NetWise™

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# Reasons Why a Client Is Essential for Data Offload

Data offload has become a critical issue for mobile network operators (MNOs) as they attempt to cope with the explosive growth of wireless traffic generated by smartphones, notebooks, and tablet devices. In fact, Gartner predicts that mobile data traffic will increase more than 10x in the next several years, making an effective data offload strategy an absolute necessity for MNOs.

The primary methods of addressing the data offload challenge are "clientless" solutions and "client-based" solutions, such as NetWise™ from Smith Micro. Clientless solutions depend on internal network infrastructure to make traffic offload decisions while NetWise uses policy-based algorithms to redirect mobile data traffic where it starts—at the device level—***before*** it gets onto the core network.

While both approaches are capable of delivering basic data offloading functions, there are compelling reasons why an intelligent, client-based approach should be considered essential when deploying any mobile data network offload solution:

**1. The overwhelming majority (95% in some trials) of Wi-Fi usage is on private home or office access points.**
Clientless solutions can make secure connections between the operator network and the Wi-Fi hotspots provided by the operator or trusted service provider; they are not designed to offload to untrusted, non-operator controlled home and office Wi-Fi networks. A client makes secure connections over ***any*** (trusted or untrusted) Wi-Fi network.

**2. The #1 reason devices don't use Wi-Fi more frequently is because users turn their Wi-Fi radios off.**
A client automatically turns radios on and off, providing users with access to the best network resources available, without requiring user intervention. Clientless data offload solutions do not control Wi-Fi radios, resulting in inability to offload and network inefficiency. For data offload to occur with clientless solutions, subscribers must keep Wi-Fi radios turned on, which reduces battery life on mobile devices.

**3. A client can redirect data traffic "before" it gets on the core network.**
With a clientless solution, a device has to be "on network" to determine if there is an alternative offload path. A client can identify and connect to a Wi-Fi network without generating any 3G network traffic. The ability to manage data traffic where it starts—at the device level—dramatically reduces traffic load on the operator core network.

**4. Wi-Fi offload is only one piece of the traffic management puzzle.**
In addition to reducing network congestion with Wi-Fi offload, an intelligent client can manage other scenarios to help operators optimize their network resources and costs, such as automatically connecting to preferred roaming partners and onloading traffic to LTE networks. Clientless solutions simply don't offer this level of flexibility and advanced functionality.

**5. A client can manage network connectivity and entitlement at the application level.**
Clientless solutions can block traffic and identify unauthorized application usage, but they can only do so ***after*** the application has reached the network. An intelligent client can mitigate potential network performance issues, such as excessive signaling traffic and unauthorized app threats, ***before*** they reach the core network.

**6. A client can capture data across all technologies, both on and off network, to give a complete view of usage.**
Clientless solutions only provide visibility into connectivity and usage "on network," creating a huge blind spot for the network operator. The analytics component of a client-based solution provides a view of connection activity and data consumption across trusted and untrusted networks. This "closed loop" feedback mechanism allows operators to fine-tune their offload policies to ensure a superior customer experience.

**7. A client is far simpler to implement and can be rolled out in phases.**
A client can be deployed on a subset of subscriber devices and implemented in phases, making it much less complex and generally far less costly than deploying a clientless solution.

## Learn more about NetWise client solutions at smithmicro.com

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# Why Choose NetWise™ Over Other Client Solutions?

Choosing the right data offload client for your mobile network is critical. The wrong client choice today can result in expensive upgrades, poor network performance, and higher support costs in the future. Smith Micro designed NetWise to address these exact needs. This table provides a checklist of essential client features that should be used when comparing data offload client solutions.

| Essential Client Features | Description | NetWise Client Solutions |
|---|---|---|
| **Intelligent Policy Enforcement** | Manages data traffic based on operator-defined policies, events, and conditions (time-of-day, traffic type, radio signal strength, etc.). | √ |
| **Seamless Connectivity with Session Persistence** | Uses industry-standard authentication and encryption to provide seamless, secure data connections across 3G, 4G, and Wi-Fi networks. | √ |
| **Radio Management** | Automatically turns device radios on and off, enabling Wi-Fi access and data offloading without user intervention. Conserves battery power by shutting off radios when not in use. | √ |
| **"Closed Loop" Analytics** | Provides visibility into the amount of data used/offloaded by each access technology, and insights into daily Wi-Fi usage and connectivity patterns. | √ |
| **Adaptive Wi-Fi Promotion** | Encourages users to connect to Wi-Fi resources, such as home and office Wi-Fi networks, or free hotspots, by notifying the user about familiar networks and automatically connecting to remembered networks when stationary. | √ |
| **Automatic Authentication** | Supports authentication to WISPr access points (WISPr allows users to automatically authenticate to carrier or partner APs). | √ |
| **Device Tethering and App Control** | Prevents unauthorized devices and apps, along with excessive signaling traffic, from getting onto the network and consuming limited bandwidth. | √ |
| **Least-Cost Roaming** | Redirects data traffic to preferred or least-cost roaming partner networks based on predefined policies and rules. | √ |
| **Dynamic Blacklisting** | Automatically detects faulty or poorly performing Wi-Fi access equipment and redirects data traffic over alternative network paths. | √ |
| **Over-the-Air (OTA) Policy Control** | Provides silent, transparent OTA updates to mobile devices when there is a policy change (OTA updates are seamless and eliminate needless polling traffic). | √ |