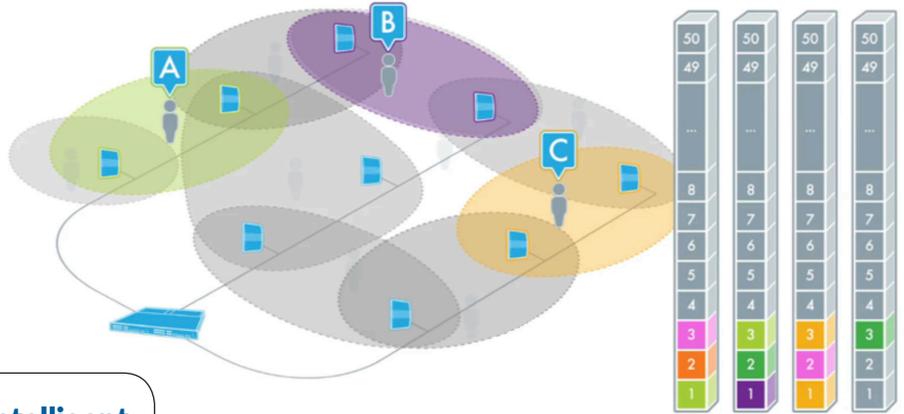


## Virtualizing the Cell

### What is Cell Virtualization?

Virtualization is a technique for wireless operators seeking to reduce capital costs and increase flexibility in their networks. To date, virtualization has focused on NFV for hardware-based functions, and cloud-RAN (C-RAN) enables NFV for mobile base station hardware.



Cell virtualization dynamically creates virtual non-interfering sectors on a per-physical resource block (PRB) basis.

**THE NEW IP**

**“Virtualizing the cell brings a more intelligent way to manage radio resources and optimize the use of spectrum.”**

**- The New IP, April 6, 2016**

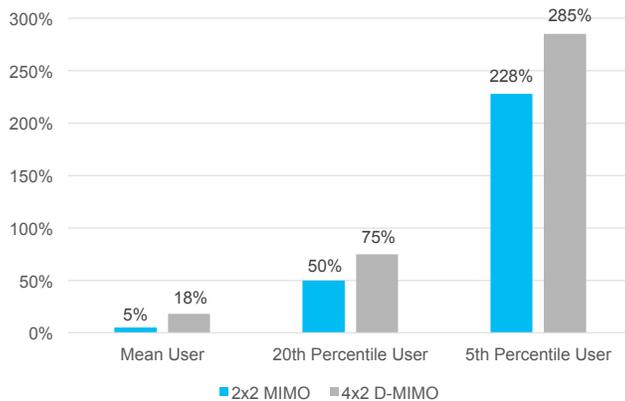
Now, cell virtualization—an emerging capability enabled by C-RAN architectures—extends the concept of virtualization beyond hardware and into the airwaves. It provides a way for operators to deliver more capacity on a given amount of spectrum without introducing cell border interference. Like network functions virtualization (NFV), cell virtualization delivers capacity more dynamically, where and when it is needed.

### What are the Benefits?

C-RAN-enabled cell virtualization lets operators re-use spectrum many times over within the footprint of a single cell by dynamically defining virtual sectors. The result is multi-sector capacity without cell border interference, for a significant increase in user data rates, especially at the cell edge.

Device battery life improves because the user devices need only track a single cell and because they transmit at a lower power level. Deployment is faster and lower-cost because much of the tedious RF planning is eliminated.

Cell Virtualization Performance Improvement



**ThinkSmallCell**

**“An important aspect of Cell Virtualisation in OneCell is that it works for all LTE devices in use today.”**

**- ThinkSmallCell, April 19, 2016**

### What is the status of Cell Virtualization?

CommScope's OneCell® C-RAN Small Cell supports cell virtualization. OneCell was created by Airvana, a leading small cell supplier acquired by CommScope in October 2015 to form CommScope Small Cells.