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New *iGR* white paper describes benefits of SOLiD architecture for implementation of Het-Net solutions

Free white paper highlights an innovative implementation approach

AUSTIN, Texas, September 16th, 2013 – Mobile bandwidth demand is rapidly increasing around the world. In North America, *iGR* expects that by 2017 the consumption of mobile data per month will increase more than six times over its level in 2012. But, the deeper issue gets lost in this statistic. Within any given geographic market, there will be locations where the mobile data network will be unable to meet the average level of data demand simply due to the congregation of large numbers of users.

iGR has modeled the bandwidth demands and network capacity for several markets and shown that ‘pain points’ exist in the network. To address this problem, mobile operators have to deploy new network capacity at these specific locations to address the demand at certain times during the day. This is the ideal application for small cells (including remote radio heads, DAS, WiFi and pico/metrocells), which provide added capacity at specific locations.

While there are challenges to small cell deployment (cost, location and the availability of suitable backhaul), *iGR* believes their wide spread deployment is inevitable and that the industry will solve the implementation issues. For the mobile operator, flexibility will be required when designing and building small cell networks.

iGR's new white paper, *Fronthaul: The New Paradigm for Enabling the Het-Net*, is available for free and describes fronthaul and backhaul solutions used in a Het-Net solution that includes Remote Radio Heads (RRHs). The white paper also describes in detail a deployment in South Korea, where the mobile operator used SOLiD networking equipment and extensive use of existing 3G fiber backhaul to reduce the time required to launch LTE.

“Mobile operators are exploring myriad strategies that enable them to place radios closer to where smartphone users are to achieve network densification,” said Seth Buechley, President of SOLiD. “The deployment of Remote Radio Heads and fiber fronthaul transport by an innovator

such as SK Telecom demonstrates the advantages of this network architecture and provides a sample blueprint for how US-based wireless carriers are likely to implement the Het-Net.”

“The importance of providing a quality fronthaul/backhaul connection to a small cell cannot be overemphasized,” said Iain Gillott, president and founder of *iGR*, a market research consultancy focused on the wireless and mobile industry. “The success, or failure, of the het-net and small cell architecture depends on the operator’s ability to deploy fronthaul and backhaul that is appropriate to both the immediate data demand and what is forecasted.”

For the mobile operators, there are several economic drivers supporting the combination of RRH, fronthaul/backhaul and base station ‘hoteling’:

- Location – since RRHs are much smaller than traditional cell sites (since the baseband is located in a central data center), they are typically easier to locate. RRHs are also lighter, require less power and have better aesthetics than traditional tower-mounted macrocells. Metrocells and picocells also enjoy many of these benefits.
- Flexibility – with a RRH architecture, the baseband is located in a central data center while the RRH is located at the required site. The baseband can be upgraded independently, if needed, and without the need to visit the cell site. Similarly, the fronthaul (between the RRH and the baseband) can be reconfigured to make best use of the available resources. And if a RRH needs to be moved (to accommodate changing coverage or capacity requirements, for example), only the RRH (and its fronthaul), and not the baseband, needs to be moved.
- Reduced maintenance – RRHs have enclosed power supplies and generally do not require environmentals (heating, AC, etc) since they usually rely on passive heating and cooling. A fiber connection (typically using CPRI) connects the RRH to the baseband in the data center and a short coax connects the RRH to the antenna on the tower or building. This results in improved reliability and hence reduced OpEx. And since the basebands are all located centrally in a secure data center, maintenance does not require a trip to each cell site.
- Ability to reuse existing networking – RRHs mounted on buildings or in downtown areas can generally take advantage of existing fiber networks from commercial providers. If no fiber is available at the exact location needed, a fiber loop is usually a short distance away. The ability to use commercial networks can reduce CapEx and OpEx compared to the mobile operator having to build a dedicated backhaul network.

The new white paper is free and can be downloaded directly from *iGR*’s website at www.iGR-inc.com. Alternatively, contact Iain Gillott at (512) 263-5682 or at Iain@iGR-inc.com for additional details.

About *iGR*

iGR is a market strategy consultancy focused on the wireless and mobile communications industry. Founded by Iain Gillott, one of the wireless industry’s leading analysts, in late 2000 as *iGillottResearch*, *iGR* is now entering its thirteenth year of operation. *iGR* continuously

researches emerging and existent technologies, technology industries, and consumer markets. We use our detailed research to offer a range of services to help companies improve their position in the marketplace, clearly define their future direction, and ultimately improve their bottom line.

iGR researches a range of wireless and mobile products and technologies, including: smartphones; tablets; mobile applications; bandwidth demand and use; small cell architectures; DAS; LTE; VoLTE; IMS; NFC; GSM/GPRS/UMTS/HSPA; CDMA 1x/EV-DO; iDEN; SIP; macro-, pico- and femtocells; mobile backhaul; WiFi and WiFi offload; and SIM and UICC.

A more complete profile of the company can be found at www.igr-inc.com.