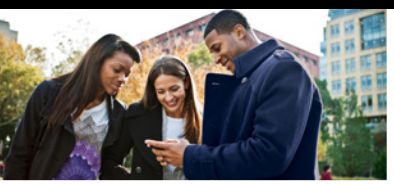
TOMORROW starts here.




Mobile Executive Briefing Center
coming closer to you.

CISCO Mobile Executive Briefing Center Demonstrations

SP WI FI

Solution Description

Cisco SP Wi-Fi solution provides a complete end-to-end architecture enabling the use of WiFi unlicensed radio technology in a carrier environment. It provides support for all authentication mechanisms including EAP-SIM and Passpoint™ (or Hotspot 2.0) that provides a secure and seamless way to automatically authenticate into a mobile network.

CleanAir is also part of the solution. It is a Proactive Interference Protection technology implemented in hardware that provides continual, system-wide detection, classification and localization of the interference without performance impact. It assigns a severity level to the interference and can take automatic action to mitigate it.

SP Wi Fi Demos

During the SP Wi-Fi demo, Cisco demonstrators are going to show the overall architecture of the solution, identifying the various components and highlighting how this architecture enables:

- Zero time provisioning, central point of management and resource radio management;
- Seamless authentication and mobility;
- Integration into an existing 3G or 4G packet core.

CleanAir Demo

This time the assigned severity will be very high; the system will wait for about 30 seconds to check that interference is there persistently. After that, the connectivity to the access point will be lost, and so by looking in Cisco Prime we can see that access point would have changed the channel that it was using. This shows that there is an automatic way to deal with interference that will affect the service. Severe interferences are usually caused by microwave ovens, audio video senders, remote controls for security systems and cameras. The system can also detect digital interference – such as Bluetooth links, DECT phones or other Wi-Fi access points purposefully using inverted WiFi or invalid WiFi channels to create a security attack, or simply to cause interference and disrupt the service (denial of service attack).

Customers will be able to see the CleanAir demo during which the demonstrators will connect from the management station to the spectrum analyzer inside one of the access points and generate two kinds of interference. The first one is Bluetooth scan interference and on the spectrum analyzer, the visitors will be able to see that the system is able to detect and classify the interference. It understands that this is Bluetooth from a mobile phone that is doing the paging. As this is low severity and the power density is not very high, the system does not take any action but still recognizes it. The demonstrator will then show a second type of interference which comes from an audio-video analog camera that transmits on the 2.4 GHz. This will also be recognized, and in the management systems of the Spectrum Expert visitors will see that the interference is correctly classified as a video camera.

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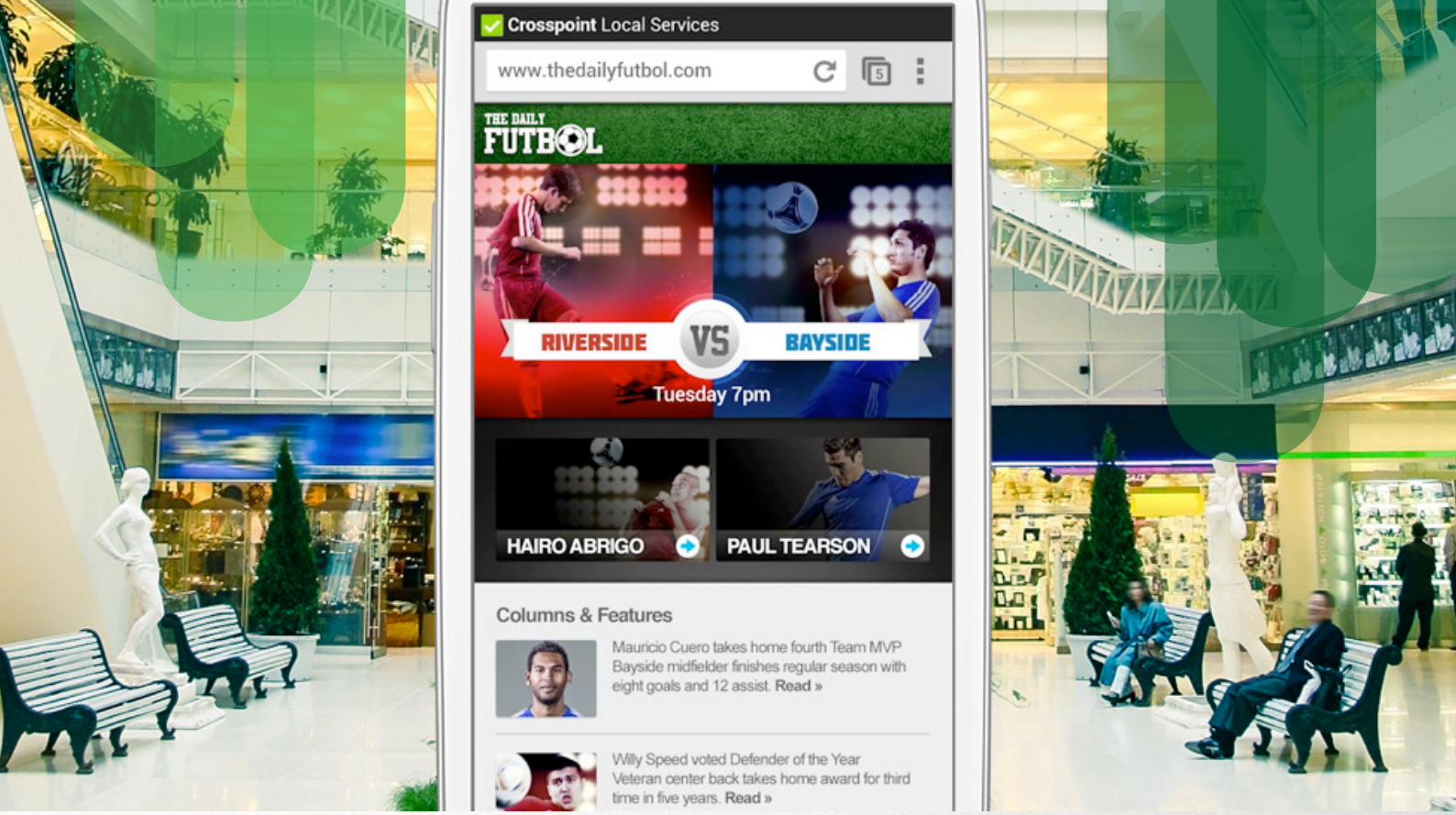


Seamless Authentication Demo

During the Seamless Authentication demo, customers will be able to experience three authentication scenarios. The first one is a traditional portal-based authentication. This is the experience that most hot spots provide today. They are several draw backs to this; users need to select the correct Wi-Fi SSID, wait to be redirected to a portal page and then remember the username and password (or get them from someone/ buy them). Most people do not like this kind of experience as it can take a long time to access the network, and the procedure to access the network is very complex. Many consumers give up using Wi-Fi before the procedure is complete. Not only that, but before they can access the portal, the access point has to give the client an IP address on an open SSID prior to authentication. This is unsecure and opens up the door to security attacks and the possibility to spoof the password. These types of drawbacks will be highlighted during the demo, and the demonstrators will provide possible solutions.

This leads us to the second scenario. Since customers of the Mobile operator are using mobile phones, there is a very strong and powerful element for authentication which is the SIM card. It stores the user's unique credentials. The demo will continue to show EAP-SIM by simply selecting a specific SSID configured with EAP-SIM authentication. This process is fully automatic. It also provides security end-to-end. No IP address is given before the authentication, all the dialog is based on EAP and 802.11x framework that also secures the air interface. This is now widely available on many platforms and devices on Android, Apple and Windows phones, for example.

A step ahead leads to the third scenario which is the next iteration of this seamless authentication: namely Passpoint™ or Hot Spot 2.0 or Next Generation Hot Spot. The demonstrators will explain how the dialog between the access point and the client has been enriched into this Passpoint™ environment. The access point will communicate to the telephone in advance which networks are available, and which authentication mechanism it can use. As such, the entire authentication process happens automatically without any intervention from the user into the system.
At present, this infrastructure is widely-available; Cisco has more than 43 combinations of access points and controllers already certified. Despite the fact that there are only a few devices today which are Passpoint™-certified, the industry is clearly moving in that direction. Proof of this is that the commercial availability of Passpoint™-certified smartphones like the Samsung Galaxy S4 as well as the new IOS 7 from Apple are embracing the Hot Spot 2.0 model.

Monetization and Analytics Demo

The last demo under SP Wi Fi is connected with monetization and analytics. This includes the ThinkSmart acquisition. The analytics can be applied to large venues like shopping centers, hospitals, and anywhere that the Wi-Fi service is operator-controlled and relies on the capability to calculate and track the indoor location of the client – this feature is unique to the Cisco Wi-Fi architecture.

This can be used for optimization purposes – for example, at an airport where authorities can understand the flow of passengers and act by sending more inspectors to passport control or by changing the security path.

The analytics can also help to track the dwell time that people spend in front of different shops in duty free. This information can be used by the SP to monetize, as they will be able to provide the airport owner with this information, which could result in a change in shop rental prices.

The live demo on location analytics will show floor 1 of the Cisco Paris office. The access points within the Paris office, track users and Cisco employees within the building.

Location-based information can also be used in real time, for example using an App on the Smartphone.
The demonstrators can also show several video case studies - Copenhagen airport, the Bellagio Hotel and Casino in Las Vegas and the Fernbank Museum.

There are also plans to have the new browser engaged feature. This is a feature that allows you, upon entering a venue and opening your browser, to get an icon that pops up on your phone supplying you with a menu of services for that venue. It is possible to have a directory and other useful information without the need to download a specific application.

Business Relevance

The real life situations of the SP Wi-Fi demos that will be shown in the Mobile EBC are all venues where mobile service providers want to offer a public service to customers. The experience of the end user will be exactly the same as if he or she is using the mobile phone for a data transmission. Everybody is accustomed to simply switching on their mobile phone and using it for phone calls or data transmission. EAP-SIM and Passpoint™ will offer a similar kind of experience. Simply because the Wi-Fi radio is switched on, the telephone is able to use Wi-Fi for transmission. This can be used at malls, train stations, public parks and on public transport, for example.

3G Small Cell Integration

Solution Description

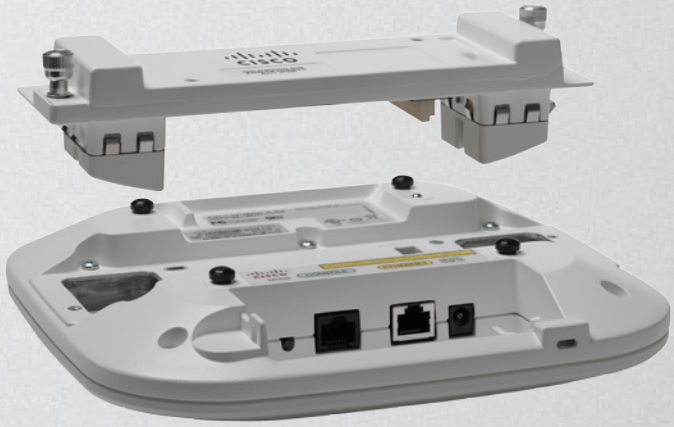
The Cisco 3G Small Cell Module is part of the end-to-end Cisco Small Cell Solution. It takes advantage of the modular design of the Cisco 3600 Aironet series (and also of the 3700 series). The solution allows mobile operators to rapidly deploy 3G licensed radio network extensions onto the footprint of the award-winning Aironet 3600 Wi-Fi access point, creating a new platform for mobile broadband services.

3G Small Cell Integration Demo

This demo refers to he new USC 5310 3G clip-on module. The Mobile EBC is equipped with 3600 series of Cisco and 3G module and the demonstrators will show the mechanics of how the module plugs into the access point and will also highlight the benefits of the easy installation. The only action required is to take off the access point, plug the module in and put it back into service. The module will share the same power supply from the access point and the same backhauling infrastructure from the corporate Ethernet. During the demo, the demonstrators will show the physical model and the mechanics. It is not possible to make the access point live, because in order to switch the 3G module, there is a need for permission from mobile operators to use their spectrum which is a complex process.

Business Relevance

When an SP needs to deploy 3G capacity and 3G coverage in a venue, where coverage of the 3600 Wi-Fi Access Points already exists, there will be virtually no installation costs when using the clip-on model. There is neither a cost for backhauling, nor for power. The only cost incurred is the capital expenditure for the module and the portion of the gateway and backend SP infrastructure (Femto gateway, Provisioning and Management Systems).



Cisco Quantum Self Optimizing Network Suite

Solution Description

Quantum SON suite is Cisco self-optimizing network (SON) platform which is capable of optimizing any radio network vendors. The platform is built using the multi-vendor, multi-access technologies concept. The SON applications enable the Operators to maximize their multi RAN-Technology and multi RAN-Vendor network resources by offering a quick response to network and environmental changes.

Self Optimizing Network Suite Demo

This is the Intucell acquisition of Cisco. There are several systems in operation today from different Service Providers, the largest one being AT&T with a nationwide deployment of the SON suite. The demonstrators will share videos and presentations about the various modules and how they work and what of the plans are for extending the suite to the Small Cell.

Business Relevance

Managing highest quality of experience (QoE), and optimizing the radio network (i.e. reducing drop call) are some of biggest challenges faced by mobile providers. Customers will be able to see video testimonials from AT&T. They have implemented the Self Optimizing Network suite into their infrastructure and are experiencing significant improvements in the key performance indicators of the Radio Access Network (RAN).

Additionally, the product roadmap will extend this SON optimization to small cells.

Cisco Unified RAN Backhaul Products

Solution Description

Cisco Unified RAN Backhaul reduces the complexity and cost of operating, deploying, and scaling backhaul of multivendor, multigenerational Radio Access Networks (RANs). The solution spans across a full portfolio of products for small cell backhaul (Cisco ASR 901s), macro cell sites (ASR 901), pre-aggregation (ASR 903) and aggregation (ASR 9000 series).

RAN Backhaul Demo

This is a product demonstration. The Mobile EBC carries the entire suite of products available to be seen and touched by customers. There are two ASR 901 products – one with Ethernet interface and another one with TDM and Ethernet interface. An ASR 901s is also available (the outdoor rugged version of the 901) which has been developed for backhauling the small cell. There is also an ASR 903 and an ASR 9000. As the demonstrators talk about the products, they will highlight the overall architecture with a presentation or with the KAON module.

Business Relevance

Meet today's network demands and prepare for migration to an all-IP RAN solution for 4G, including Long Term Evolution (LTE), with a solution that employs precision hybrid packet timing and phase synchronization, meets standards and interoperability requirements, and is simplified for multivendor, multigenerational, and multi-tiered deployments.

Cisco ASR 901 Series Aggregation Services Routers optimize, aggregate, and transport mixed-generation RAN traffic over T1, E1, Carrier Ethernet, MPLS, and IP transport networks.

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Cisco nV Technology

Solution Description

nV stands for Network Virtualization. It's a technology that Cisco uses in order to simplify the complexity of large IP/MPLS and Carrier Ethernet networks. Cisco nV technology lets operators extend Cisco ASR 9000 Series system capabilities beyond the physical chassis with "satellites" behaving as remote virtual line cards. With the capability to deploy high-density Gigabit Ethernet devices in the field, operators can provision the exact bandwidth they need, when and where they need it, with a single management and control plane. Network operators can scale thousands of Gigabit Ethernet interfaces without having to separately provision hundreds or thousands of access platforms, radically simplifying the network architecture and reducing operating expenses (OpEx).

Nv Demo

The demonstrators in the Mobile EBC can show a live nV technology demo with the ASR 9001 and the ASR 901 which is used as a satellite. At the beginning of the demonstration, with the ASR 9000 turned on and the 901 turned off and disconnected, customers will see that there are preconfigured interfaces that are not physically available on the 9000. As the ARS901 is connected and switched on, those interfaces will become active and will be seen as local to the ASR 9001 while they are physically on the remote ASR 901. At present, demonstrators show this on the command line, however the plan is to be able to show it from Cisco Prime. There will be a Cisco Prime server in the Paris Cisco lab that can control the ASR 9k on the Mobile EBC.

The points to highlight during the demo are:

- Zero-touch provisioning: the deployment of Ethernet service for a wireline operator will be extremely simplified with nV. The operator can build a cluster with one or two ASR 9K at the center of the network and up to 64 satellites which are smaller boxes and are seen by the software as a remote extension only, like a remote line card of the 9000. This process, in terms of provisioning, is fully automated and requires zero touch. The benefits for the operator will be that nV will lower the installation OPEX. There is no need to send a qualified technician to site. Additionally, the time it takes for the physical installation is just the time to install the equipment in a rack and connect a couple of cables. There is no Telnet into a console and configuration lines that need to be entered in the box.
- Increased scalability at lower cost: this is due to the fact that the satellite equipment, which is a cheaper box (compared to a 9K line-card), will have all the features of the ASR9000.
- Reduced MPLS network complexity: today with 3G network the MPLS core normally extends up to the pre-aggregation layer. When a Mobile SP starts deploying LTE, and there is a need to have direct communication between the radio sites, they have to extend their IP network and the MPLS network till the Access. This makes the overall size of the network in terms of IP devices and IP MPLS devices quite large. With nV technology, as every cluster, including the 9K and several satellites, is seen as a single MPLS entity, instead of having thousands of routers, you have hundreds of logical routers thus reducing the complexity of the MPLS network.

Business Relevance

A real life example for a Wireline operator is the need to add a subscriber immediately who wishes to watch an important sports game. An example for a Mobile operator could be the rapid deployment of a cell site. The SP can deploy a cell site quite easily bringing the cell site router and just a connection to the fiber and all the points on the satellite can be provisioned remotely from the NOC (Network Operation Center). Additionally, if the SP already has one site deployed like this and would like to attach additional radio sector or new radio technology, Nv will reduce considerably provisioning and activation time for this new equipment. nV technology also helps to reduce network complexity and simplify network operation.

Cisco Quantum Policy Suite

Solution Description

This is Cisco Policy and Charging Control solution.
This suite provides a next-generation policy management solution that can enable service providers to scale, control, monetize, and personalize any service on any type of network. It does so through a flexible interactive architecture that supports application-centric policy capabilities. Cisco Quantum can enable policy control and service management across mobile, fixed, and Wi-Fi broadband networks.

Quantum Policy Suite Demo

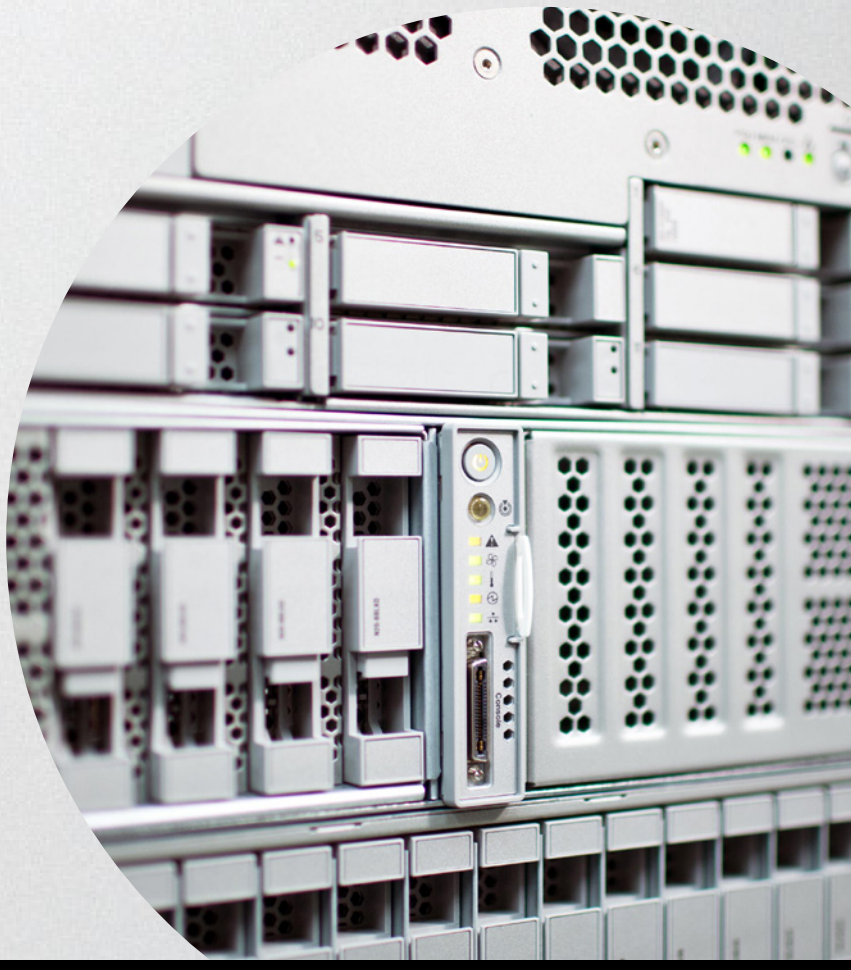
This demo covers the BroadHop QNS acquisition portion of the Cisco Quantum Suite. The Policy Suite is installed remotely in the Cisco lab in Paris. There two scenarios to demonstrate:

The first scenario will be two different users accessing the networking through a web portal with two different user names. Those users will have different QoS profiles: i.e. one of the users will have a gold profile with unlimited bandwidth and the other one will have a bronze profile with a speed limited to a lower Kb/s rate.

The second scenario is to show a quota-based usage. The demonstrators will show another user that has certain amount of megabytes that he or she can transmit per month. When the user accesses with his or her profile and produces some traffic, the quota becomes depleted, eventually leading to a stop in the service.

Business Relevance

Cisco Quantum Policy Suite provides next-generation policy and subscriber management. It is a proven carrier-grade policy, charging, and subscriber data management solution. It helps service providers rapidly create and bring new services to market, deliver a positive user experience, and optimize network resources. It also generates new monetization opportunities across 3G, 4G, and LTE access networks, and IMS service architectures.



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