

VNC[®] Automotive



Driving innovation



RealVNC is at the forefront of driving innovation between mobile and vehicle. VNC[®] Automotive, based on VNC technology, is fast becoming the standard for mobile to vehicle integration and cloud connectivity.

VNC Automotive allows real time display and control of a mobile device from a vehicle infotainment system. The screen of the mobile device is replicated on the head unit, giving drivers access to all of their mobile content, such as navigation applications, traffic updates, music libraries and internet radio stations whilst on the move. The mobile device can be directly controlled from the infotainment system touch screen, vehicle bezel keys, steering wheel switches and by voice command, ensuring the content can be accessed safely and simply.

The technology also enables the head unit to maintain a connection back to, and from, a remote desktop PC, enterprise

systems or cloud based applications. This link can be used by field based personnel to access CRM systems, or automotive manufacturers to extract telemetry information, such as service data or to update system firmware. Additional up-sell opportunities could be offered such as upgrades to 3D maps and to deliver location based advertising such as the nearest gas stations or best value parking.

As a core member of the Car Connectivity Consortium, RealVNC is committed to creating a common standard for integrating mobile devices and applications into the in-car environment and delivering a seamless, safe and effortless user experience. VNC Automotive supports the most comprehensive range of standards, including RealVNC's VNC protocol, MirrorLink and iPod Out, to provide the widest range of mobile handset coverage from a single head unit HMI.

www.realvnc.com/automotive

CUSTOMER FOCUS

VNC Automotive has already been incorporated into many leading automotive manufacturers production cycles and adopted by numerous major equipment suppliers. Available as two software components, a VNC Server is installed on the mobile device and VNC Viewer on the head unit. VNC Automotive is designed to integrate seamlessly with head unit systems and provides a wealth of opportunities such as customization, revenue potential and the ability to offer a superior driving experience.

SIMPLE INTEGRATION

The technology does not require any special development work by the automotive manufacturer or Tier one; it can simply be integrated into their product or service offering, instantly enabling VNC connectivity. The VNC Server component is available as an aftermarket application rather than being embedded at the point of mobile device manufacture, providing support for legacy and existing handsets as well as the ever emerging range of new mobile devices on the market.

FLEXIBLE SOLUTION

Both software components of VNC Automotive can be adapted, giving automotive manufacturers and Tier ones ultimate control should they want to 'build' on top of the solution. This can range from branding to tight integration with the infotainment system and mobile device, for example where addresses may be synchronized between the phone and an on-board Satellite Navigation system. Whilst the mobile device user interface (UI) is replicated on the infotainment system, the automotive manufacturer or Tier one is not forced to use this standard look and feel, they can adapt the replicated UI to their own requirements, incorporating additional branding and design features if desired.

VNC Automotive provides extension capabilities to implement driver distraction mechanisms, such as interlocking vehicle speed with access to mobile applications. Extensions can be readily incorporated, providing a richer experience for the driver.



'VNC Automotive is the most comprehensive and mature solution, with the widest range of cross-platform device support and features, it is allowing us to accelerate the development and delivery of solutions to Automotive OEMs'

Hideyuki Tamura, General Manager, Software Development Division, Clarion

REVENUE OPPORTUNITIES

The VNC Server software component for the mobile device is used to create an after-market application tailored specifically to the automotive manufacturers or Tier one supplier's requirements. The resulting mobile application is sold via the relevant application store, providing an additional revenue stream for the manufacturer. Given the continued projected growth in the application market, this provides significant opportunity to both automotive and infotainment system manufacturers.

WIDEST PLATFORM SUPPORT

RealVNC has decades of experience as the leading cross-platform remote access provider, this expertise has been transferred to the Automotive market enabling VNC Automotive to support the widest range of mobile devices and head unit operating systems. For a full list of the many platforms that are supported please see the VNC Automotive Datasheet.

GUARANTEED INTEROPERABILITY

The VNC Server and VNC Viewer are built and tested together guaranteeing interoperability. The components have also been carefully optimized to maximize performance. RealVNC removes the burden from automotive and infotainment manufacturers of having to keep pace with the ever changing mobile industry and infotainment markets by automatically maintaining the VNC software components for all operating systems and new devices. VNC Automotive also supports other connectivity protocols such as MirrorLink, a standard based on VNC, and iPod Out.



EXCELLENT PERFORMANCE

VNC Automotive is the most robust, mature and high performing solution on the market. RealVNC is the original developer of VNC technology, which underpins the solution. RealVNC has a dedicated team of engineers for VNC Automotive, ensuring bespoke customer needs are met and product performance for the end user is exceptional.

DRIVER EXPERIENCE

Traditionally the use of mobile phones in vehicles has caused concern regarding driver distraction. Conversely, the carefully considered integration of mobile device and infotainment system can actually provide the opportunity to tightly control accessibility to mobile functionality, restricting or prohibiting the use of certain functions that are deemed unsafe to use whilst driving. The head unit can communicate to the phone application and the UI can be suitably configured to show a simplified interface, with larger fonts, clear icons and hence be appropriate for use whilst driving. Using VNC Automotive allows such capabilities to be customized to the automotive manufacturers specific needs, such as interlocking speed with mobile functionality, ensuring that safety issues such as driver distraction are proactively minimized.





BEYOND THE VEHICLE

The application of VNC Automotive technology is limited only by industry imagination. We predict there will be highly personalized and intelligent navigation systems, social networking on the go, concierge and location based services, directed advertising and personal multimedia entertainment developed specifically for mobile use in-vehicle. VNC Automotive facilitates two-way communication; going beyond mobile UI replication and manipulation from the infotainment system, to a true interaction between vehicle and mobile. For example a mobile app could be monitoring the driver's fuel consumption and be set to detect the best priced gas stations, alerting the driver and providing directions on a map when fuel gets low.

The manufacturer dealer network may access the vehicle information and provide remote assistance, for example when an engine warning light comes on the service centre could access the car dashboard and tell the customer exactly what the indicator means and provide instant advice to the specific warning. This technology also enables drivers to 'connect out' of the vehicle and access a remote computer or cloud system from the vehicle head unit, in an age when remote working is increasing but so too is time spent in vehicles, the car will double as a remote workstation for sales forces and road warriors.

As both the global mobile and automotive industries grow in technological sophistication, VNC Automotive is set to play the central role in their convergence.

'We're proud to be a part of such innovation that has efficiency, convenience and clever integration at its core'

Bob Joyce, Group Engineering Director, Jaguar Land Rover



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At work



In the home



On the road



Integrated