Samsung

Wireless LAN

Unlimited Connectivity

SAMSUNG

Explore Samsung's powerful WLAN technology.

Samsung Wireless LAN is an enterprise grade solution, developed from the ground up to address the needs of the new mobile generation. Offering best-in-class performance, ease of installation and network management.

03 The Latest Technology

04 Methods of Deployment

06 Key Benefits

08 WLAN Manager

09 WLAN Controllers

10 Access Points

The Latest Technology

Samsung's Wi-Fi solution incorporates relevant components from the latest LTE mobile communications technology, to deliver unparalled performance for no-compromise wireless working.

With the increasing popularity of mobile devices in the enterprise, such as smartphones and tablets, demands on the WLAN are growing more complex due to the number of separate devices competing for service on the move.

The Samsung WLAN solution uses the industry standard IEEE802.11 a, b/g, n and ac whilst incorporating technology adopted from the recent Samsung investment in LTE, to address the specific needs of voice and video without impacting data throughput.

Seamless automatic handover when moving between Access Points (APs) removes the burden on devices and risk of disruption, while the application of Crystal HD Voice ensures the best possible speech quality and wireless service regardless of the type or number of devices in use.

Flexibility

Employees can work securely on any device, in any location in your organisation, giving great flexibility and making the working space more efficient.

Quality

Samsung Wireless LAN solution delivers high-quality voice, video and data on more devices within a wider range. This ensures enhanced customer experience, maximum customer engagement and increased loyalty.

Cost Savings

Dynamic RF configuration and optimisation delivers coverage hole detection and correction. This translates into higher uptime and less time spent on network analysis and reconfiguration.

Methods of Deployment

At Samsung we know that each customer is unique and therefore our systems are designed to be as flexible as the different environments they are used in.

The methods of deploying the Samsung WLAN solution cover many diverse environments.

- **Single or several access points** without a controller, giving high functionality in small site deployments.
- **Access points with local controller**, giving the best in performance and controllability. A variation on this is to use 'bridging mode' where data to and from the client devices does not have to go via the controller if various functions are not required.
- **Access points with remote controller**, often used where many small sites are connected together with a single point of management, this can be configured in bridge mode as well giving a further variation. This mode is also known as a private cloud model.

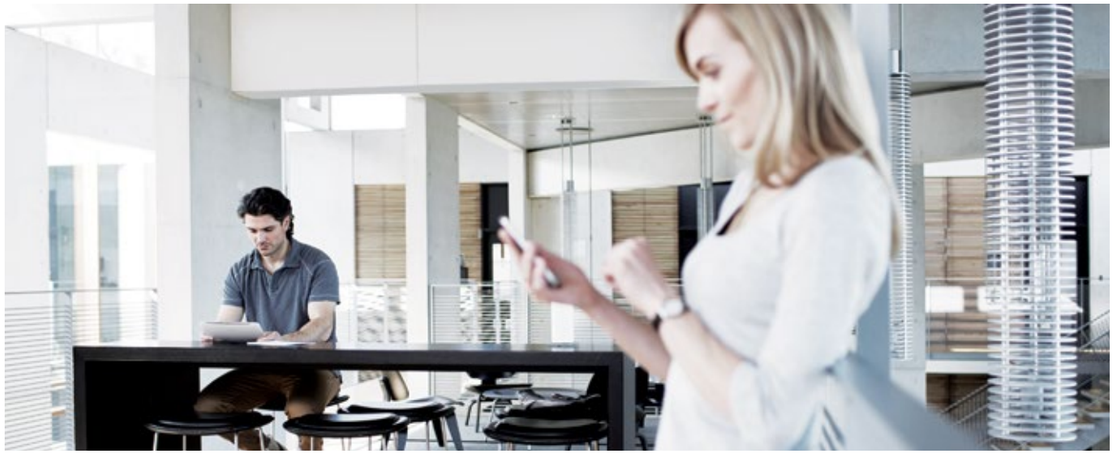
How resilient do you need your network to be?

The access point controllers can be deployed in several configurations as well.

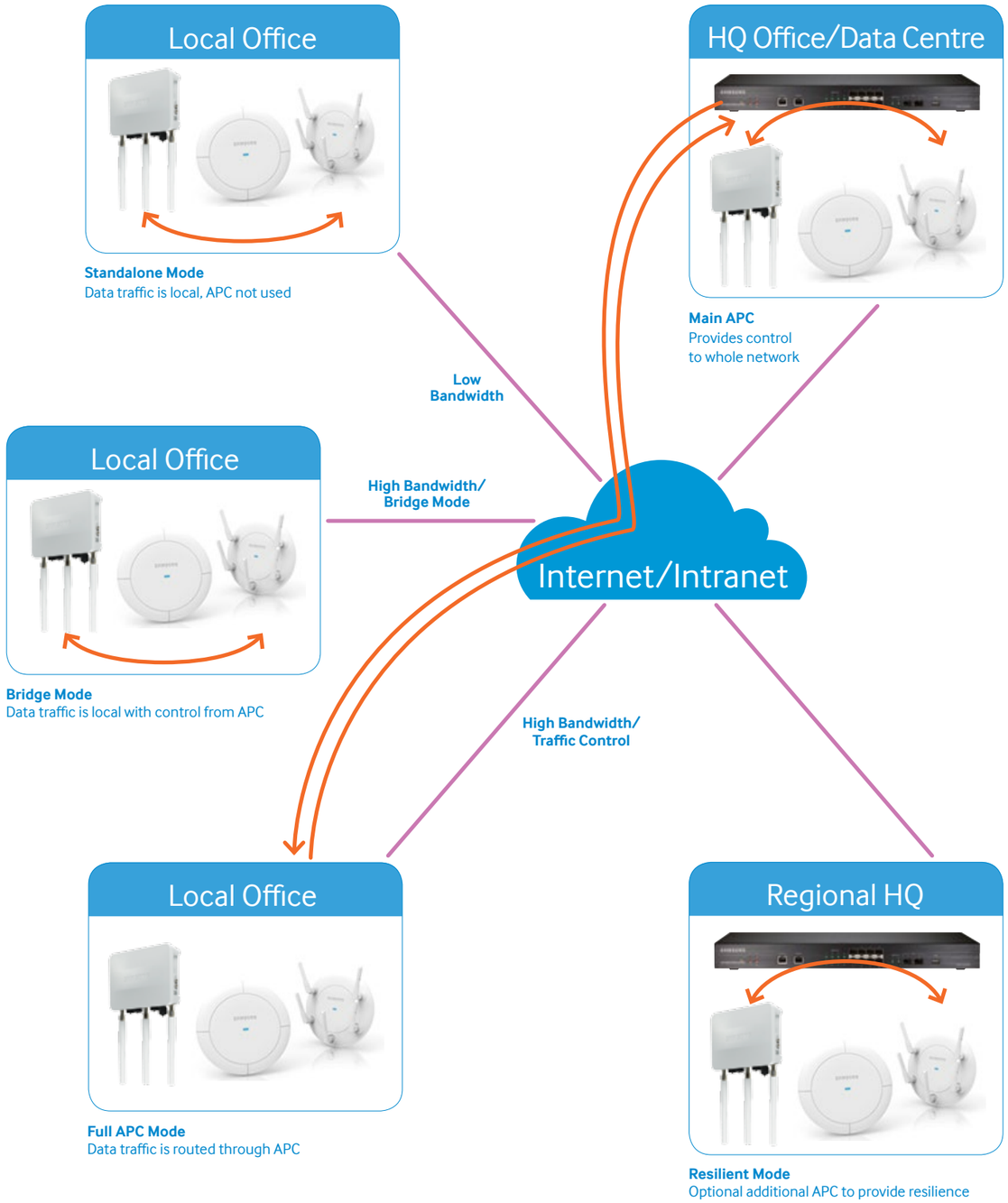
- Single controller
- Single controller with dual PSU
- Two controllers configured in Active/Standby mode
- Two controllers configured in Active/Active mode
- Multi controllers configured in multi active mode

If your fixed LAN experiences downtime, the access points will automatically go into survival mode, continuing to allow secure access to the WLAN network.

Resilience is a very affordable option with Samsung. Just purchase the number of controllers you require and one set of access point licences will cover all configurations.



WLAN Network Diagram



Key Benefits

Samsung offers customers of all sizes higher throughput, more capacity and less interference for easy and reliable service and management.

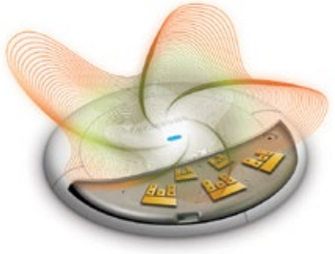
Air Equaliser

Samsung's Traffic Schedule technology ensures a fully optimised Wi-Fi service by allocating equal airtime to multiple devices. This technology guarantees airtime fairness when multiple devices are concurrently connected to an AP. It also delivers seamless service, even in an environment where devices with different traffic demands and capabilities are used. In addition, it can maximise the AP's total throughput by more than 50% when compared with competitors' products, providing the best performance that adapts to the Wi-Fi connection specifications (a, b/g, n, ac) and signal intensity characteristics.

Voice Aware Traffic Scheduling (VaTS)**

VaTS is a Samsung patented technology, which efficiently sends Voice Frames to multiple devices using mobile communication traffic scheduling technology developed for LTE networks. The result is that increasing the number of concurrent calls will not degrade voice quality, increasing the effective capacity of the network.

Intelligent Beam Selectable Antenna (IBSA)



A Samsung 3 x 3 AP contains 15 antennas. Three antennas are used for RF monitoring and the remaining 12 provide an optimised RF pattern selecting a beam for each environment. As a result, dead areas are minimised, service coverage is expanded, and the receiving sensitivity is 2 dB higher than competitors' products. This means that the access point can accurately receive a signal from a mobile device with typically weak transmit power even when it is some distance away.

Self Organising Network (SON)

Samsung have enhanced the standard Wi-Fi access point Tx power and channel optimisation technology using techniques developed for the LTE network. This technology automatically optimises the cell configuration and coverage, considering individual device characteristics within the environment. This dramatically shortens the time required for network design, reducing implementation costs, and also delivers a high level of RF quality management when the network is in use.

AirMove*

Samsung AirMove technology applies the handover methodology used within LTE mobile communications to deliver seamless roaming. Timing and choice of access point is determined centrally by the Access Point Controller (APC) which has a full picture of device activity and adjacent AP loading.

*Availability depends on smartphone model

Wireless Intrusion Prevention (WIPS)

The importance of security in the enterprise communication environment cannot be over emphasised. The Samsung APs have a dedicated security RF monitoring chip embedded, which is separate to the Wi-Fi service RF chip, to enable continuous real-time monitoring of the local RF environment. This maximises the RF sensing performance without impacting on Wi-Fi data throughput as there is no need to utilise a Wi-Fi data time slot, or any increase to the system cost by adding additional monitor APs.

**Availability depends on smartphone model

WLAN Manager

The Samsung WLAN Manager provides operational convenience by enabling system administrators to monitor failure situations anywhere, at anytime and quickly resolve them via integrated wired/wireless remote management using their smartphones.

Integrated Wired/ Wireless Integrated Management

- Supports access switch management in addition to access point controller (APC) management.
- Capable of managing general switches that provide standard management information base (MIB), as well as Samsung's own Layer 2 switches

Intuitive and User-Friendly UI

- Supports dashboard and menu structure, designed for effective viewing so that the device status and network status can be clearly visualised.
- Intuitive icons that facilitates easy understanding of features.

Remote Management Using Smartphones

- Remotely control the wireless network anytime, anywhere.
- If a fault occurs, the related information and a linkable URL are sent to a specified device via SMS, the recipient can then check the status and troubleshoot in real time.

SPECIFICATIONS		WEM
Scalability	Maximum # of Network Elements (AP, APC, Switch)	3,000
	OS	Linux Red Hat
	Form Factor	Server Software
Security	Rogue AP Detection / Interception Monitoring	Yes
Location	Location Tracking Monitoring	Yes
Management	General	High Availability, Monitoring, Status / Statistics Database, Self-Diagnostics
	Fault	Alarm History, Alarm Statistics, Alarm Monitoring
	Configuration	APC Configuration, AP Configuration Package Upgrade
	Performance	Status Monitoring Statistics
	Security	User ID / Password Management, IP Access Control
	QoS	Voice Quality Monitoring
	Reporting	Network Status, Performance, Device, Station etc, File (Excel, PDF) Save, Print

WLAN Controllers

Samsung's WLAN Controllers WEC8500 and WEC8050 are designed to deliver the right solution for mission critical wireless networking. By applying LTE technology, these high performing 802.11ac ready controllers are optimised to ensure that users benefit from the most reliable connectivity, whatever the business size.

Enterprise WLAN Controller WEC8500

The Samsung Access Point Controller WEC8500 is specially designed for mission-critical wireless networking in mid-sized to large enterprises. By applying LTE technology, this high-performing controller is able to simultaneously manage up to 500 access points, 10,000 client devices with a 20Gbps data plane, offering a fast and reliable network.

SMB WLAN Controller WEC8050

Designed with small to medium sized businesses in mind, the Samsung Access Point Controller WEC8050 has the same enterprise, cutting-edge functionality as the WEC8500 model and can manage up to 75 access points and 1,500 clients simultaneously.

SPECIFICATIONS		WEC8500	WEC8050
Scalability	Maximum # of APs (Central Processiong Method)	1,000*	75*
	Maximum # of APs (Clustering Structure)	3,000*	150*
	Maximum # of APs (Distributed Processing Method)	3,000*	75*
	# of Client	10,000	1,500
H/W	Network I/F	2 10GE, 8 GE,1 Console	4 GE,1 Console
	USB	1	-
	System Redundancy	Yes	
	Redundant Power	Yes (Optional)	-
Network	Routing	Yes	
	VLANS	1,024	128
	DHCP	Server, Relay, Proxy	
	QoS	Shaping, Policing, 802.1p, Voice Quality Monitoring	
Security	Firewall	Yes (Licence Required)	
	Authentication	802.1 x	
	MAC Filtering, ACL	Yes	
	Encryption (APC-AP)	DTLS	
	AAA	Radius Server	
RF Manager	RM	Power, Channel, Coverage Hole	
	RF Spectrum Analysis	Yes	
Management	CU	Yes	
	GUI	Yes	
	SNMP	Yes	
	Syslog	Yes	
Management	CLI	Yes	
	GUI	Yes	
	SNMP	Yes	
	Syslog	Yes	

*Scales up in future software releases

Access Points

11ac Access Points WEA400 Series

The Samsung Access Points WEA400 series support 802.11ac, the next generation of Wi-Fi, offering higher throughput, higher capacity, and less interference, while providing easy and reliable management. The WEA400 series are dual concurrent radio products, each radio capable of running in both 2.4 and 5GHz band. The series includes both internal and external access point models.

MODEL		WEA412i	WEA403i	WEA403e	WEA453e
Wireless	Standard	802.11a/b/g/n/ac			
	# of Radio	Dual Concurrent Radio			Dual Concurrent Radio, 3T3R
	Frequency	2.4 GHz, 5 GHz			
	Antennas	Internal Type		External Type	
	MIMO	2 x 2 MIMO, 2 Spatial Streams	3 x 3 MIMO, 3 Spatial Streams		
	PHY rate	867 Mbps	1.3 Gbps		
H/W	Network I/F	2 x 1GE, 1 Console			
	PoE	802.3af/802.3at	802.3at		
	Environment Class	Indoor			Outdoor, IP66, IP67
Dimension	Diameter/Height	205 mm / 45 mm			267 mm / 184 mm / 57.5 mm
	Weight	790 g	820 g		2,600 g
Security	Standard	802.11i, WPA/WPA2			
	Multi SSID	Maximum 16			
	# of Multi VLAN over SSID	Maximum 1,024			
	Encryption	DTLS			
QoS	Standard	802.11e			
	WMM	Yes			
Management	Operation	Controlled Mode, Standalone Mode			
Certification	WiFi Certified	WPA/WPA2, WMM, WMM-PS			
	KC	Yes			

11n Access Points – WEA300 Series

The Samsung Access Points WEA300 series are compact and powerful access points with multiple spatial streams 802.11a/b/g/n that deliver data rates of 300/450Mbps to ensure ultimate coverage, easy management and a secure wireless network.

MODEL		WEA302i	WEA303i	WEA303e
Wireless	Standard	802.11a/b/g/n		
	# of Radio	Dual Concurrent Radio		
	Frequency	2.4 GHz, 5 GHz		
	Antennas	Internal Type		External Type
	MIMO	2 x 2 MIMO, 2 Spatial Streams	3 x 3 MIMO, 3 Spatial Streams	3 x 3 MIMO, 3 Spatial Streams
	PHY rate	300 Mbps	450 Mbps	
H/W	Network I/F	1 GE (RJ45), 1 Console (RJ45)		
	PoE	802.3af/802.3at		
	Environment Class	Indoor		
Dimension	Diameter/Height	174 mm / 34.1 mm		
	Weight	560 g	640 g	650 g
Security	Standard	802.11i, WPA/WPA2		
	Multi SSID	Maximum 16		
	# of Multi VLAN over SSID	Maximum 1,024		
	Encryption	DTLS		
	Number of Client Connections	Maximum 256		
QoS	Standard	802.11e		
	WMM	Yes		
Management	Operation	Controlled Mode, Standalone Mode		
Certification	Wi-Fi Certified	WPA/WPA2, WMM, WMM-PS		
	KC	Yes		

Samsung Electronics (UK) Ltd
Samsung House,
1000 Hillswood Drive
Chertsey, Surrey KT16 0PS

SAMSUNG