



MSG2000

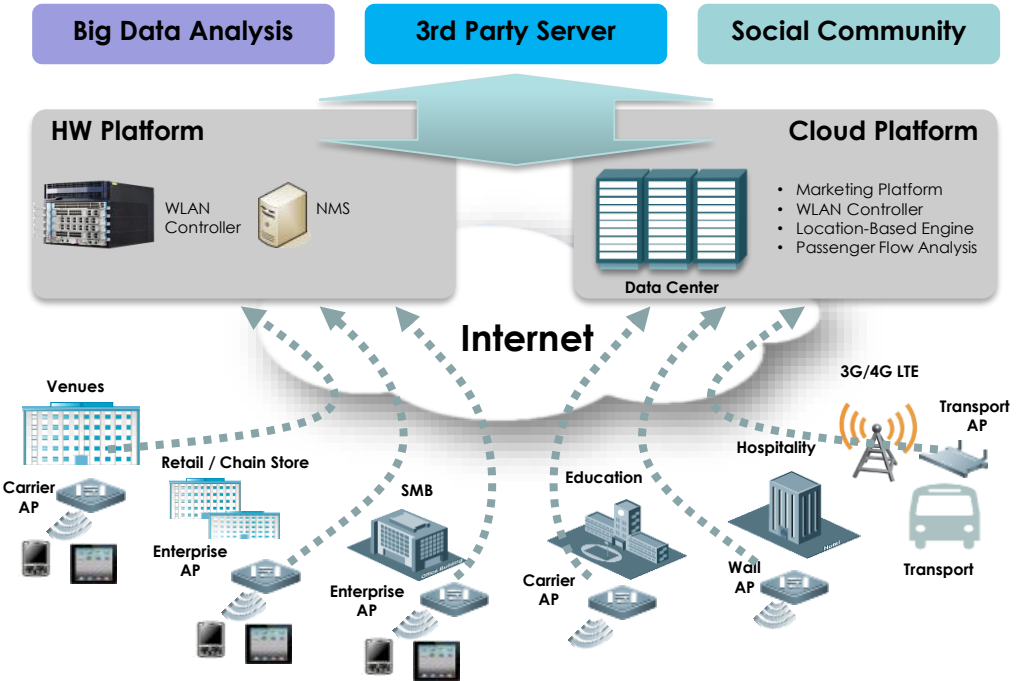
WIRELESS ACCESS CONTROLLER



Features

- HIGH CAPACITY AND PERFORMANCE
- GREAT SCALABILITY
- ADVANCED WIRELESS RADIO MANAGEMENT
- SEAMLESS ROAMING
- BUILT-IN PORTAL FOR WEB AUTHENTICATION
- HIGH RELIABILITY AND AVAILABILITY
- ADVANCED SECURITY

Carrier-grade Wi-Fi Wireless Access Controller



Description

MSG series products are carrier-grade Wireless Access Controllers that combine routing, switching, WLAN Gateway and Access Controller functionality into a unified high-performance system. The products provide centralized control and configuration of Access Points, load balancing, roaming, RF control and many other functions. This approach with all-in-one integrated system helps to optimize TCO related to network deployment and operation.

The MSG2000 is a chassis-based carrier grade Wireless Access Controller that offers extremely high capacity and performance, supporting up to 256,000 clients, and 10,600 access points (APs) on a

single, easy-to-use platform.

The Controller offers impressive feature set that helps to simplify deployment and operation of a wireless network, and to optimize capital expenditures. The product supports RF Management, Load Balancing, Roaming, various authentication mechanisms, built-in portal server for web authentication, and others. To further enhance system flexibility, the product supports both central and local forwarding, as well as flexible data forwarding, when an AP can determine whether to forward all data via an AC, or to send it directly to a wired network based on Service Set ID (SSID) and user VLAN.

With its advanced software features and modular design, the MSG2000 offers high scalability, flexibility and reliability required for carrier-class applications. The innovative virtualization and automation techniques implemented on the MSG2000 allow operators to create Virtualized ACs that include several Line Cards in a MSG2000 chassis, or even across several chassis for load balancing, protection and simple system management.

The MSG2000 is compatible with wide range of UTStarcom's wireless access points.

For additional information please visit www.utstar.com.

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A global telecom infrastructure provider of innovative carrier-class broadband transport and access solutions.

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WIRELESS ACCESS CONTROLLER



Product Highlights

LARGE CAPACITY

The MSG2000 supports up to 10,600 Access Points and 256,000 clients.

CENTRAL & LOCAL FORWARDING

Both central and local forwarding are supported, as well as flexible data forwarding: an AP can determine based on Service Set ID (SSID) and user VLAN whether to forward all data via an AC, or to send it directly to a wired network.

INTELLIGENT RF MANAGEMENT

The controller dynamically adjusts traffic load, power, RF coverage, and channel allocation for maximized signal coverage and capacity. It also enables APs to scan spectrum so both rogue APs and networks can be identified.

INTELLIGENT LOAD BALANCING

The AC distributes users among different APs based on number of users and data traffic. It also supports frequency-based load balancing that prioritizes connection to 5GHz band as first priority for users with dual-band devices.

FAIR SCHEDULING

The system ensures equal access time for smart devices running 802.11g, 802.11n, 802.11ac or other standards. It helps to overcome network performance degradation due to use of old wireless adapters or long distance between the end devices and AP.

SEAMLESS ROAMING

Real-time synchronization of online information and roaming records of all users among multiple Wireless Controllers enables borderless and secure roaming experience with IP address and authentication status unchanged.

LOCAL AUTHENTICATION

A local user database and a built-in portal provide support for web authentication for wireless users.

COMPREHENSIVE SECURITY

Advanced encryption technologies, various authentication modes with authentication mode and encryption mechanism set per SSID, encrypted communication between the controller and APs via CAPWAP, RF Security based on RF probe scanning to detect unauthorized access points or other RF interference sources, rogue AP detection, a wide range of built-in security mechanisms against viruses and network attacks, etc.

HIGH AVAILABILITY

Redundant design with excellent protection: 1+1 control module, N+1 fans, N+1 or N+M PSU, flexible line cards protection based on wireless controller virtualization.

Technical Specifications

PERFORMANCE

	Per Line Card	Virtual WLC (chassis)
Default number of manageable APs	128	640
Max number of manageable APs	2,650 (with license upgrade)	10,600 (with license upgrade)
Max number of configurable APs	16K	20,480
Maximum number of clients	80K	256K
802.11 performance VLAN	48Gbps 4094	240Gbps 4094
Maximum Number of Clients Supported by the Built-in Portal	10K	10K
ACL	512K	512K
MAC address table	128K	320K
Local authentication	10K wireless clients	10K wireless clients
ARP table	96K	256K
Inter-AC roaming switch time	≤50ms	≤50ms
RAM	DDR3 1333MHz	

WLAN

LAN Protocols	ARP, VLAN, 802.1p, 802.1q, 802.1d, 802.1w, 802.1s	
802.11 LAN Protocols	802.11, 802.11b, 802.11a, 802.11g, 802.11d, 802.11h, 802.11w, 802.11k, 802.11r, 802.11i, 802.11e, 802.11n, 802.11ac	
CAPWAP	Layer 2/Layer 3 network topology between an AP and AC Enable an AP to automatically discover an accessible AC Enable an AP to automatically upgrade software version from an AC Enable an AP to automatically download configurations from an AC Network Address Translation (NAT) traversal	

WLAN (cont'd)

Roaming	Intra-AC roaming, Inter-AC roaming
Forwarding	Local forwarding, Centralized forwarding, AP-based bandwidth control, User isolation under the same SSID
Wireless QoS	User/SSID-based rate limit (granularity: 8Kbit/s), WMM (802.11e), Wireless priority to wired priority projection, Wireless user priority to CAPWAP tunnel priority projection
User Isolation	AC-based user isolation AP-based user isolation WLAN-based user isolation
Reliability	Fast switching between 2 ACs, Multiple ACs redundancy (1:1 and N:1), redundant power supplies up to 4
STA Management	User-based bandwidth limit, User-based access control, Port mirroring
STA RSSI Threshold	0 to 100
STA Idle Timeout	90 to 86,400 seconds
STA Average Data Rate Threshold	8 to 819,200 with the accuracy of 8Kbps
Adjusting Transmit Power of Beacon and Probe Response	Yes
Offline Syslog	Yes
RF Management	Setting country codes, Manually setting transmit power, Automatically setting transmit power, Manually setting working channel, Automatically setting working channel, Automatically adjusting transmission rate, Support blackhole compensation, AP load balancing based on traffic and user number, Support RF interference detection and avoidance

* Denotes features available in a future release.



Technical Specifications

SECURITY

IPv4/v6 Security Web authentication, 802.1x authentication (EAP-PEAP, EAP-SIM, EAP-MD5, EAP-TLS, EAP-TTLS, PEAP-MSCHAPv2, EAP-FAST, EAP-AKA), MAC address authentication, WAPI authentication

802.11 Security and Encryption Multiple SSIDs, SSID hiding, 802.11i-compliant PSK authentication, WPA and WPA2, WEP (WEP/WEP128), WAPI, TKIP, CCMP, Protection against ARP spoofing, Support IP/MAC binding via DHCP SNP, Support IP/MAC/WLAN binding via RADIUS server

AAA RADIUS client
Multi-domain deployment for authentication server
Authentication server backup
ESS-based authentication server selection
Binding of SSID and user account

SMP Yes

CPP Yes

NFPP Yes

WIDS/WIPS Whitelist, Static/dynamic blacklist, Monitor and attack rogue wireless devices, Wireless attack protection

LAN

802.1Q VLAN Yes

ACL Standard IP ACL, Extended IP ACL, MAC extended ACL, Expert ACL

L3

IPv4 Protocols Ping, Traceroute, DHCP Server, DHCP Client, DHCP Relay, DHCP Snooping, DNS Client, NTP, Telnet, TFTP Client

IPv6 Protocols Dual stack IPv4/v6, Manual tunnel, ISATAP, 6to4 tunnel, IPv4 over IPv6 tunnel, DHCPv6, DNSv6, ICMPv6, ACLv6, TCP/UDP for IPv6, SOCKET for IPv6, SNMP v6, Ping/Traceroute v6, RADIUS, Telnet/SSH v6, FTP/TFTP v6, NTP v6, IPv6 MIB support for SNMP, VRRP for IPv6, IPv6 QoS, Static routing, OSPFv3

IPv4 Routing Static routing, OSPF

IPv4 Routing Table Capacity 8K

IPv4 Static Routing Table Capacity 1K

IPv6 Routing Static routing

IPv6 Routing Table Capacity 1K

IPv6 Static Routing Table Capacity 1K

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CHASSIS

Control Engine Slots 2 (1+1 redundancy)

Service Module Slots 5

SERVICE INTERFACES

Interface Per Line Card Per Chassis

1G/10GBASE-X SFP+ 2 10

MANAGEMENT INTERFACES

Management ports (per a Line Card) 1 x console port
1 x 10/100/1000M MGMT

POWER

Power supply Up to 4 modules, AC or DC, N+M redundancy

Power modules PA-1600: 90 to180 VAC, 1200W; 180 to 264V, 1600W
PA-600: 90 to180 VAC, 600W; 180 to 264V, 600W

PD-1600: -40 to -75 VDC, 1400W

PD-600: -40 to -75 VDC, 600W

Power consumption Max 1462W (Chassis, 2 PSU, 2 Control Cards, 5 Line Cards)

MANAGEMENT

Network Management SNMP v1/v2c/v3, Web management, Syslog

Network Management Platform UT-View 4000 OMC-W 3.0.X

User Access Management Login via console port

Login via Telnet

Login via SSH

Upload to FTP

DIMENSIONS AND WEIGHT

Dimensions, WxDxH 442 x 595 x 352.8mm (17.4 x 23.43 x 13.89in)

Weight Max 64.62kg (126.06lb) (Chassis, 4 PSU, 2 Control Cards, 5 Line Cards)

Installation 19-inch rack, 8RU

ENVIRONMENTAL

Operation temperature 0°C to 45°C

Storage temperature -40°C to 70°C

Operation humidity 10% to 90%RH (non-condensing)

Storage humidity 5% to 95%RH (non-condensing)

Operating Altitude -500...5000m

Product Details

REGULATORY COMPLIANCE

EMC (Line Card): GB9254-2008

Safety (Line Card): GB4943-2011

ORDERING INFORMATION

Product name	Product description
MSG2000	Including: 7-slot Chassis with fans
PP-2000E-WS-ED	Wireless Access Controller Module for MSG2000, 2 x 1G/10GBASE-X SFP+ ports, 128 APs License by default, maximum 2650 APs
PP-2000E-CM	Control Modules for MSG2000
PA-1600	AC Power Module: 90 to180 VAC, 1200W; 180 to 264V, 1600W
PA-600	AC Power Module: 90 to180 VAC, 600W; 180 to 264V, 600W
PD-1600	DC Power Module: -40 to -75 VDC, 1400W
PD-600	DC Power Module: -40 to -75 VDC, 600W
LIC-AP-128	Wireless Access Controller Upgrade License for 128 APs
LIC-AP-32	Wireless Access Controller Upgrade License for 32 APs
UT-10GE-LX-10	10GBASE-LR, SFP+ Transceiver (10km),SMF, 1310nm, 10km, LC

* Denotes features available in a future release.



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