

UNIVERSITY OF NAMUR

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Complex Event Processing for Internet of Things

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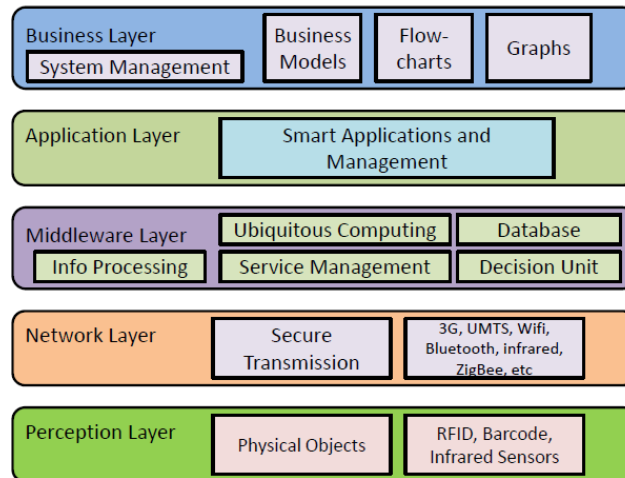
1 Introduction

The Internet of Things is omnipresent and the amount of connected devices is increasing day by day. The Internet of Things is different from a classic information system by its capability for integrating with the physical world. Those devices are used in plenty of sectors (health, industry, transport, home automation, ...) and their users can be both professionals and individuals. Nowadays, we can see the apparition of connected devices for home to facilitate our daily life. (e.g: Google Home, Nest, Philips Hue) IoT is also an interesting technology for Smart Cities use case. We can imagine a city where traffic lights are optimised with the city mobility to avoid traffic jams for example. However, an important problem arises in this type of architecture. How is it possible to handle such an important data traffic efficiently ? Indeed, if an entire city has a huge amount of connected objects, the data flow to be processed is massive. Therefore efficient data processing mechanisms need to be put in place to handle such flows.

Ajouter du texte, pas assez long

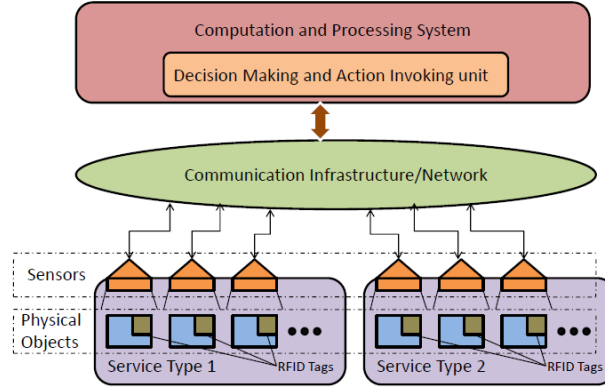
2 IoT architecture

L'architecture d'une solution présentant des objets connectés peut être réalisée avec des technologies diverses mais de manière abstraites, celle-ci peut être vue comme suit:



Expliquer chaque couche By the way, the Application Layer can be directly or indirectly another physical object on premise on an application in

the cloud for example. This architecture can be simplified by separating those 5 layers by only 3:



Dans cet article, nous allons nous focaliser sur la partie Physical Object and Sensors et Computation and Processing System car c'est précisément à cette couche que le traitement de données va être le plus important. Evidemment, la couche de communication doit être suffisamment robuste afin de faire transiter les données de manière efficaces mais ceci ne va pas nous intéresser dans cette thèse.

2.1 Physical Objects and Sensors

2.2 Computation and Processing systems

3 Data Treatment Complexity

(Penser à parler au fog et cloud computing qui a beaucoup paru dans les articles) Attention ne pas parler uniquement du CEP mais également d'autres techniques.

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