



SIMPLEWAY TECHNOLOGIES LTD.

User Experience with the Soul Concept

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User experience with the Soul Concept

1. Device requirements

Most devices today are compatible with the Soul Concept with some minor software/firmware modifications. For Soul Concept operation, devices require the ability to boot operating systems over a wired/wireless channel. Currently, most modern PCs already support booting from a wired network. Moreover, any of your devices can be simultaneously compatible with the Soul Concept and be self-sufficient, that is, able to function in a traditional way. For example, during a system start-up a PC can provide the option to boot the OS from the SoulHub.

2. What hardware configurations/architectures are supported?

The Soul Concept uses concepts which are already familiar to many users. Major technology companies such as Microsoft see the need to offer features we plan to offer as part of the Soul Concept. For example, Windows To Go enables users to boot a full version of Windows from external USB drives on host PCs and support different hardware configurations.

We aim to design the Soul Concept for shipping with kernels for both x86 and ARM architectures. The Soul Concept will use the appropriate kernel automatically and seamlessly, depending on which of your devices is connected.

3. Are my devices compatible without a firmware upgrade?

We aim to make your existing devices compatible with the Soul Concept even without a firmware upgrade. Using one or more miniature USB dongles, you can wirelessly communicate and begin using the Soul Concept. For example, if you choose to set a smartphone as the Soul Concept centre (SoulHub), and you want to connect it to a laptop, you just need to attach a USB dongle as shown below in Figure 1:

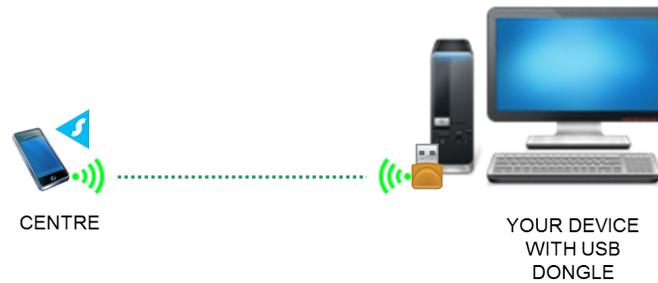


Figure 1: Attaching a USB dongle to enable connection between the Soul Concept centre and a laptop

The laptop will recognize the USB dongle and work as a usual USB flash drive with the OS loaded on the dongle. Any device can be booted through this USB dongle in the same way as from an ordinary USB flash drive. The only one thing you have to do is to insert the USB dongle into your computer and to change the boot order to a USB flash drive in BIOS/UEFI.

4. What about performance issues?

Since all the program code runs on your device, your device's hardware power is fully utilized.

We are also contemplating implementation of caching using your device's storage to increase read access speed as follows:

- When some piece of data is read from the SoulHub storage for the first time, it is also cached.
- Subsequent readings of this data are performed from the cache.
- OS maintains the file-checksums correspondence database for the main storage as well as for every cache (from your different devices).
- When the OS boots and discovers previously cached data on, for example, your PC's storage, the checksum database of that cache is compared against the reference one (from the main storage) to determine which data is still unchanged, and therefore whether the cached copy of that data can be used).

- The data writes are performed in write-through mode to ensure that the SoulHub storage always contains the most actual data. The checksum database is updated after changing/creating data as well.
- If the OS discovers that the SoulHub is connected to a power source, then more aggressive prefetching is performed and the changed/new data is being transferred to the cache during system idle time (and thus even before the first read attempt).

5. How secure is the Soul Concept?

As explained above, the major hacks that have occurred over the last few years have resulted in an increased demand for decentralized storage solutions or edge storage solutions. The Soul Concept is an example of an edge security solution. In addition to the improvement in security over cloud-based solutions, we have deployed other measures. Figure 2 below shows the various measures we intend to use to make the Soul Concept as secure as possible:

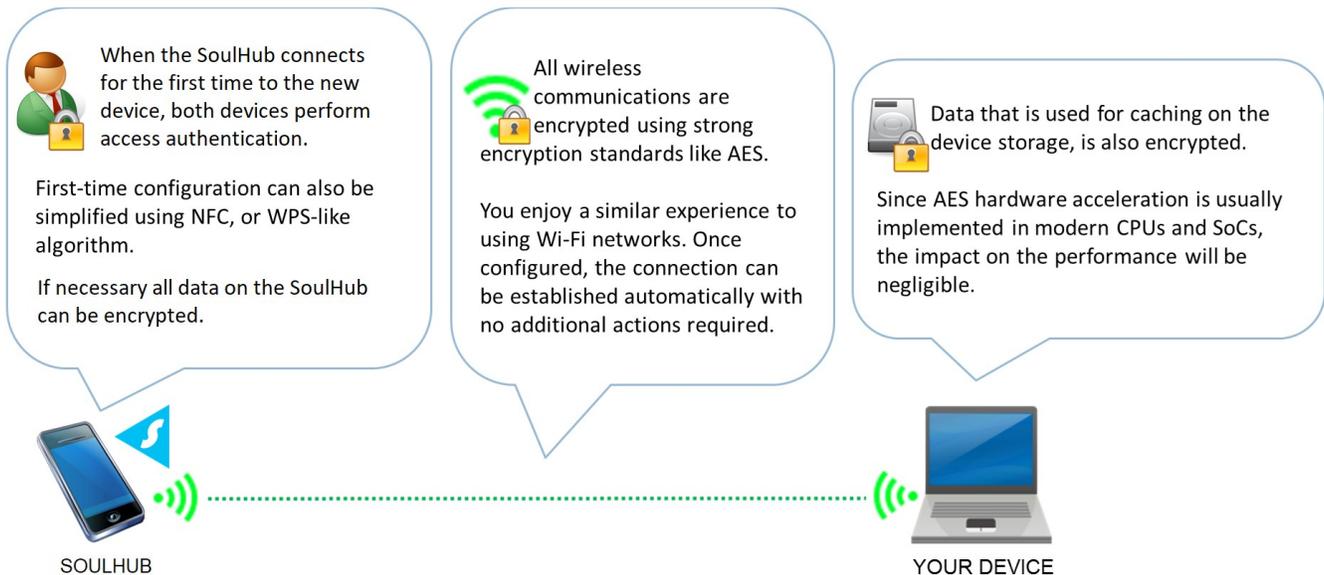


Figure 2: Security in the Soul Concept

6. What about adding/replacing devices?

Adding a new device is fairly simple for you. Here is an example process:

- You turn on your device which is a computer/tablet/console/etc.
- It presents you with an option "*Press [button] to use the SoulHub*".
- After pressing [button], user performs authorization process (by entering the same passcode on both your device and the SoulHub, or using near field communications (NFC) if available), then OS boots and automatically installs drivers for new hardware.
- That's it. From a user experience standpoint, all subsequent bootups on this device are performed seamlessly.

In case your new device is not yet compatible with the Soul technology, you can simply insert a special USB dongle and change the boot order in BIOS/UEFI. You do not even need to authorize devices because the SoulHub and the dongle are preconfigured for secure communication.

In case you buy a new device, replacement is equally simple. All you need to do is connect the SoulHub to the new device, and this device seamlessly becomes part of your ecosystem.

7. What about automatic backups?

Due to the fact that the SoulHub frequently connects and works with devices that have their own storage drives, it is much easier to organize regular automatic backup to these drives. We foresee the Soul Concept as having an automatic backup process.

8. What are your everyday experiences like with the Soul Concept?

The Soul Concept enhances your everyday experiences such as communication, driving and entertainment in many ways:

8.1. Your communication experience with the Soul Concept

- You get a phone call while working at your PC/laptop/tablet. You receive a notification on your PC screen and you answer the call using your PC/laptop/tablet.
- Alternatively, you answer the call using your mobile phone. This is possible because the speaker and microphone of mobile phone are recognized by the OS as ordinary wireless headset.
- This flexibility is enabled because the OS recognizes the internal components of the mobile phone such as the microphone, sensors, GSM module and even the display as connected external devices.

8.2. Your driving experience with the Soul Concept

- Your car navigation system remembers the address of a restaurant that you found via your smartphone one week ago thanks to the enhanced synchronization capabilities of the Soul Concept.
- Contact books with addresses on your PC, on your laptop and in your car are always the same, even without an Internet connection.
- When your spouse gets behind the wheel of your car, the whole electronic system of the car is completely personalized for him or her.
- The music or videos that you downloaded yesterday to your home PC are immediately available in your car.
- You can use Skype in your car as well as any other of your PC software.
- If necessary, you can use any function of your PC (from computer games for kids in the back seat to receiving business emails). Moreover, you aren't limited by your phone's or tablet's performance because in-car hardware can be more powerful and less energy constrained than

your phone or your tablet.

8.3. Your entertainment experience with the Soul Concept

- When turning on your smart TV, you can view yesterday's party photos without thinking about any connections or data transfer.
- On your TV you can use the familiar environment that you have customized for yourself.
- You are able to view and even edit documents in full-fledged Microsoft Office on your TV.
- Buying a new TV? Just connect it to the Soul device and there is no need for additional effort. For example, you don't need to enter your password for Skype or streaming services and don't need to synchronize browser history.
- Do you prefer a specific browser? Now you are not limited to the browser and software which were pre-installed on your TV.
- You can personalize your TV just like you personalized your computer.

9. Can you work simultaneously and in parallel on several devices?

We foresee the possibility of using different approaches in the SoulHub to implement full-fledged parallel work of several host systems.

Notices

“Soul Concept”, “Different devices, single soul” and  are trademarks of SimpleWay Technologies Ltd. All other trademarks are property of their respective owners.

The Soul Concept is patented. For further details, please refer to <http://www.simpleway.ie/patents.php>.