

A Novel Solution to Link Physical Products with Digital Services

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Background

- Background is shifting from selling goods to selling services [1, 2].
- In B2B setting, services are mainly sold based on contractual product-service bundling. But in B2C setting, it is difficult to sell services because products and services are loosely coupled.

Current IoT Solution

- IoT helps to make products smart through integrating physical products with digital service (i.e., Nest, FitBit, Philips Hue LED).
- It results high cost due to product redesign and change of manufacturing process.

Current Problems

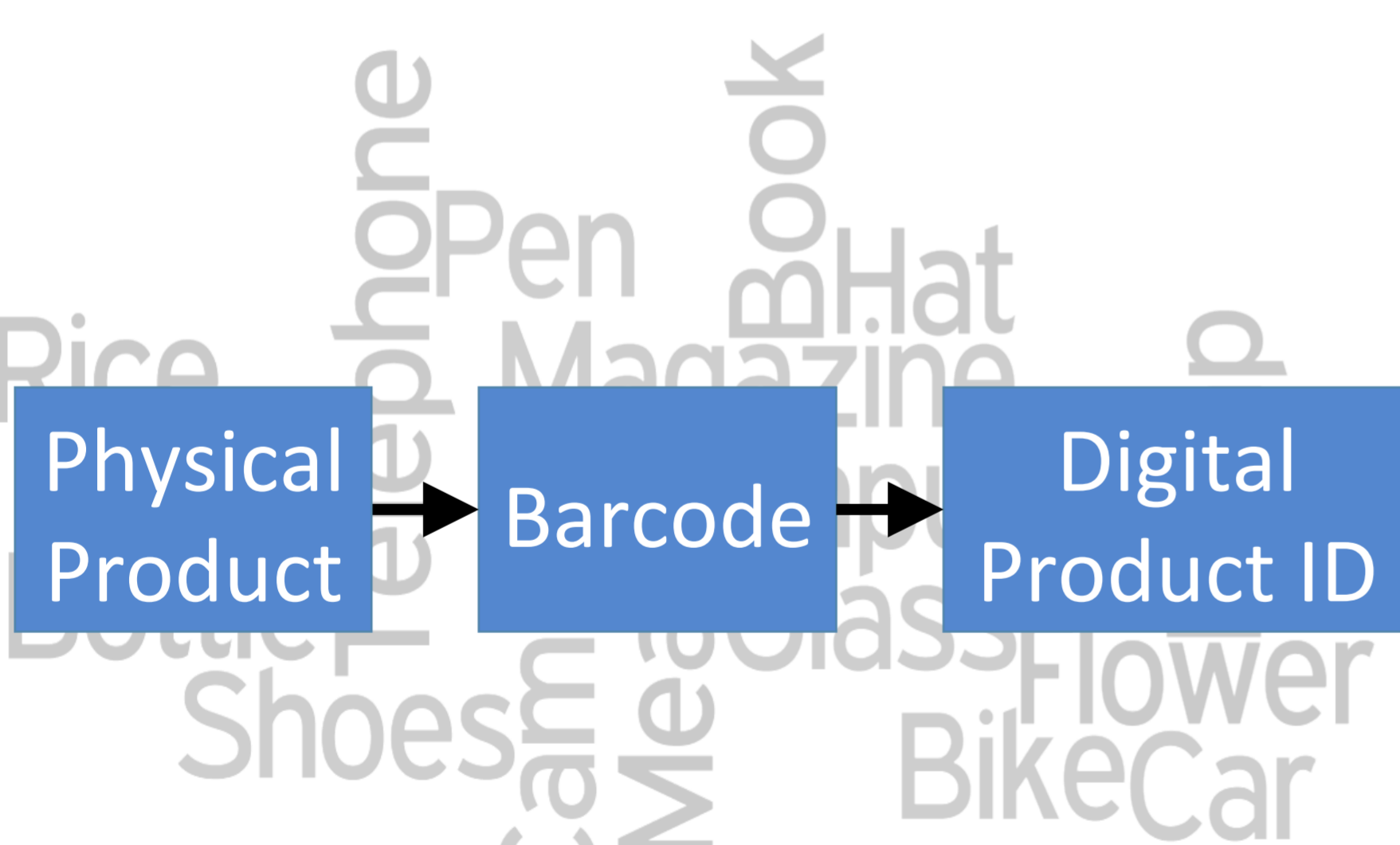
- The current IoT solution is not applicable to most products because the cost to integrate products with services is too high for manufacturers.
- At the moment, 99.4% products are not smart [3]: products and services are still de-coupled.
- However, consumers prefer to directly interact with every physical product to get relevant services instead of searching for them online.
- How can IoT contribute to enable the majority of products as service end-points without additional high cost?

Proposed Solution

Step 1

From Products to Digital Identifiers

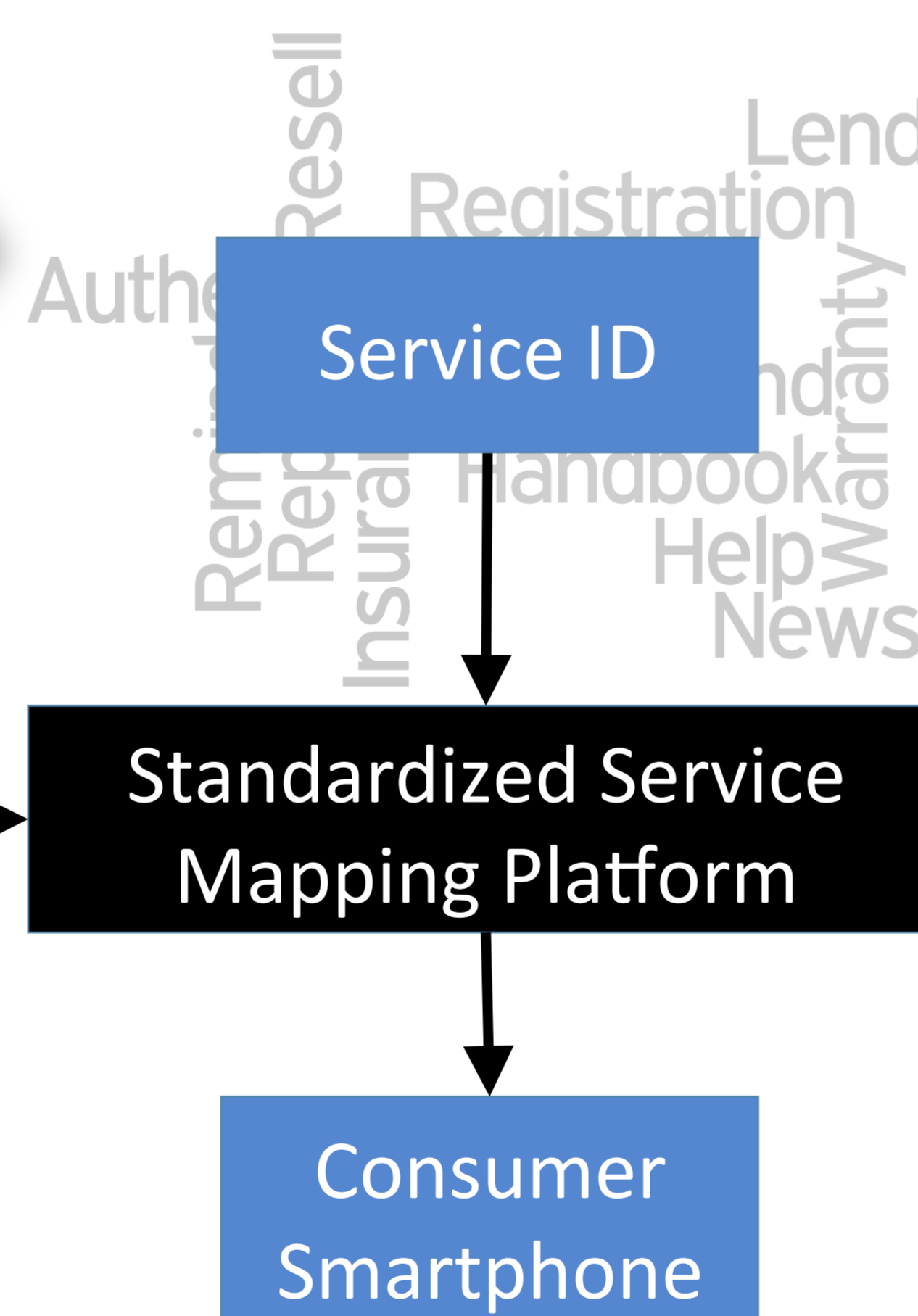
- Existing barcodes can be used as identifiers in digital world to represent physical products.
- Consumers scan barcodes with smartphones to retrieve product identifiers.
- Other IoT technologies like RFID, QR Code, Digital Receipt and Image Recognition can also be used to get product IDs.



Step 2

Mapping Product IDs with Service IDs

- Similar to price comparison, consumers scan a barcode and get a list of relevant services in return.
- It requires a platform to digitally map product identifiers with product-related services.



Step 3

Optimize Service Provision based on Context Information

- Smartphone provides context information like time, location, language, user preference, etc.
- Example: The platform will not return services that are only available in US to a consumer who is recognized in Europe.
- It contributes to improve relevancy of returned services and help consumers make easier decision.



Conclusion

- The proposed solution makes it easier to link products with relevant services.
- It enables a wider range of products as service end-points.
- It helps manufacturers sell more services and helps consumers better use their products.

Outlook

- A new product service standard can improve the scalability of the proposed platform.
- We plan to cooperate with some manufacturers, develop the platform and evaluate the impact from both manufacturer and consumer side.



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References

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