



An Intranet of Goods for the Internet

Towards a “Multi-Root” Architecture





GS1 in a nutshell



GS1 is the most widely used supply chain standards system in the world

- We are **not-for-profit** organization
- We are **neutral** from business partners
- We are **user-driven** and **governed**
- We **serve all companies**, from multinationals to SMEs
- We are a **platform for collaborative agreements** between business partners
- We believe that **our people** – employees and associates – **are our most important asset**



GS1 Member Organizations



■ Countries with a GS1 Member Organisation

■ Countries served on a direct basis from GS1 Global Office (Brussels)

108 Member Organizations.
150 Countries served.
Local services, global reach.



GS1's Brand Architecture



The global language of business

OVERALL BENEFIT: Improving efficiency & visibility in supply and demand chains

GS1 SOLUTIONS & SERVICES USING GS1 STANDARDS

Solutions: POS / Inventory Management / Asset Management / Collaborative Planning / Traceability
Services: Global (GSMP, GEPIR, Global Registry, Training and Accreditation) & Local (e.g. Certification, Implementation, Training)

 **System** - Integrated system of standards



Global standards for automatic identification

Rapid and accurate, item, asset or location identification



Global standards for electronic business messaging

Rapid, efficient & accurate business data exchange



The environment for global data synchronisation

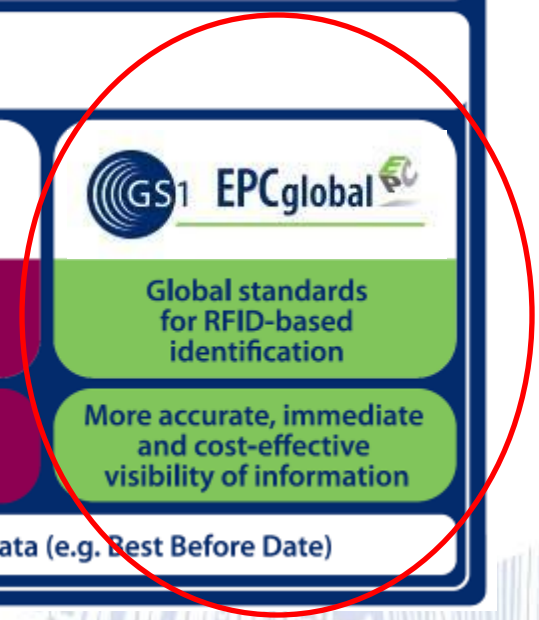
Standardised, reliable data for effective business transactions



Global standards for RFID-based identification

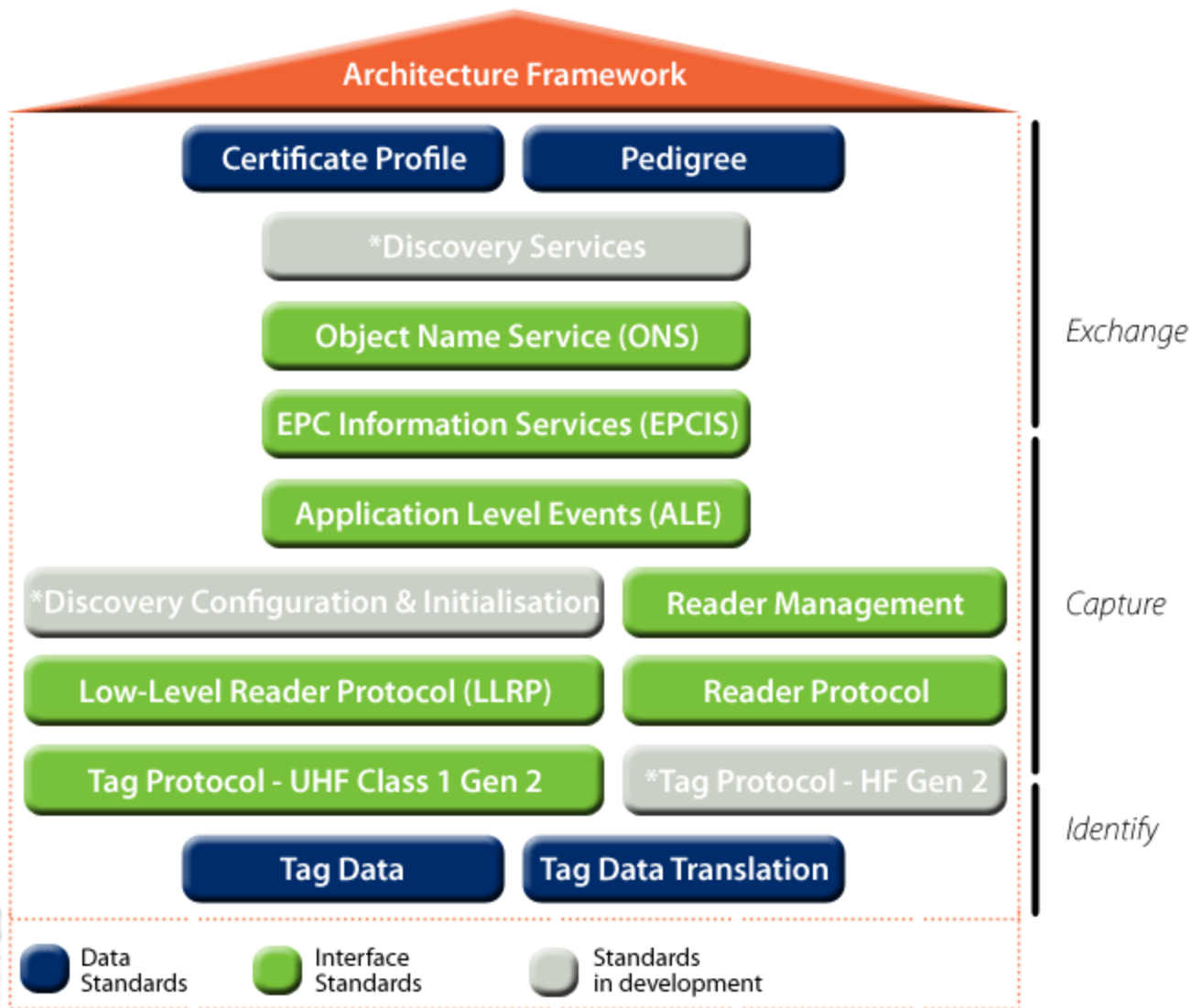
More accurate, immediate and cost-effective visibility of information

GS1 Identification Keys (e.g. GTIN, GLN, SSCC, GRAI, GIAI, GSRN, EPC) & Attribute Data (e.g. Best Before Date)



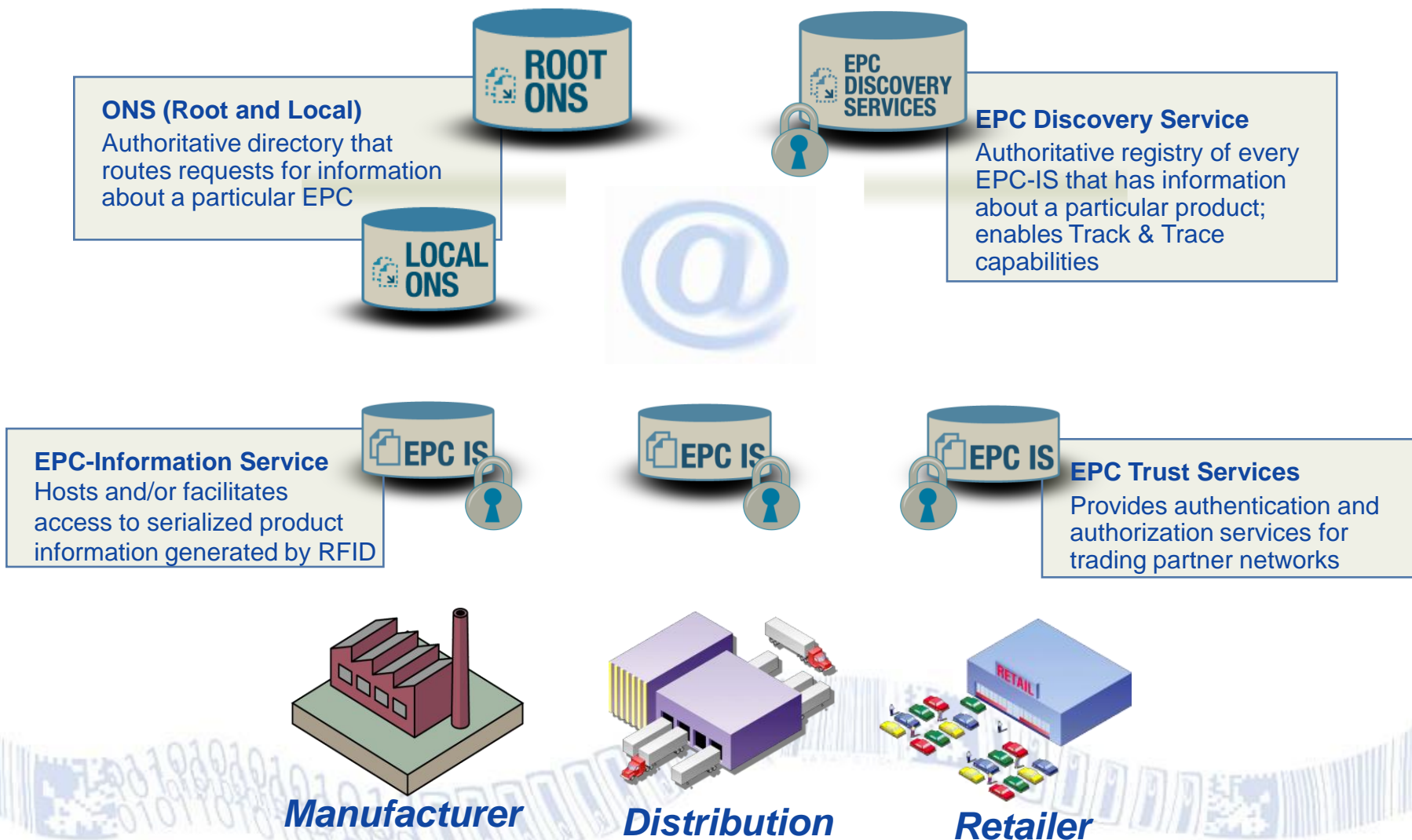


The EPCglobal standards





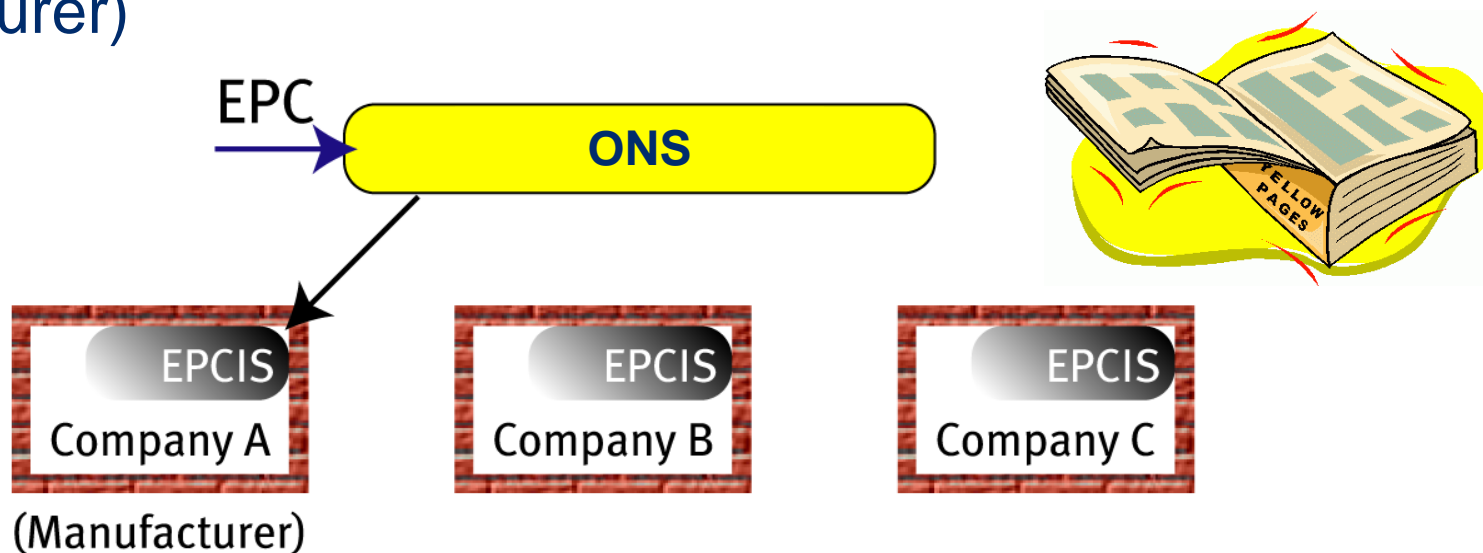
The EPCglobal Network : An Intranet of Goods for the GS1 users





The Object Naming Service

- The ONS is a Database and a Look-up service built on top of the DNS
- It locates the EPCIS of the issuing authority for EPC (usually a manufacturer)

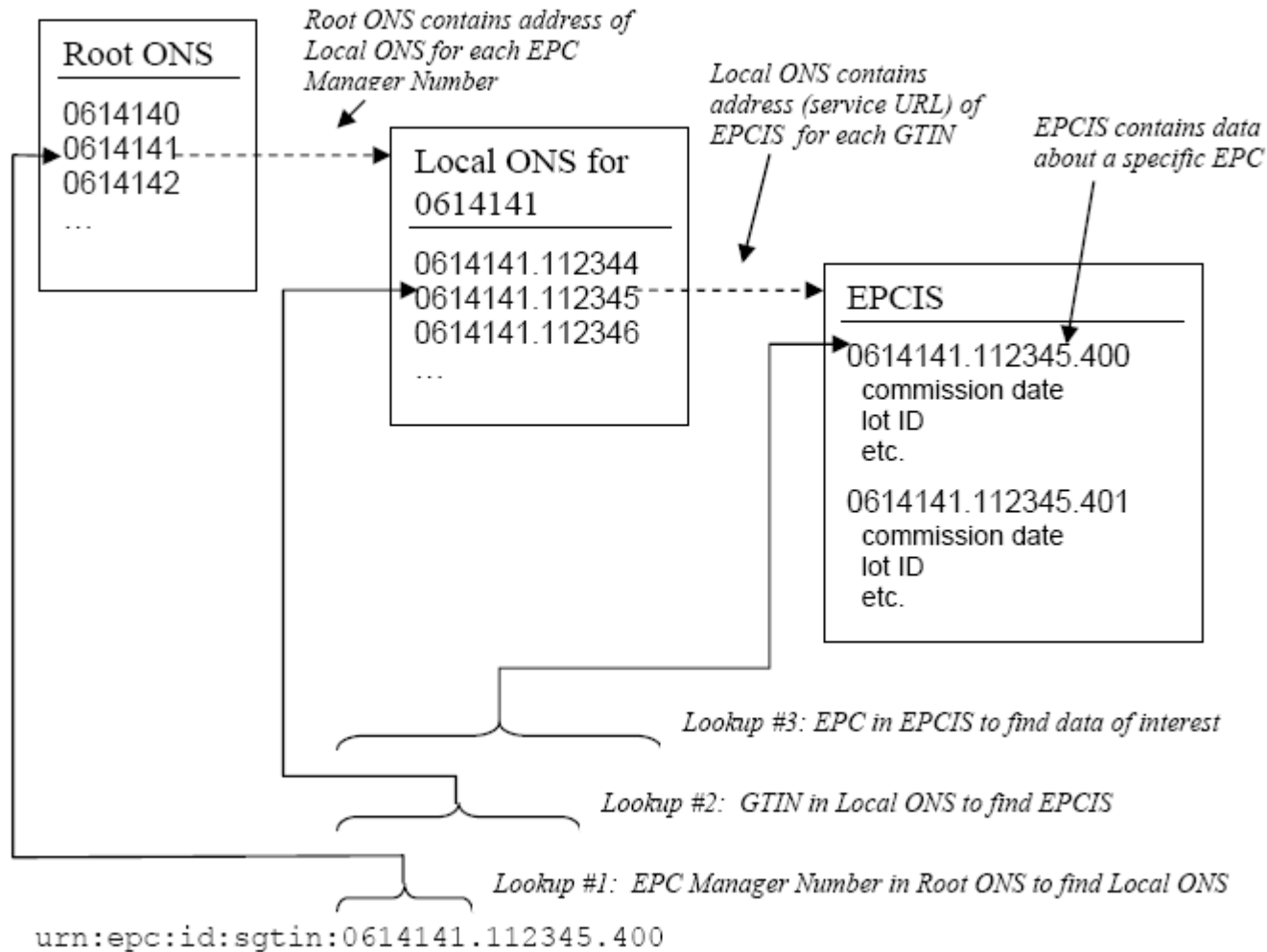


The ONS standard v1.0.1 is freely available here :

http://www.epcglobalinc.org/standards/ons/ons_1_0_1-standard-20080529.pdf



A hierarchical system





An ONS root in Europe



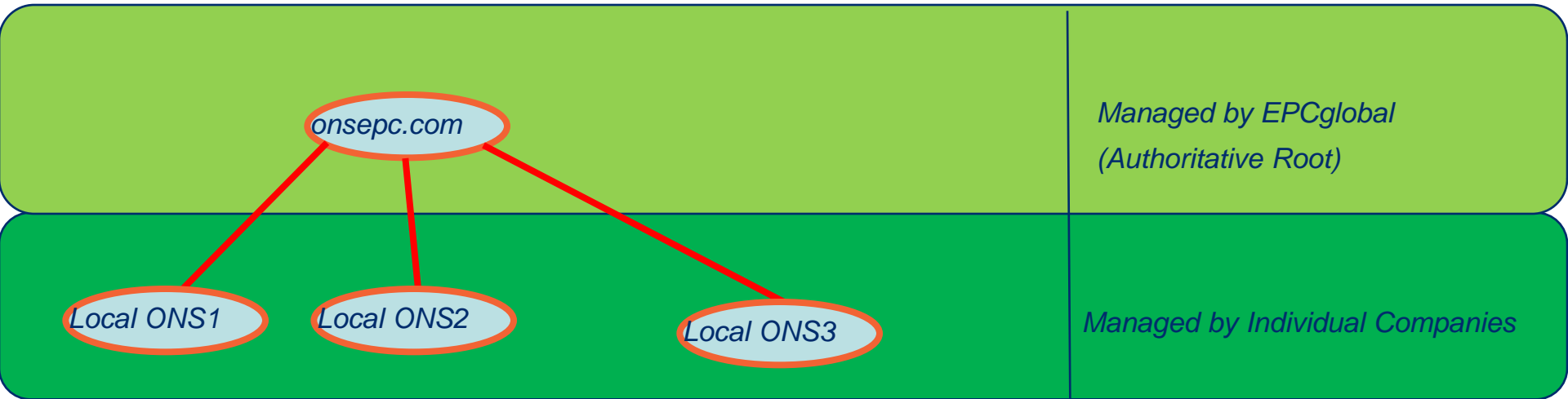
Operational platform launched in April 2008

- An ONS platform for the European Community
- **GS1 in Europe** has the overall responsibility
- The use of the ONS Root is proposed to all the companies which have subscribe to EPCglobal, particularly in Europe.
- Orange Business Services developed the platform and provides the hosting service
- 2 ONS platforms have been set up :
 - 1 for production use
 - 1 for testing purposes





Root ONS and Internet - Yesterday

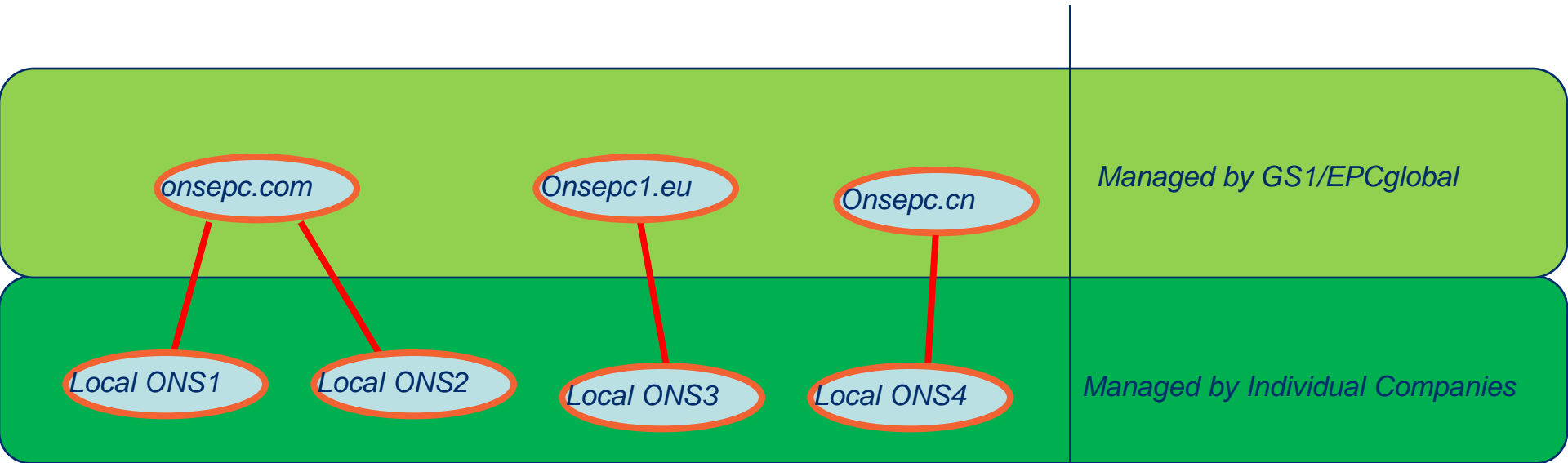


There was only one authoritative source (onsepc.com) for registered EPCglobal Manufacturer IDs





Root ONS and Internet – Today and tomorrow

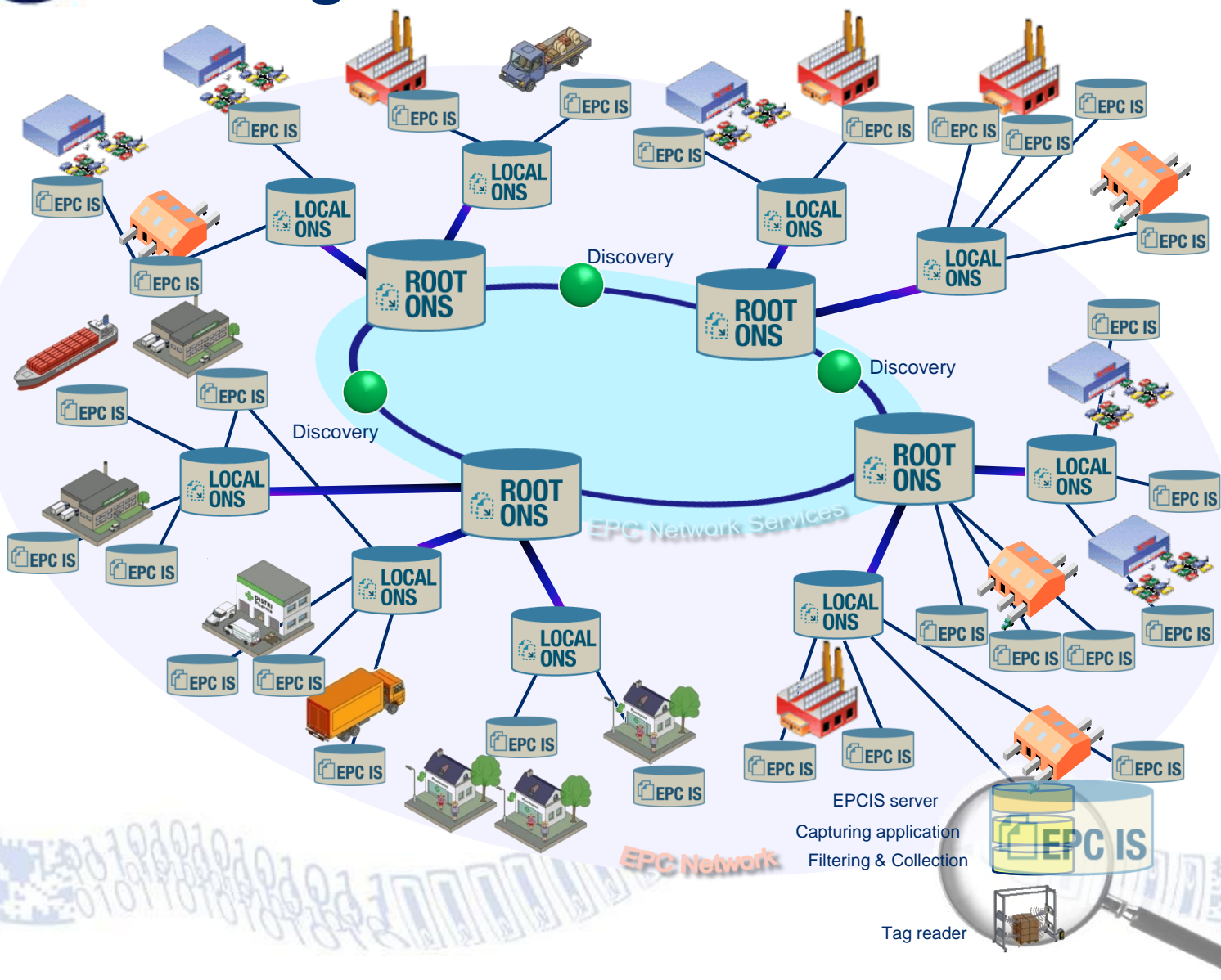


Today, the root ONS in Europe is independent from the existing one hosted in US. ONS root in project for other member organisations (GS1 China as an example).





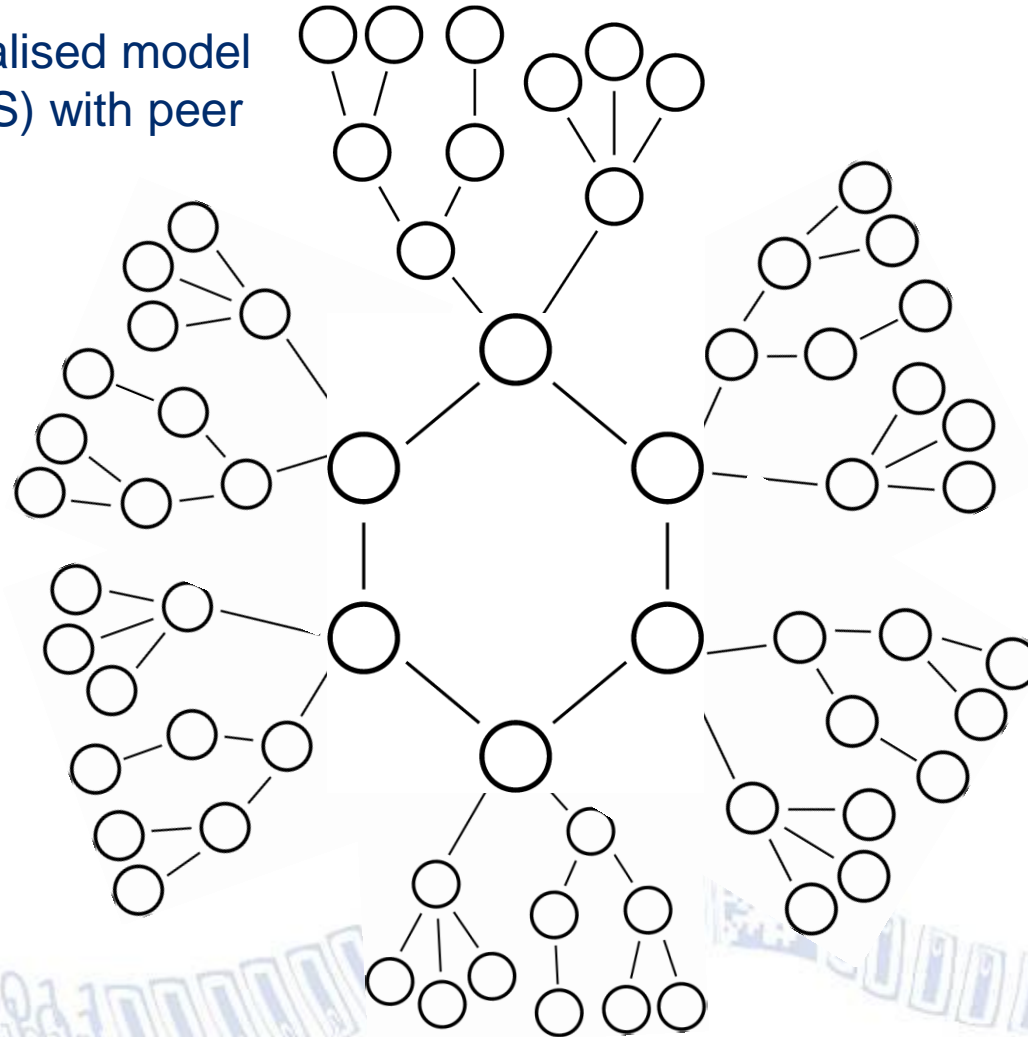
The « multi-root » model of the EPCglobal network





Target network topology

Combination of a centralised model (as designed in the DNS) with peer roots at the same level





Objectives and Principles

- A distributed ONS system with peer roots
 - The design should ensure a non fragmentation of the EPC network
 - Each server would be responsible for one or more domains
 - No two servers would be responsible for the same domain



Next steps

Open Consultation in progress :

- Design of the architecture
- Technical protocols
- Technical support for implementing a demonstration/pilote
- Requirements in terms of :
 - Security
 - Performance, stability and scalability
 - Accordance with the EPCglobal standards
 - Open source technology
 - Industry and solution provider agnostic

Taskforce of scientific partners contacted :

