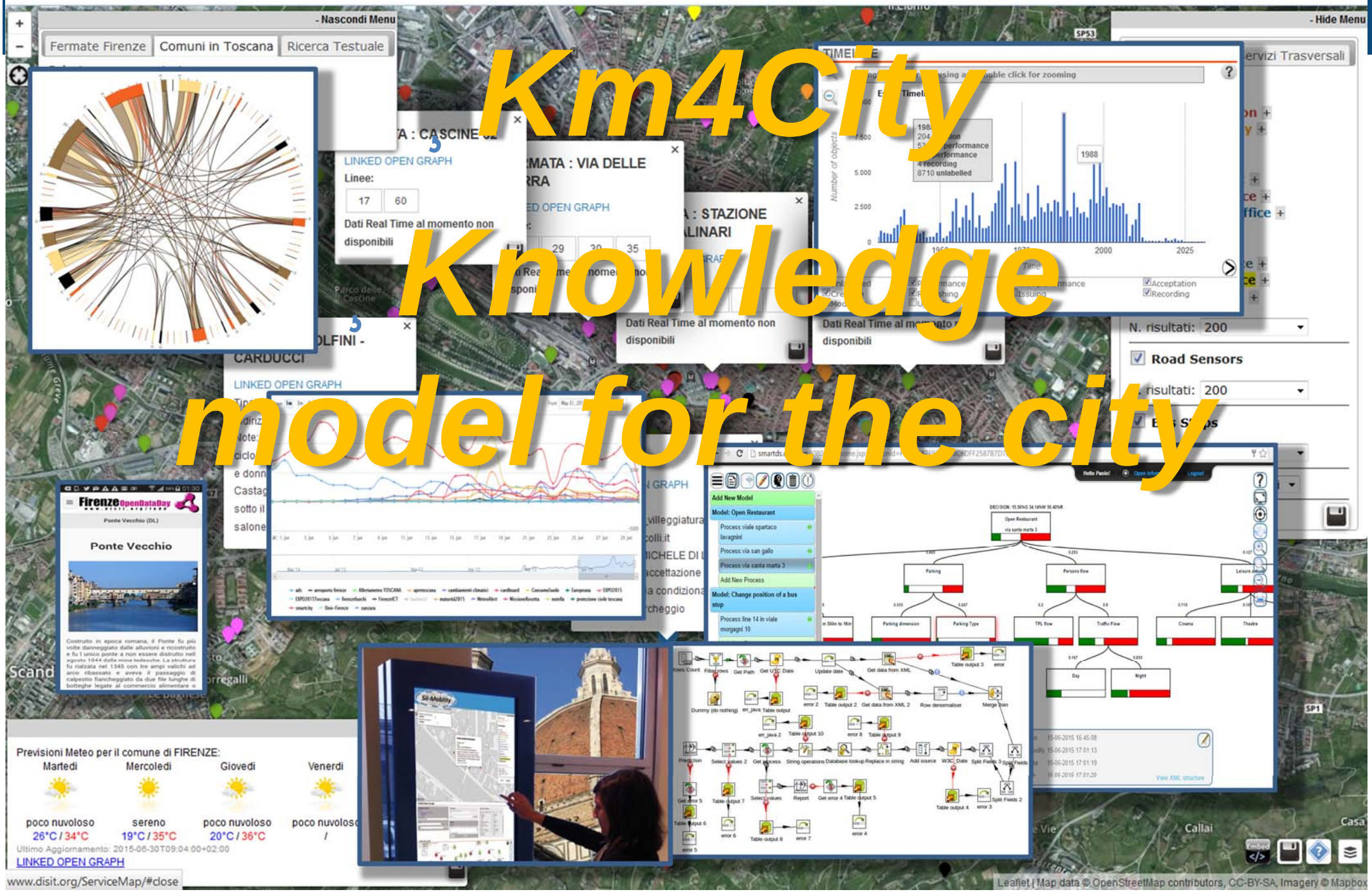
Parte 11, 12: Smart City

- Parte 11: smart city at DISIT Lab
  - Smart City overview
  - Data interoperability
  - Reasoning and firing
  - Data analytic
- Parte 12: open data, private data, data warehouse
  - From Open Data to Triples
  - ETL process
  - ETL tool: Pentaho Data Integration (PDI)
  - Km4city, e SiiMobility Projects

www.Km4City.org

Technical info on: http://www.disit.org/km4city

Enabling Smart City Solutions


Km4City
Knowledge
model for the city
- Nascondi Menu
Fermate Firenze
Comuni in Toscana
Ricerca Testuale
- Hide Menu
Servizi Trasversali
LINKED OPEN GRAPH
Linee:
17
60
Dati Real Time al momento non disponibili
N. risultati: 200
Road Sensors
Ponte Vecchio
Previsioni Meteo per il comune di FIRENZE:
Martedì
Mercoledì
Giovedì
Venerdì
poco nuvoloso
26°C / 34°C
sereno
19°C / 35°C
poco nuvoloso
20°C / 36°C
poco nuvoloso
Ultimo Aggiornamento: 2015-06-30T09:04:00+02:00
LINKED OPEN GRAPH
www.disit.org/ServiceMap/#close
Leaflet | Map data © OpenStreetMap contributors, CC-BY-SA, Imagery © Mapbox

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KM 4 CITY

From Data to Services for the Sentient Cities

Open Source and inter-operable tools to

1. **keep city under control via personalized dashboards**
2. **improve city resilience, reducing risks and decision support**
3. **transform data in value for the city**

Km4City Data and Service Aggregator