

Whitepaper

Tangible Benefits of Cloud Networking  
versus the alternative



[www.cranberrynetworks.com](http://www.cranberrynetworks.com)

## Maximizing the Cloud for Wireless Access Points and Hot Spot Management

Companies, both for profit and non-profit in the public or private sector key initiatives are to drive IT costs lower, while improving productivity, and availability in all of their departments, leveraging technology. In 2013 the fiscal growth for companies has been fueled by reducing costs. Innovative technology is a key area where companies look to lower expenses by leveraging technology.

Many companies are taking advantage of the Cloud, reducing expenses, while simultaneously improving productivity.

Gartner predicts that the bulk of new IT spending by 2016 will be for cloud computing platforms and applications with nearly half of large enterprises having cloud deployments by the end of 2017. (Source: [Gartner](#)).

## Comprehending Cloud Service Applications

The Cloud Computing service refers to delivery of software, infrastructure or storage via the Internet in real time and can be accessed by any device (as long as it's connected to the internet) at any time.

Cloud Computing is usually maintained by a NOC or Network Operating Center.

As opposed to traditionally having computing resources in house, cloud computing service provides a huge upside and workload shift from IT departments. IT no longer has invest time, resources or finances to run business applications, yet they can maintain control of it. In addition, the time spent on configuring, maintaining, and updating is eliminated as well as taking up storage.

The NOC handles the entire process and a web-based interface is provided for IT departments to manage and deploy applications.

Cloud services can started instantaneously. With a cloud service, you just open a browser, log in, customize the app, and start using it. For example, most of us already use some form of cloud service today such as Web-based email service from Gmail or file storage services such as Dropbox or iCloud. In addition, with the rapid growth of BYOD (Bring Your Own Device), cloud services enable users with their own personal mobile device to instantly access the application from anywhere and at any time.

There are seven key automated systems of cloud services that can be self-leveraged:

### **Cloud-On-Demand**

End users can provision computing capabilities, such as server time and network storage, as needed automatically without requiring the involvement of IT staff.

### **Enterprise network access**

Capabilities are available over the network and accessed through standard devices including laptops and mobile devices.

### **Hardware Resource Consolidation**

Hardware computing resources are pooled to serve multiple end users with different physical and virtual resources (storage, CPU's, memory, network bandwidth and more) that are dynamically assigned on demand.

### **Flexibility and Scalability**

Deploy hardware and software seamlessly, scale big or small in a matter of minutes.

### **Managed Service**

Resource usage can be monitored, controlled and reported to improve productivity within the enterprise and reported both to IT as well as the end user.

### **Charge-Back Services**

IT can now become a revenue center to further justify more resources to run the network

### **Multi-Tenancy**

Shared resources serve multiple consumers using a multi-tenant model, with different physical and virtual resources dynamically assigned and reassigned according to consumer demand.

## **Cloud Networking**

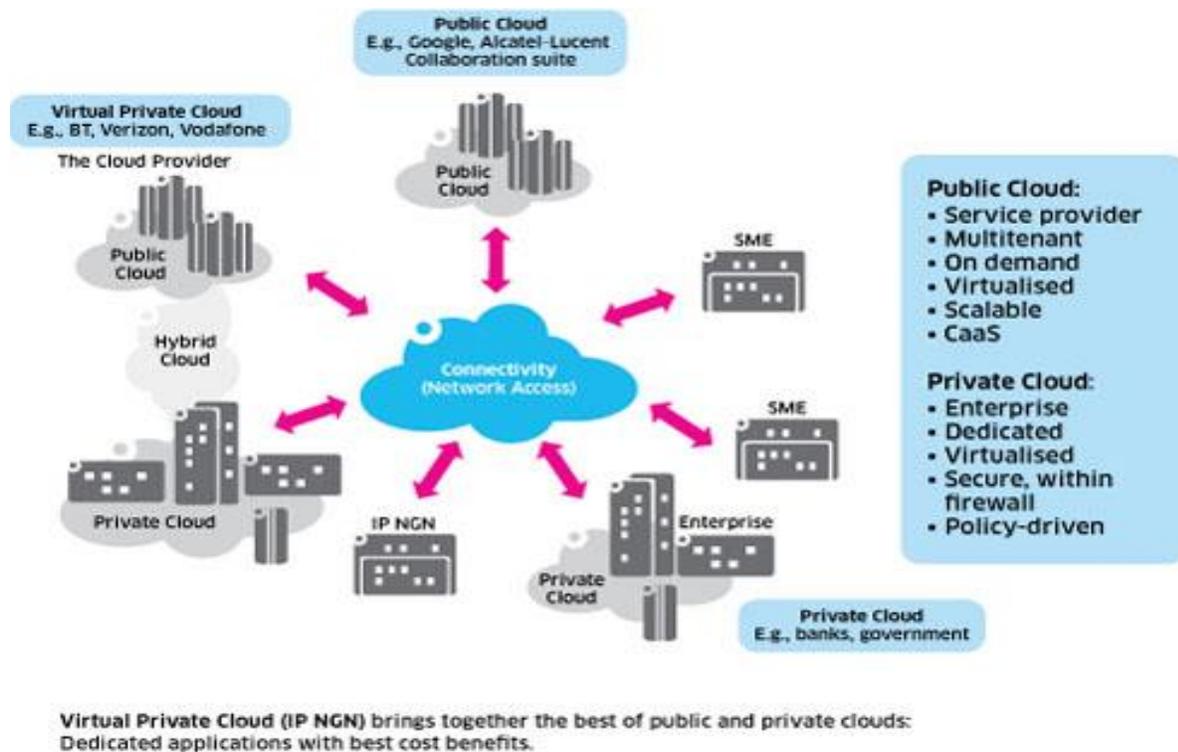
33% of the Enterprise IT budgets in 2013 were spent on the Cloud Services and Networking. Users are fundamentally shifting from desktop applications to the Cloud, in order to access their data from any device.

Unlike hardware based legacy solutions, cloud networking automates highly complex tasks and makes them extremely simple, enabling enterprises to deploy locations within minutes.

## Public Cloud Networking

Public cloud networking is when cloud providers makes networking applications available to IT users over the Internet with minimal deployment at the IT location. Private networking refers to a property architecture that provides hosted services to their company's users behind the firewall .This can be accessed via a VPN (Virtual Private Network) via a wireless or connected network.

Examples of Public Cloud networking could include Hot Spot Wi-Fi services at a restaurant, hotel, retail and universities as a way to promote their enterprise. It is important to measure how free or cheap Hot-Spot Wi-Fi tangibly increases visibility of the public's view of the enterprise. Hot Spot availability drives increases in foot traffic in retail and restaurant industries, while it is a must have for Universities in Hotels to sustain service and educational growth.



Source: Alcatel-Lucent Technologies, Inc.

## Private Cloud Networking

Private Cloud Networking promotes an availability of applications, documents and services behind a firewall. In previous architectures, users in an enterprise accessed documents via a secure VPN (virtual private network). Advanced Cloud Security software now allows users to access data over the Cloud that is protected behind network in minutes.

## Introduction of Cloud Managed Wireless Network

Cloud-based Wireless Management arose from a need to manage and deploy Wireless Access Points, while reducing the overall costs and time install, deploy and manage Wireless Access Points. Prior to Cloud-based Wi-Fi, IT departments had to physically visit locations, install, set up Wi-Fi infrastructures.

If a Wireless Access Point was inoperable and it was due to a software malfunction, then it had to be manually upgraded, fixed or physically replaced. This caused continuous frustrations for companies with distributed environments and multiple locations. IT had to manage these support calls without automation, which drove their costs higher and productivity lower.

Users had limited continuity of service they were limited to no Wi-Fi because once they were disconnected from one Access Point, they were not automatically connected to other Access Points within the network.

These are just a few examples.

## **Intelligent Cloud Wireless Access Points for all Business Sizes**

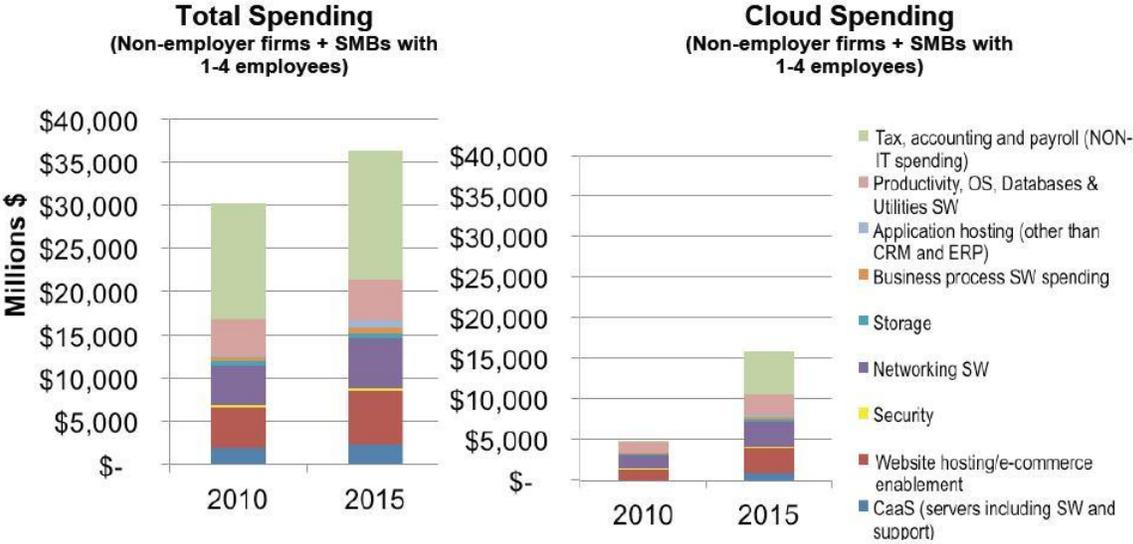
Not all Wireless Access Points are the same. There are three segments subsets of the enterprise:

1. Small to Medium Sized Business (SMB)
2. Small to Medium Sized Enterprise (SME)
3. Large Enterprise (LE)

*Small to Medium Sized Business (SMB)*

Small to Medium Sized businesses range from the single person start-up to the 1000 person multi-location company. IT personnel are usually at a ratio of 1:100 employees, with limited resources and a capital budget. If an SMB company has a distributed global environment, the deployment for Wi-Fi becomes a much greater investment if they want to insure their users have access and continuity.

Between 2010 and 2015, U.S. SMB Cloud Spending Will Increase from 16 Percent of Cloudable Spending to 44 Percent, or \$16 Billion, Driven by Tax and Accounting Applications and Web Hosting.



Source: Cisco IBSG, 2012

**Mobility = Increased Productivity.**

A Cloud based Wi-Fi Management solution with Intelligent Wi-Fi Access Points allows instant and remote configuration of each Wireless Access Point, where IT does not have to physically deploy each individual Wireless Access Point. More companies are investing in web hosted management applications. Cloud based Wi-Fi is a subset of this category.

*Small to Medium Sized Business Enterprise (SME)*

These regional and/or global corporations may have IT departments in multiple locations and geographies. An SME typically has 1000 – 5000 users within their enterprise. Stakeholders though further have thinned out IT departments to a ratio of one IT professional to 150 personnel because they justify leveraging technology and

demand scalability to grow. Configuration and maintenance in these enterprises are labelled as the primary challenge.

### **Cloud Managed Wi-Fi Productivity = IT to focus on other mission critical tasks.**

By using Cloud-based Wi-Fi access points, IT doesn't have to worry about configuration or any maintenance. This is generally fully taken care by the network operating center hosted on the Cloud. Most of these functions can be automated and managed.

### *Large Enterprise Business*

The larger the business, the less the IT personnel there are available to support to enterprise on a per employee level. Large enterprises are above 5000 personnel and can range up to several hundred thousand employees either regionally or globally. Some vertical industries claim to have less need for Wi-Fi and a much greater need for security. Financial institutions mandate users to access any application, network or documents through a virtual private network when remotely connecting. Larger companies are usually the last to adopt the latest technologies because the implementation and deployment are grave.

The trend though is changing.

According to Gartner, Cloud computing services will be the bulk of the spending starting in 2016. CIO's are finding ways to migrate their legacy systems to the Cloud either behind the firewall or through the public network. Wi-Fi is thus being used as a vehicle to allow remote users to communicate over the Cloud for remote users to access files, documents and applications.

Source: [Gartner](#)

### Cranberry Networks Cloudberry Cloud Controller

Cranberry Networks has pioneered agent-based Cloud Network Management. This is a technology that further simplifies the Cloud Management process by further reducing costs, yet providing optimal touch less management for a Wireless Network.

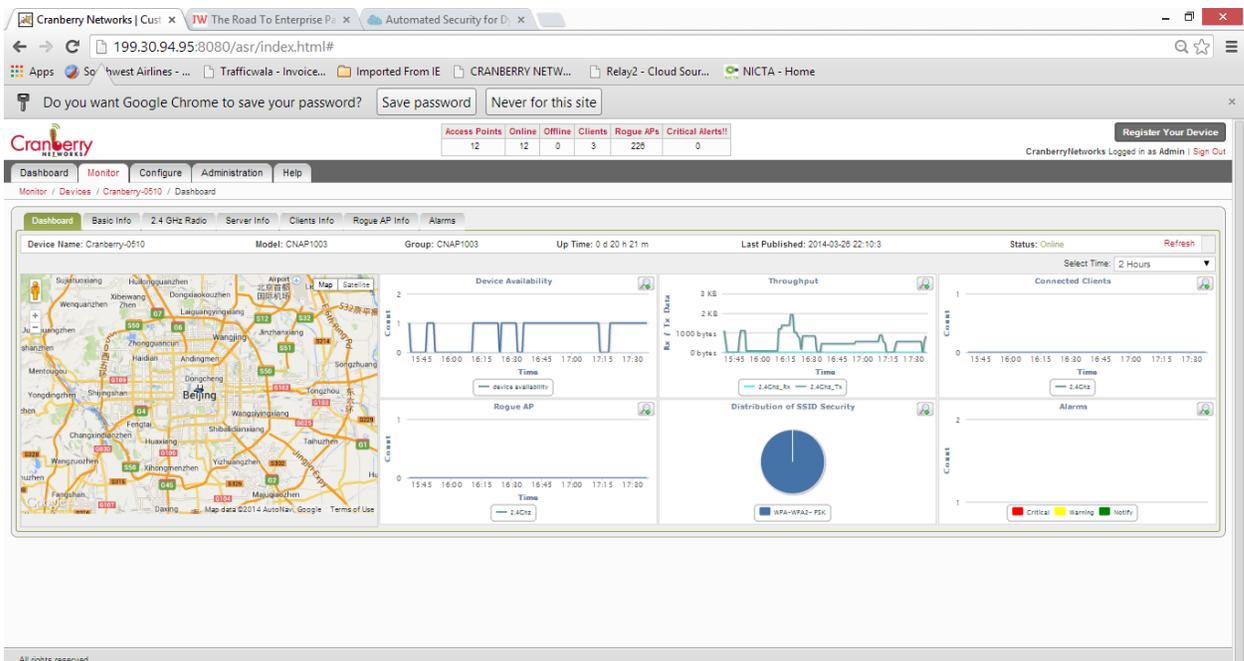
Traditional networking deployment requires resources to internally manage a wireless network by adding expensive Hardware Controllers behind the firewall of the company's private network. These hardware controllers are costly and limit the number of Access Points it can monitor and manage. Hardware controllers for wireless access points

range anywhere between \$5,000-\$50,000 per hardware console. Deployment of hardware controllers in distributed environments further requires IT staff or third party systems integrators to configure these controllers at specific branch sites.

The Cranberry Cloud difference involves an agent based technology that sends back data directly from the Cranberry Access Point to the network via the Cloud. This eliminates the cost of purchasing additional hardware, yet provides similar features at 25-30% of its competitors. The Cranberry RED access point is boxed with a plug and play technology that allows IT administrators to connect to the Cloud with a dynamic IP address. Once the access point is connected to the network, the Cloudberry Cloud Portal will auto-discover the new Access Point. Configuration, settings, firmware updates, and remote management can be performed from a thin web client on any computer or mobile device.

## Key Features for the Cloudberry Cloud Controller

- Captive Portal
- Remote Configuration for Wireless Access Points
- Remote Reboot for Wireless Access Points
- Heat Maps to detail signals and strengths of Access Points
- Customizable Views to set up monitoring interfaces
- Alert System Notifications for errors, omissions, rogue AP users and more.
- Enterprise Billing and chargeback services for over-usage and Hot-Spot Management



Cloudberry Cloud Controller portal offered as a SaaS (software-as-a-service) management system for the Cranberry Access Points. IT managers and/or systems integrators use Cloudberry statistics to insure that the company's Wi-Fi system comes with service levels targets of 99.99% up times and availability. As a Cloud-based managed service, internal IT teams can focus on other mission critical activities, while being notified on unusual Wi-Fi activity. Fixing and restoring functionality to an access point in a remote location can now be done with a few clicks of mouse.

As other personnel install Cranberry Access Points in remote locations, they will be dynamically discovered in the Cloudberry Controller.

Some of Cloudberry Cloud Controller advantages:

1. Eliminate hardware controller costs
2. Short term commitments (1 year terms) are available
3. All firmware software upgrades are managed by our staff and is seamless to IT
4. Access Point on demand – plug and play the AP and register on the Cloud
5. Reduce Capital Expense Costs

## Summary

Cranberry Networks further enhances touch-less Cloud Management by offering an agent-based Cloud Management network. While most organizations have adopted Wi-Fi, the cost to manage, administer and deploy Wi-Fi remains both time intensive and cost prohibitive.

The Cranberry Cloud Controller can be installed behind a firewall or in a network operating center, where a CIO of an enterprise is comfortable managing his security protocols from within or externally.

Cranberry Networks recognizes that more companies realize that Cloud is now a “need” not a “want”, because Cloud networking and services reduce the overall cost of IT in an organization on matter what its size.

