

100 acting as its gateway may contain several intermediate network routing apparatuses (e.g., network router, network switch, WiFi range extender, etc.).

In such an embodiment, and as illustrated in figure 6, the notable differences in the behavior of the augmented software and corresponding flow of network data described above, are that the conventional network request destined to an application server **103**, instead of originating from an application **210** running on the augmented device **100**, now originates from a client device **300** connected to the augmented device **100** via a local network connection, and that the corresponding conventional network response from the application server **103** is destined to the client device **300** connected to the augmented device **100** via a local network connection instead of being destined to an application **210** running on the augmented device **100**. As such, the first computer program **200** that runs on the augmented device **100**, in order to seamlessly handle the configuration where said augmented device **100** acts as a gateway to separate, conventional client devices **300**, is configured to not only intercept, redirect and transmit network requests originating from and/or destined to applications **210** running on the augmented device **100** itself, but also to intercept, redirect and transmit network requests which are being routed by the augmented device **100**, and originating from and/or destined to said conventional client devices **300** connected to said augmented device **100** through a local network connection. In such an embodiment, the conventional client devices **300**, similarly to the applications **210** running on the augmented device **100**, remain oblivious to the existence of the non-conventional connection-merging protocol, relay machines **102** and coordination machine **104** that sit between them and the application servers **103**.

In another embodiment of the invention, one or more of the software applications **210** running on the augmented device **100** and/or one or more of the client devices **300** routing their Internet traffic through the augmented device **100** are explicitly

In other embodiments, the coordination machine **104** does not dynamically assign a relay machine **102** to each of the augmented devices **100**; instead, one or more identities are used by each augmented device **100** to identify one or more relay machines **102**, each of said one or more identities being subsequently mapped to a relay machine **102** dynamically. In one such embodiment, this mechanism is implemented using a domain name as said identity, and a Domain Name Server (DNS) to perform said dynamic mapping. Said DNS is part of or separate from the coordination machine **104**, which dictates the logic behind said mapping according to the aforementioned metrics.

In other embodiments, the functionality achieved by the coordination machine **104**, the pool of relay machines **102** it controls and the augmented devices **100** that proxy their traffic through them is performed by differing network topologies, software implementations and/or hardware configurations. Namely, the functions of the coordination machine **104** are implemented as one or more peer-to-peer, decentralized and/or distributed computer programs running on one or more physical or virtual machines, which do or do not coincide with the relay machines **102**, in order to increase the overall system's robustness to coordination machine **104** failures and/or performance limitations. Similarly, the relay machines **102** are physical or virtual, and they are located either at the base stations **400** or deeper within the Internet and closer to the application servers **103**. Lastly, the augmented devices **100** interacting with said relay machines **102** and coordination machine **104** are a mixture of one or more of: augmented smartphones **100**, augmented tablets **100**, augmented laptops **100**, augmented mobile WiFi hotspots **100**, novel devices **100**, etc., each routing their client devices' **300** traffic and/or communicating with application servers **103** directly. It should be understood that such embodiments or variations thereof still fall under the scope of this disclosure as the achieved behavior is inherently the same, and that the invention is not

devices **100**, minimize the latency of the network connections between each relay machine **102** and each of its connected augmented devices **100**, and/or minimize the cost of operating the system.

5 11. The configuration of claim **1** where the augmented device **100** acts as a gateway to the Internet for one or more separate, unmodified client devices **300** and transparently allows each of them to communicate with at least one conventional application server **103** over multiple segments of the Internet concurrently.

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12. The configuration of claim **1** where a data exchange between, on the first hand, a software application **210** running on the augmented device **100** or a client device **300** routing its Internet traffic through the augmented device **100**, and, on the second hand, a conventional application server **103**, follows the following steps:

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the software application **210** or the client device **300** makes a conventional network request directed at the application server **103**;

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the augmented device **100** intercepts the network request, modifies it to support the connection-merging protocol, and transmits the modified network request for proxying to one of the relay machines **102** over its two or more mobile broadband connections;

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the relay machine **102** synchronizes and reassembles the modified network request received over the two or more mobile broadband connections, recreates the original network request, and transmits the original network request to the application server **103**;

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the application server **103** receives the network request and transmits a conventional network response back to the relay machine **102**;

the relay machine **102** receives the network response from the application server **103**, modifies it to support the connection-merging protocol, and transmits the modified network response to the augmented device **100** over its two or more mobile broadband connections;

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the augmented device **100** synchronizes and reassembles the modified network response received over its two or more mobile broadband connections, recreates the original network response, and transmits the original network response to the software application **210** or the client device **300**; and

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the software application **210** or the client device **300** receives the network response.

15 13. The configuration of claim **1** where one or more of the software applications **210** running on the augmented device **100** and/or one or more of the client devices **300** routing their Internet traffic through the augmented device **100** are explicitly configured to proxy their Internet traffic through one of the relay machines **102**.

20 14. The configuration of claim **1** where one or more of the mobile broadband access devices **101** are dynamically configured to operate in a diminished state.

15. The configuration of claim **1** where the mobile broadband access devices **101** are configured and programmed to utilize distinct frequency band channels **402**.

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16. The configuration of claim **1** where the digital identities used by the mobile broadband access devices **101** are physical or virtual SIMs.