

Access-technology agnostic delivery platform for ICT4D services

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CONTEXT

Capitalising on target resource-constrained rural communities' technological capabilities can be considered a critical consideration when delivering Information and Communication Technology for Development (ICT4D) content and services to these communities.



The core approach of this research project, which is informed by the concept of "digital difference"^[1], is to leverage the existing technological infrastructure and capacity (know-how) in a community to enable delivery of ICT4D content and services on the available technologies rather than introducing new technologies^[2]. In order to achieve this, an Access-Technology-Agnostic Delivery Mechanism, which is able to handle multiple devices connecting through different access technologies and to deliver content in multiple formats, is necessary.

The Mobi4D platform was developed around this model, and proves its technical feasibility and practicality as a possible delivery mechanism. This poster presents the conceptual model.

ICT4D OVERVIEW

ICT4D is concerned with exploiting the socio-economic development potential of ICT within the confines of available resources, skills and capabilities^[3].

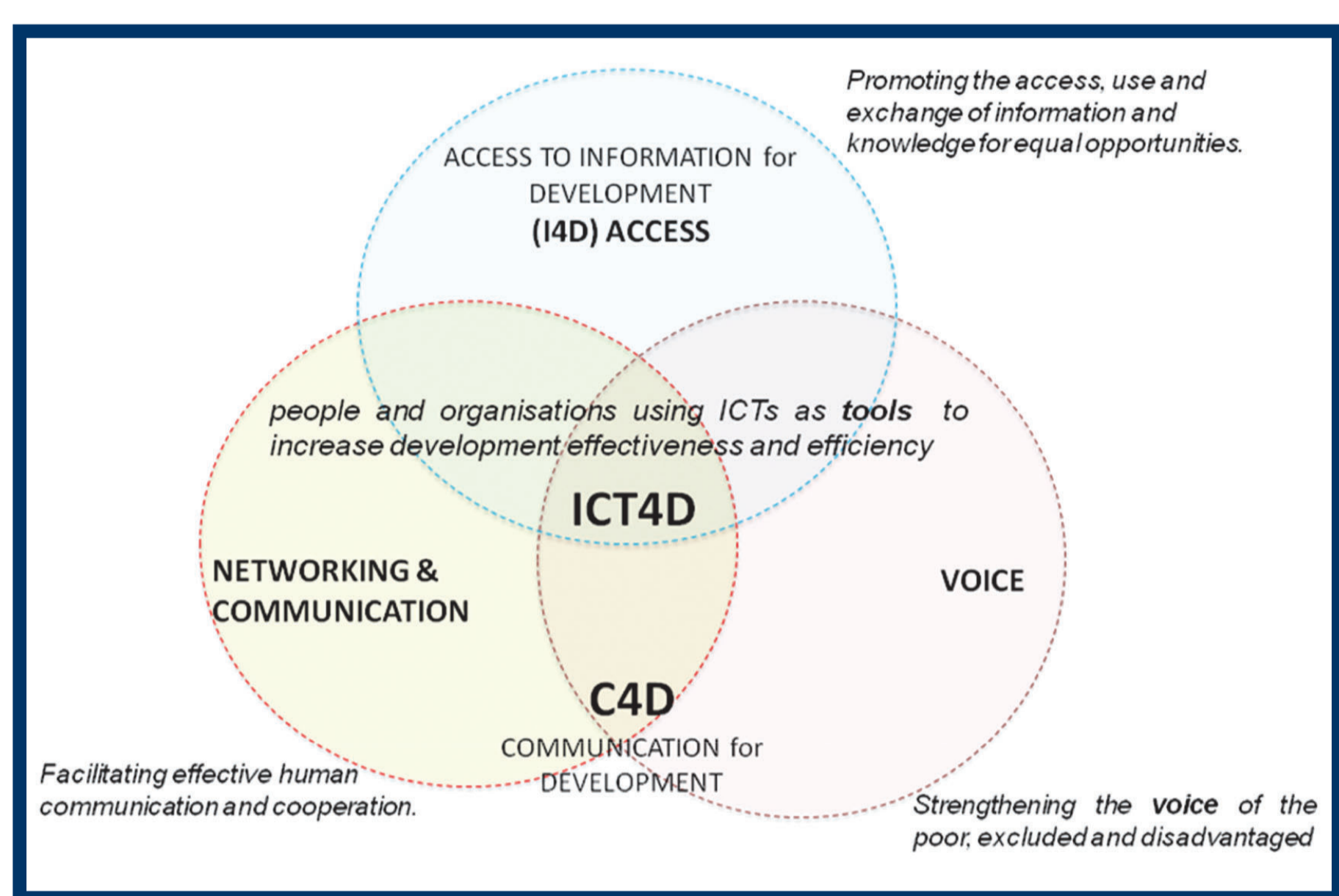


Figure 1: Goals and dimensions of ICT4D^[4]

The main thrusts of ICT4D and the components of delivering ICT functionality within the ICT4D domain can be summarised as in **Figure 2** and **Figure 3**.

EXTENDING THE ICT4D FRAMEWORK

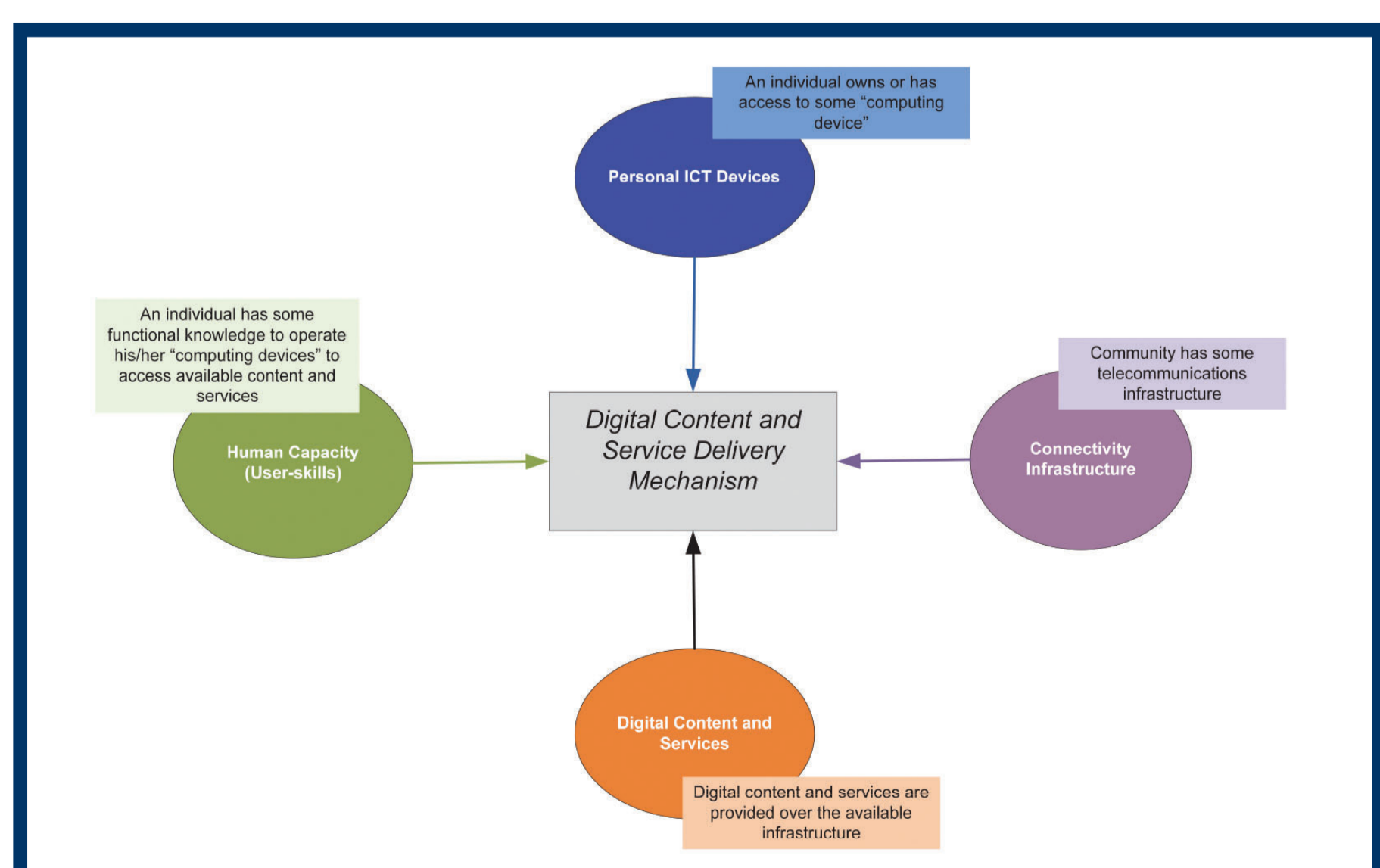


Figure 2: components of delivering ICT functionality^[3]

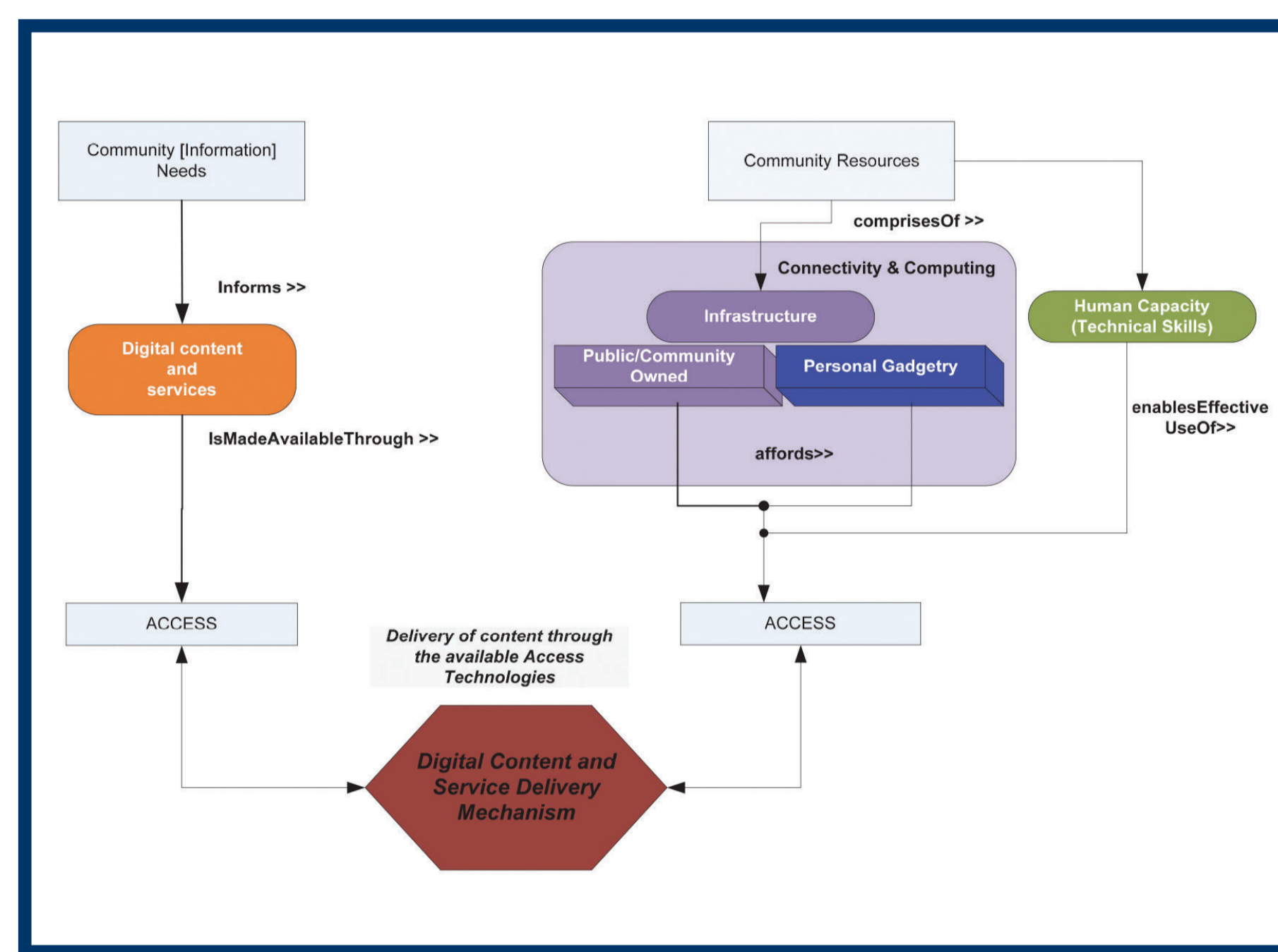


Figure 3: Relationships between components of the extended ICT4D framework

ACCESS-TECHNOLOGY-AGNOSTIC CONCEPTUAL MODEL

A conceptual model of the proposed Access-Technology-Agnostic Delivery Platform for ICT4D services is depicted in **Figure 4** below.

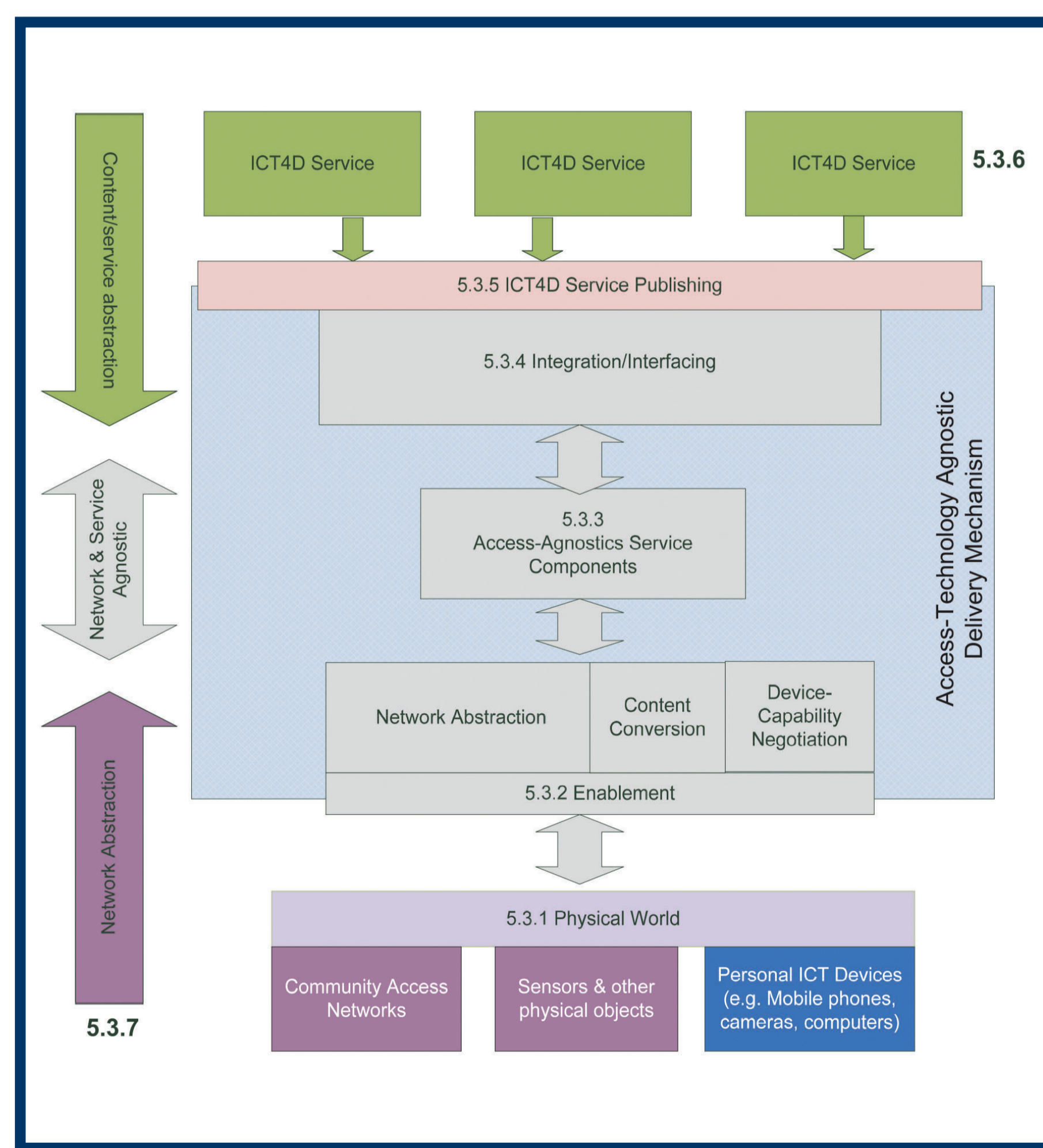


Figure 4: Access-Technology-Agnostic Conceptual Model

MOBI4D AS AN ACCESS-TECHNOLOGY-AGNOSTIC DELIVERY PLATFORM

The Mobi4D Communication Services Platform is presented in **Figure 5** as a technical implementation of the Access-Technology-Agnostic Conceptual Model.

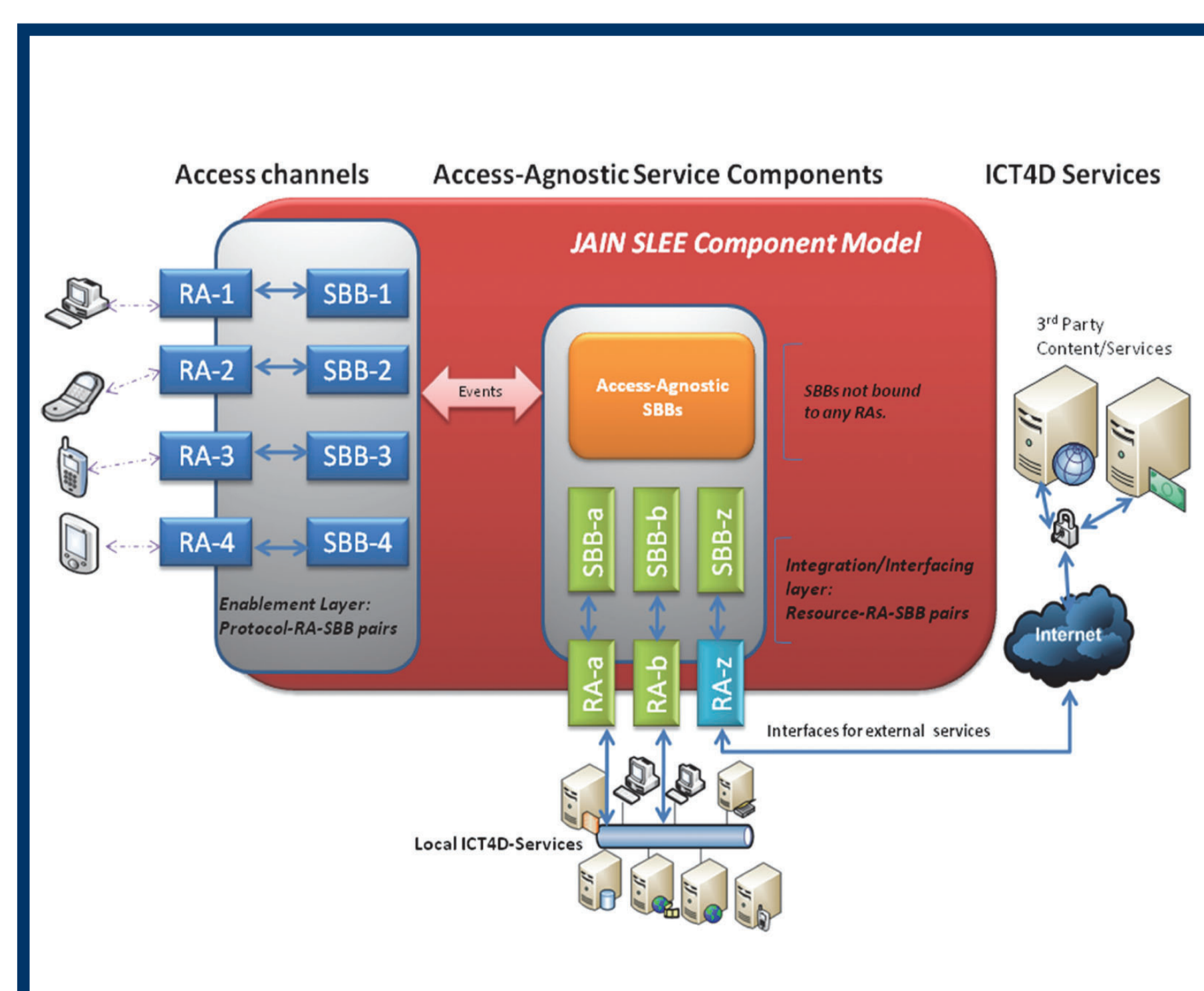


Figure 5: Block diagram of experimental delivery platform

ICT4D is concerned with exploiting the socio-economic development potential of ICT.



Figure 6 below depicts how Mobi4D implements access-technology-agnostic delivery pattern in delivering ICT4D services.

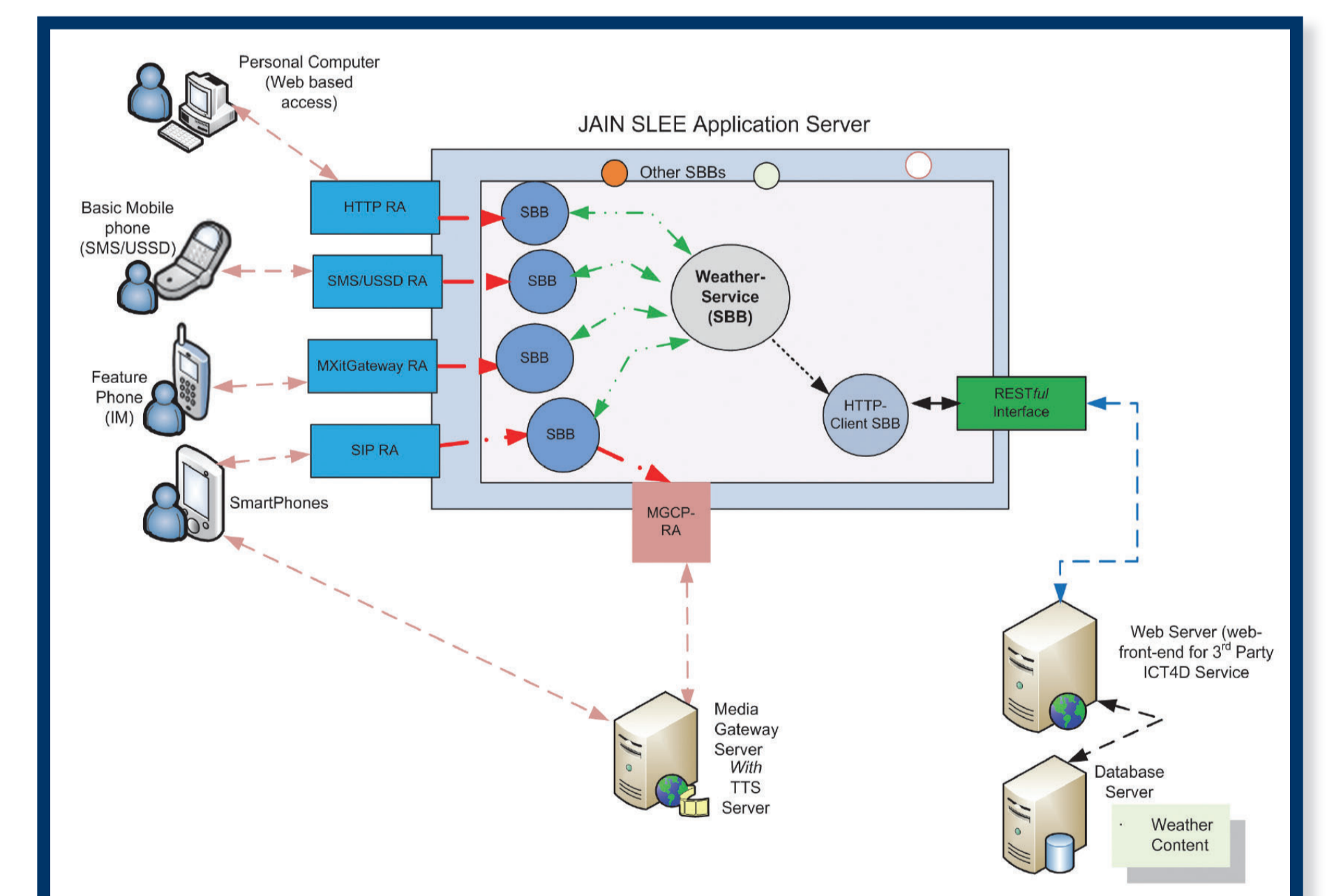


Figure 6: Experimental solution architecture

CONCLUSION

Ensuring equitable access to information is important, both in terms of the importance of knowledge for development, and for addressing global inequalities of opportunities. ICT4D has the potential to assist in this regard through specific key areas (see **Figures 1, 2** and **3**).

Owing to the lack of delivery mechanisms in place to realise the equitable access to information, this poster presented an Access-Technology-Agnostic Conceptual Model, and highlighted Mobi4D platform as a real life implementation of this model.

REFERENCES

- [1] Botha, A., Makitla, I., Ford, M., Fogwill, T., Seetharam, D., Abouchabki, C., et al. 2010. The mobile phone in Africa: Providing services to the masses In: CSIR Science real and relevant conference 2010, Pretoria, South Africa.
- [2] Heeks, R. 2008. ICT4D 2.0: the next step in applying ICT for international development. Computer, 41(6), p. 26-33.
- [3] Tongia, R. and Subrahmanian, E. 2007. Information and Communications Technology for Development (ICT4D) – A Design Challenge? In: International conference on Information and Communication Technologies and Development, 2006. ICTD'06, IEEE.
- [4] Weigel, G. 2004. Communication for Development (C4D) as Integrated Component of the SDC ICT4D Concept and Strategy [Online]. Available from: <http://www.cominit.com/redirect.cgi?m=3c387342a53c81797bb8ce5030278392>. [Accessed: 07/10/2010].