



# Technology Brief...

June 5, 2006

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## NOC-NOC: Who's There?

The war of words continues over which is better: email delivered wirelessly through a Network Operations Center (NOC), or pushed directly from server to device without an intermediary step. Those companies that deploy NOCs to deliver push email (e.g., RIM, Good) argue that because of cellular's switched circuit network and the roaming from cell to cell of data enabled devices, there is no way for an individual device to maintain its network address continuously, as would be the case within an IP based network, and therefore a NOC tied directly into various carriers can act as a buffer: with the NOC looking to the server behind the corporate firewall as a constant IP address which the server can then use to push out information. The NOC receives that information, and acts as a switch to then route the information to the device based on the address it has obtained from the specific carrier.

Detractors of the NOC system argue that since the data must be routed through a server in the NOC, it is subject to possible security breaches. Further, since the NOC routes the information to the devices, should the address translation table be defective, it could send a data stream to the wrong device and allow the user of that device to read a message intended for the private use of another party (this has happened in the past but is a very rare event). However, since any adequately secure system that transmits data through a NOC would encrypt the data from the originating server straight through to the receiving device, the loss of any data within a NOC is a minimal risk and security breaches on that data are highly unlikely.

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Those companies utilizing non-NOC based systems (e.g., MSFT, Nokia) argue their system is superior as it eliminates the middleman. However, mobile devices change addresses frequently due to network induced changes. In order for these systems to work, the device must regularly "ping" the server, essentially saying to the server "here I am and this is my address, send me any data you may have for me". One effect of this schema is that the device has to regularly transmit "pings" in order to initiate receiving traffic, thus shortening battery life. Further, should the device stop the "pinging", the server will not know where to deliver its data (though arguably if the pings stop, it is because the device is off

line or powered off, both of which would cause the data not to be delivered in any event).

The NOC vs no-NOC debate has recently moved beyond email and into the mobile applications arena. Antenna Software has made a business of running a NOC in its NJ location specifically for mobile field force applications. The application runs on its server, and queries the SAP, Siebel, Oracle, etc. data behind the corporate firewall, formats it for the device and sends it out (or receives it back from the device and reverses the process). Though most companies still prefer to run middleware servers for such tasks from behind their own firewalls, Antenna is seeing a ready market among many companies with relatively small deployments (tens to hundreds of seats) who don't want to manage the complexity of a middleware application (e.g., iAnywhere, Intellisync).

**Bottom Line:** There is currently room for both NOC and no-NOC based mobile solutions. Both have proven to be reliable and secure. The argument over "push vs ping" is a moot point for most companies and users. Companies should choose based on cost, reliability, security and overall performance/capability. As we move to fully IP enabled wireless networks in the future (in 3-5 years), the debate will become irrelevant, as NOCs will no longer be needed. Devices will be assigned a true IP address, so no address translation will be required, nor will the regular pinging back to the server (though because of legacy switched network infrastructure, NOCs may not go away for some time).



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