

Evolution de l'accès aux APIs développement des usages Internet des objets

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INVENTEURS DU MONDE NUMÉRIQUE





Gouvernance



Quantity makes quality



More objects, smaller objects...



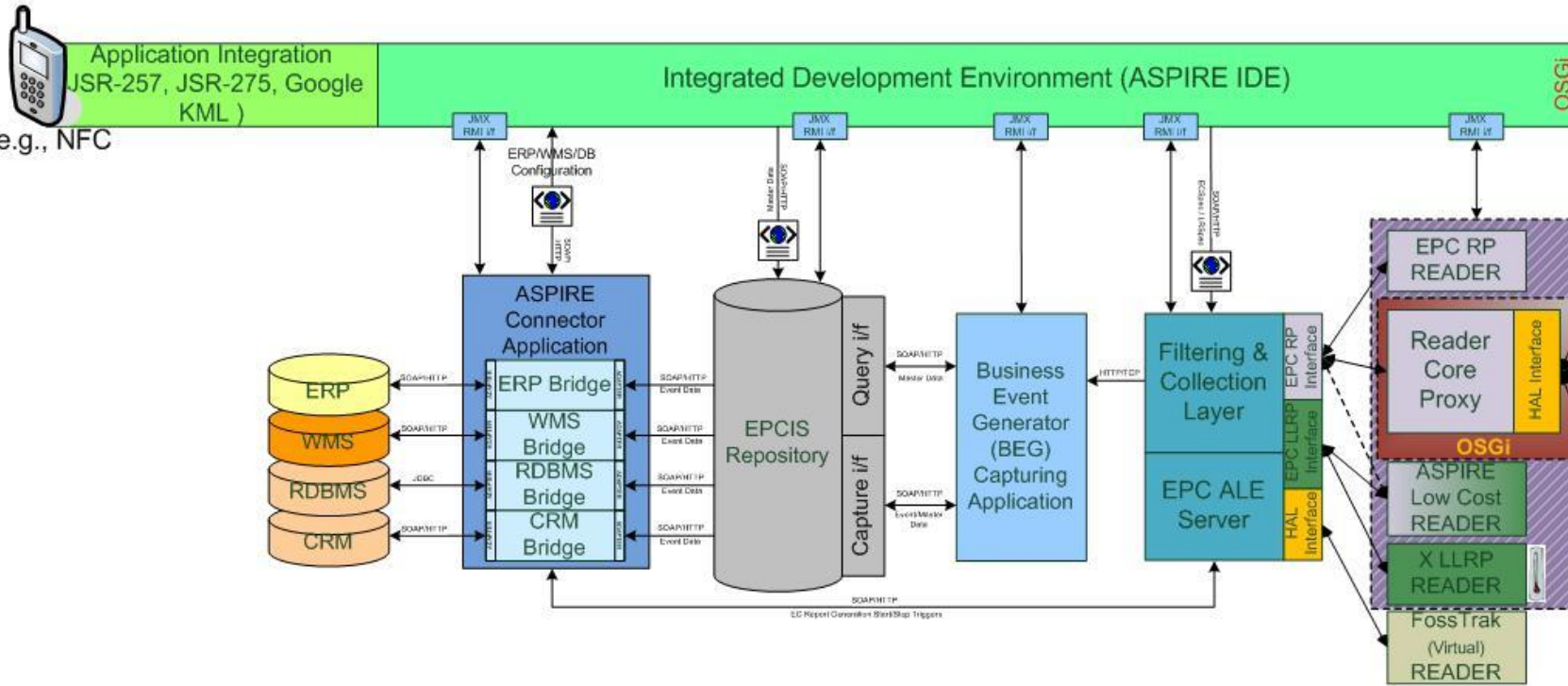
Courtesy, Alien Technology

Vers une plate-forme unique ?



OSI (Open Source Interconnection) 7 Layer Model

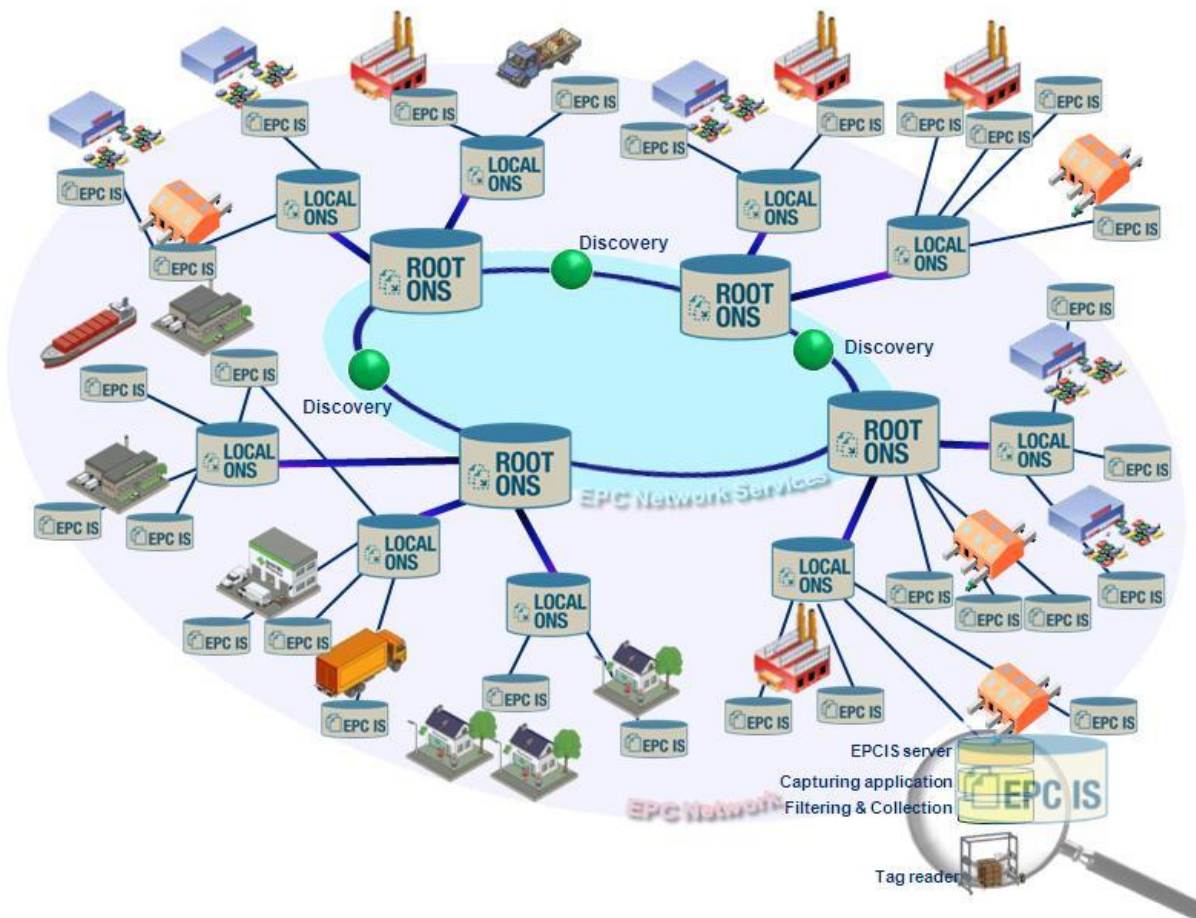
Layer	Application/Example	Central Device/ Protocols	DOD4 Model
Application (7) Serves as the window for users and application processes to access the network services.	End User layer Program that opens what was sent or creates what is to be sent Resource sharing • Remote file access • Remote printer access • Directory services • Network management	User Applications SMTP	Process
Presentation (6) Formats the data to be presented to the Application layer. It can be viewed as the "Translator" for the network.	Syntax layer encrypt & decrypt (if needed) Character code translation • Data conversion • Data compression • Data encryption • Character Set Translation	JPEG/ASCII EBDIC/TIFF/GIF PICT	
Session (5) Allows session establishment between processes running on different stations.	Synch & send to ports (logical ports) Session establishment, maintenance and termination • Session support - perform security, name recognition, logging, etc.	Logical Ports RPC/SQL/NFS NetBIOS names	
Transport (4) Ensures that messages are delivered error-free, in sequence, and with no losses or duplications.	TCP Host to Host, Flow Control Message segmentation • Message acknowledgement • Message traffic control • Session multiplexing	Filters TCP/SPX/UDP	Host to Host
Network (3) Controls the operations of the subnet, deciding which physical path the data takes.	Packets ("letter", contains IP address) Routing • Subnet traffic control • Frame fragmentation • Logical-physical address mapping • Subnet usage accounting		Routers IP/IPX/ICMP
Data Link (2) Provides error-free transfer of data frames from one node to another over the Physical layer.	Frames ("envelopes", contains MAC address) [NIC card — Switch — NIC card] (end to end) Establishes & terminates the logical link between nodes • Frame traffic control • Frame sequencing • Frame acknowledgment • Frame delimiting • Frame error checking • Media access control	Switch Bridge WAP PPP/SLIP	Network
Physical (1) Concerned with the transmission and reception of the unstructured raw bit stream over the physical medium.	Physical structure Cables, hubs, etc. Data Encoding • Physical medium attachment • Transmission technique - Baseband or Broadband • Physical medium transmission Bits & Volts	Hub	



WINGS

ANR

Widening Interoperability for Networking Global Supply Chains



INTERNET OF THINGS LANDSCAPE

Platforms & Enablement (Horizontal)

<p>Connectivity</p>	<p>Open Source Platforms</p>	<p>Software Platforms</p>	<p>Sensor Networks</p>	<p>Enabling Networks</p>	<p>Corporates</p>
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Applications (Verticals)

<p>Quantified Self</p> <p>Wearable Computing: GLASS, Pebble</p> <p>Fitness: Withings, fitbit, JAWBONE</p> <p>Health: BASIS, LUMO, HAPIfork, wahoo, NuMetrex</p> <p>Family: REST, Lively, Good Night Lamp, Withings, EVADO FILIP</p>	<p>Lifestyle</p> <p>Leisure: blossom, ICA kitchen, Thimble, remee, iGrill, HEXBRIGHT, sobi</p> <p>Pets: gibi, FITBARK</p> <p>Toys: sifteo, MakieLab, KAROTZ, greengoose</p> <p>Music: glar</p> <p>Gardening: BITPONICS, plantlink, Koubachi</p> <p>Home Improv.: Radiator Labs, netatmo</p>	<p>Connected Home</p> <p>Home Automation: SmartThings, NINJABLOCKS, revolv, Ubi, lapka, electric imp, Wovyn</p> <p>Energy Efficiency: knut, nest, we mo, tado, LIFX, ecobee, belkin echo, micasaverde</p> <p>Security: Kwikset, ALARM.COM, Lockitron, BESCH, CANARY, HomeMonitor, iSmartAlarm</p> <p>New Interfaces: NeuroSky, gestigon, sphero, PrimeSense, EQUISO, emotivo, Interaxon, LEAP</p>	<p>Industries</p> <p>Retail: Nomi, euclid, placemeter</p> <p>Healthcare: VISI MOBILE, AdhereTech, AliveCor, TELCARE, intelligentM</p> <p>Automotive: DashiLabs, SYNC, OpenXC, mojiio, ienture</p> <p>Smart Buildings: APOGEE, Johnson Controls, Schneider Electric</p>	<p>Industrial Internet</p> <p>Robotics: KIVA Systems, Double Robotics, Airware, ROBOTEX, 3D Robotics, MOMENTUM</p> <p>Greentech: BigBelly, Axeda, enlited, GRIDMOBILITY</p> <p>3D Printing: BOSYSTEMS, MezzoMill, Stratatsys, formlabs, shapeways, MakerBot INDUSTRIES, RepRap</p>
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Building Blocks

<p>Connection Protocols</p>	<p>Telecom</p>	<p>M2M</p>					
<p>Software</p>	<p>Mobile</p>	<p>Hardware</p>	<p>Parts / Kits</p>	<p>Services</p>	<p>Incubators</p>	<p>Funding</p>	<p>Distribution</p>

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