

Wireless Display Technology for Smartphone Devices

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Abstract

Wireless Display Technology for Smartphone Devices is the wireless display sharing technology which delivers the capabilities of wireless display to the business users and the smartphone users in wireless environment. Wireless Display Technology is embedded and integrated into the chip called Wireless Display adapter for Smartphone. Its display adapter enables the users to mirror the screen and displays whatever is on the phone screen. Wireless Display Technology is supported with the smartphone devices or tablets screens etc. wirelessly displayed on the user's Television which is supported with the Wireless Display Technology, which supports the maximum resolution up to 1080p.

Using the Wireless Display standard the WiFi connectivity technology on the user's smartphone devices or handheld tablet devices screen is wirelessly displayed on the TV without any usage or the need of cables in a living room. Users can browse or surf on the Internet, play HD videos and users can enjoy the slideshows wirelessly on the TV from the smartphone device without the need of wire connectivity of user's device to the TV by using the wired HDMI or the audio video cable connectivity.

1. Introduction

Wireless Display Technology for Smartphone Devices is highly manageable and provides high-end capabilities in the smartphone devices and is also compatible with smartphone device Processors. With the wireless display technology

the smartphone user can prevent the outsider screen access to the user's network by making the use of direct wireless display connection to the wireless enabled display devices, wireless display adapters and the wireless display projectors etc. It is not that easy to design the wireless display devices. The end-users or the smartphone device users can project their tablet or phone screen wirelessly to another user's smartphone device and can also interact with the help of wireless display screen whiteboards. The interactive smartphone's screen will be displayed by using this innovative smartphone wireless device. So that the each and every user can view the presentation or the smartphone's entire screen in projected device and wireless presentation can be displayed from their own smartphones, iPads and Tablets. The users can make the use of the annotations and can also save their workspace data in the viewing device such as user video screen data can be saved if it is viewed on desktop computer or also can record wireless display projection device.

2. Requirements

- Requires a smartphone or tablet enabled with Wireless Display Technology
- Requires destination device enabled with the Wireless Display Technology such as Desktop Computer or Wireless Display Technology enabled Projector or Wireless Display Technology Enabled TV or Laptop

- Smartphone integrated with builtin WiFi should support up to 250 Mbps 802.11 a/b/n/
- Device's Network Frequency must be enabled with 2.4 & 5 GHz
- WiFi Direct integration
- Internet Connectivity through an existing WiFi network connection
- Should be enabled with the mirror projected smartphone screen on laptops or TV or projectors or tablets
- Security Session Login Code Integration such as WEP/WPA key etc. for advanced security purpose

3. Wireless Display Technology

Wireless Display Technology is the wireless phone screen sharing technique where smartphone user can share his/her phone screen with the other devices without any wired connectivity. This technology is the fast rate with the adoption conception of the smartphone or the tablet handheld devices, it is made with the optimized digital content compression and the consumption with many of the largest growing areas in the upcoming client technologies and it also has the flexibility with the Wireless Display enabled and the WiFi enabled devices which also has extremely optimized and customized in order to enable the technology growth in wireless technology.

Wireless Display Technology has also established itself as the wireless international standard and it also has the extreme popularity and growth in the various companies and the inter-communication wireless display networks and wireless display access points in internal places can also be easily shared with the other computational wireless display devices and it has enabled the smartphone users to gain easy access to the phone screen sharing device and users can also view the online multimedia content on the destination wireless display devices. The smartphone user experience can also be further optimized and enhanced by enabling the smartphone devices with the wireless phone

screen video streaming on the high definition televisions and wireless display projection devices which is enabled with content optimization and content compression with the support of high definition display from the smartphone devices.

Many wireless display adaptors are currently available to the users that the users can enable wireless display streaming option to share the phone screen videos to the external wireless displays. Any how the Wireless Display Technology Solution is required for smartphone users to run it on closed eco systems such as Wireless Display Smartphones, Wireless Display Enabled Laptops, Wireless Display Enabled Televisions and Wireless Display Enabled Projectors etc. Another open-standard such as the wireless DLNA is also one of the technology similar to Wireless Display Technology.

Wireless Display Technology has some limitations such as limited to wireless access within its range and coverage of the wireless signals, It also supports the streaming of music, videos, photos, slideshows, High Definition play back etc. without making the use of wires or wire connectivity.

4. Architecture

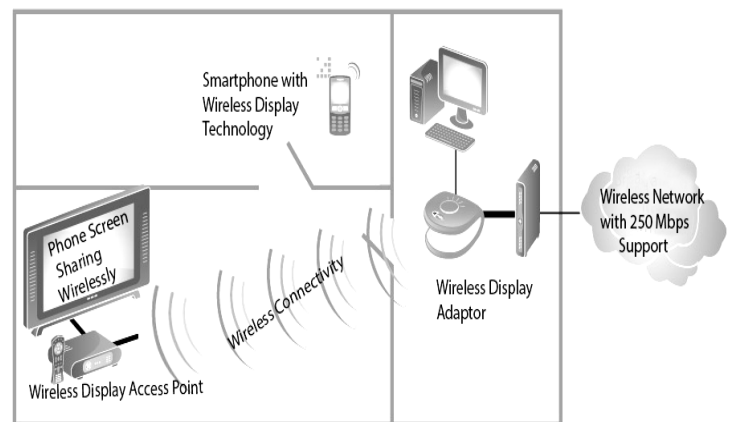


Figure: 1 Architecture – Wireless Display Technology for Smartphones

5. How it Works?

- Wireless Display Technology enabled smartphone basically works with the help of

wireless display tools which is pre-installed software in the smartphone device or any other wireless display device.

- It is the optimized wireless display solution for the smartphones which is completely comprised and depends on the two major wireless data components such as the phone screen sharing video process block and the standard compliant and compatible wireless display technology network stacks.
- These two blocks plays major roles in the wireless display streaming process. It also takes the advantage of the multi-sharing streaming which is mainly supported by the high end graphics engine of the smartphone for high definition rendering and dedicated hardware optimization for streaming with the help of coders and decoders in order to accelerate the screen sharing data content from the smartphone device
- With the help of the high end rendering graphics surfaces of the smartphone device and it supports the maximum resolution for bit streaming of the video frame during the streaming process.
- The wireless display sharing process which performs the compositional operations before bit stream is wirelessly transmitted to the destination device. It works with the minimum reduced latency frequency with the high end quality for streaming high definition videos for clear transmission.
- **Performance**
- Performance of the Smartphone enabled with Wireless Display Technology mainly depends on the smartphone device's processor, GPU Unit and the Wireless Display adaptor's bandwidth capacity.
- Phone screen sharing via Wireless Display technology results in high performance.
- The network latency is high in streaming process and the network packet time delay between the wireless display access point registration and pairing at the source wireless display device and the phone screen is wirelessly displayed on the remote wireless display monitor device, it is an

extended area which can be easily and greatly impacted on the user's phone screen sharing experience wirelessly without the need of cable connectivity.

- It also has an integrated advanced smartphone screen auto capturing technology. The performance of image streaming and the processing of the wireless network device is high and is especially suited in order to reduce the impact and for inheriting the characteristics of the wireless technology to the latest Wireless Display Technology.
- One of the main aim and approach is to reduce the network latency in the wireless display network cloud and it can be compressed by starting the smartphone screen sharing and capturing process while its streaming for reducing the excess number of the wireless operations on the network which is required for wireless display access point connectivity for establishing its connectivity to carryout task given by user.
- It also results in the enhancement and improvement of high performance by passing the multimedia data over the wireless display network stack as fast for the current wireless sink device to the wireless display device to the wireless remote monitor over the wireless network.
- The user can give multiple inputs at the wireless display source device which also can be observed the wireless display virtually and instantly.
- Therefore, by enabling the performance booster integrated driver which can intensively improve the capabilities of the screen sharing application such as the wireless display sharing with the high quality on destination wireless display device.

6. Advanced Features

- Share phone screen or share the video stream with every wireless display enabled device in the current living room or within the premises
- Users can customize the Wireless Display network name and access point name

- Users can connect to the multiple wireless display devices at once or simultaneously
- End-Users can view the 1-3 sharing screens at once in order to compare with the multiple wireless display devices.
- It can be connected to the laptop devices and smartphone devices at once
- It can be controlled your laptop with a smartphone device which is enabled with Wireless Display Technology
- Users can broadcast the smartphone device screen to computer and it can also be wirelessly broadcasted to the big screens or whiteboards enabled with Wireless Display Technology.

7. Conclusion

Wireless Display Technology for smartphones is the concept of sharing the smartphone or phablet's screen with the other device which is enabled with the Wireless Display Technology. The wireless technology growth in the smartphone devices has the advanced feature with the wide range of usage with the wide and extended sharing capability and availability of the Wireless Display Technology, which has driven the wide range of network data consumption of the digital multimedia data content over the wireless network to new and the wide or extended growing levels of the wireless display technology.

By leveraging the Wireless Display Technology extended capabilities which can also be connected or shared with all the smartphone or phablet devices within premises (i.e. OnPremises Access). It improves the wireless sharing performance with the help of high performance based smartphone processor with advanced processing which can deliver the class of wireless display solution to the smartphone users.

It can share the device screen in conference rooms before the wireless data content is displayed and has the ability to share seamlessly and it enables the presenters easy gain access to the users.

We here by conclude that, Wireless Display Technology can also be used in the smartphone devices for sharing the phone's screen, presentations, videos, broadcasting etc. Therefore, this technology is also known as fast growing wireless technology. Useful for both the business people and the end users.

8. References

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