

# BSCT GROUP

LEAX/CoreNOC/BSCT Group

## TELECOM PRODUCT CATALOGUE



# WHO WE ARE

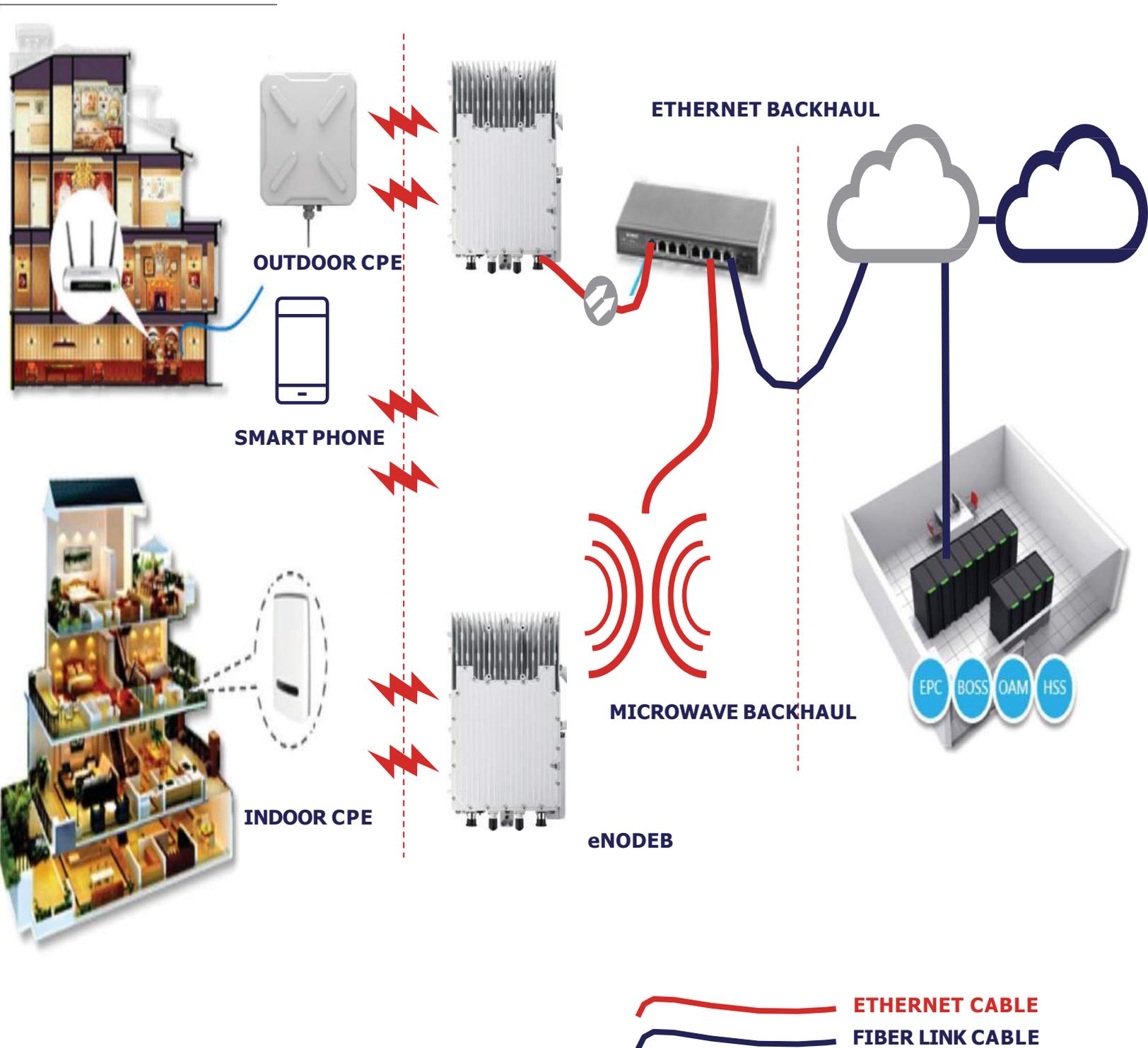
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- BSCT Group, LLC. based in Atlanta, GA
- Telecom equipment & service provider with over 30 years experience
- Providing a complete ecosystem, from Core to Devices, that is affordable, simple to deploy and scalable internet for the masses.
- Complete 4G, 5G & Wi-Fi Ecosystem
- Experience as Mobile Network Operators
- Turn key professional services

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# OVERALL ARCHITECTURE OF LEAX SMALL CELL SOLUTION





<b>SYSTEM</b>	4G TDD	4G TDD	4G TDD
<b>MODEL</b>	LBS8529	LBS7429	LBS7320
<b>TYPE</b>	MACRO	MICRO	MICRO
<b>POWER SUPPLY</b>	-48VDC	-48VDC	-48VDC
<b>ANTENNA FORM</b>	EXTERNAL	EXTERNAL	EXTERNAL
<b>SUPPORT BAND</b>	B7/41/42/43/48	42/43/48	42/43/48
<b>SUPPORT FREQUENCY</b>	2.5/2.6/3.5/3.7/3.5GHZ	3.5 /3.7 /3.5GHZ	3.5 /3.7 /3.5GHZ
<b>TRANSMIT POWER</b>	2*20W	2*10W	2*1W
<b>ANTENNA PORT</b>	2	2	2
<b>NO OF CARRIERS</b>	2	1	1
<b>MIMO</b>	2*2	2*2	2*2
<b>DATA THROUGHPUT</b>	DOWN 220MBPS UP 84MBPS	DOWN 110MBPS UP 14MBPS	DOWN 110MBPS UP 14MBPS
<b>POWER CONSUMPTION</b>	<200W	<160W	<45W
<b>CAPACITY</b>	192 ACTIVE USERS	96 ACTIVE USERS	96 ACTIVE USERS

# RAN PORTFOLIO (Continued)



4G FDD	5G NR TDD	4G/5G BBU	4G/5G AAU
LBS6529	LAU9339	LBU9001	LAU9560
MACRO	MACRO	-	MACRO
-48VDC	-48VDC	48VDC	-48VDC
EXTERNAL	BUILT-IN	-	BUILT-IN
B1/3/28	N78	-	B41/N41
2.1 /1.8 /.7 GHZ	3.5 GHZ	-	2.5 GHZ
2*20W	8*5W	-	240W
2	-	-	-
1	1*100MHZ	18*NR/18*LTE	1*NR+3*LTE
2*2	8*8	MASSIVE MIMO	64TR
DOWN 150MBPS	DOWN 1.7GBPS	DOWN 50GBPS	DOWN 5.4GBPS
UP 50MBPS	UP 190MBPS	UP 11.7GBPS	UP 650MBPS
<300W	<200W	<350W	<1000W
192 ACTIVE USERS	384 RRC CONNECTED USERS	14400 NR ACTIVE USERS/ 7200 LTE ACTIVE USERS	800 NR ACTIVE USERS/ 1500 LTE ACTIVE USERS

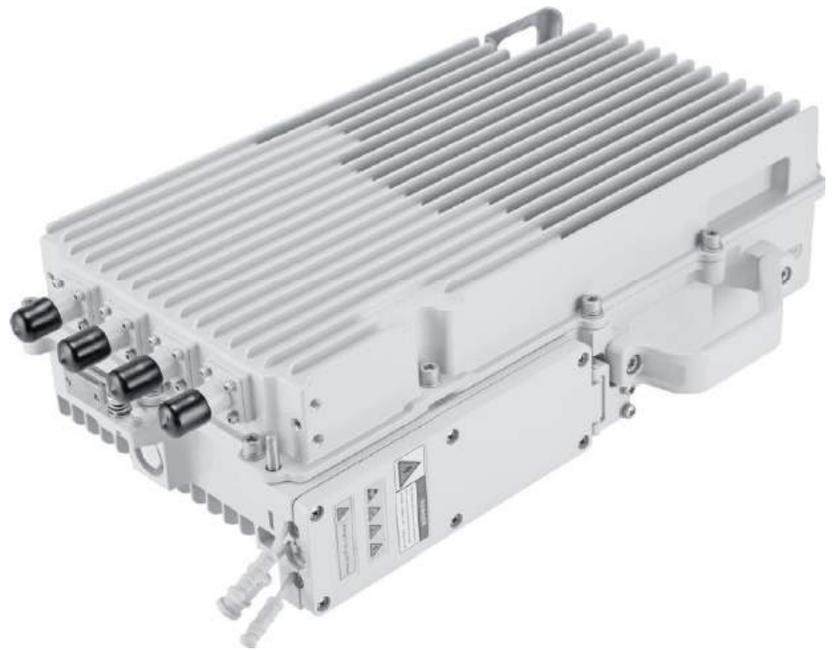
## LBS8529 2 x 20W 2.5G/2.6G/3.5G TDD RADIO



### PRODUCT SPECS

- MIMO: 2T2R Radio
- Bands: B41/B7 - 2.5, 2.6 GHz  
B42/43/48 - 3.5 GHz
- Capacity: 2 Carriers / 192 users
- Power: 2 x 20W output
- Power consumption: =<200w
- Protection: IP66
- Weight: 26lb / 12kg
- Dimensions: 17.3 x 9.5 x 5.5 inches  
440 x 240 x 140 mm

## LBS7429 2 x 10W 2.5G TDD RADIO



### PRODUCT SPECS

- MIMO: 2T2R Radio
- Band: B41 - 2.5 GHz
- Capacity: 2 Carriers / 96 users
- Power: 2 x 10W output
- Power consumption:  $\leq 160w$
- Protection: IP66
- Weight: 26lb / 12kg
- Dimensions: 17.3 x 9.5 x 5.5 inches  
440 x 240 x 140 mm

## LBS7320 2 x 1W CBRS TDD RADIO



### PRODUCT SPECS

- MIMO: 2T2R Radio
- Band: B42 - 3.5 GHz  
B43 - 3.7 GHz  
B48 - 3.5 GHz
- Capacity: 1 Carrier / 96 users
- Power: 2 x 1W output
- Power consumption: =<160w
- Protection: IP65
- Weight: 12lb / 5.4kg
- Dimensions: 10.8 x 7.8 x 3.4 inches  
275 x 200 x 87 mm
- FCC Certified: YES

## **LBS6529 2 x 20W B1/B3/B28 FDD RADIO**



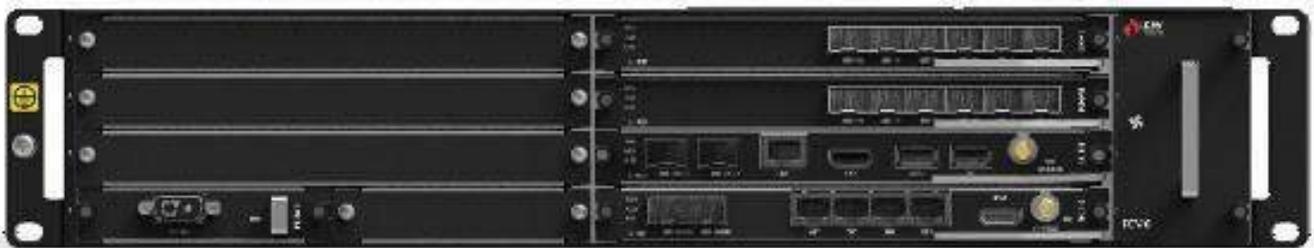
### **PRODUCT SPECS**

- MIMO: 2T2R Radio
- Band: B1 - 2.1 GHz  
B3 - 1.8 GHz  
B28 - 700 MHz
- Capacity: 2 Carriers / 256 users
- Power: 2 x 20W output
- Power consumption:  $\leq 300$ W
- Protection: IP66
- Weight: 44lb / 20kg
- Dimensions: 17.3 x 11.8 x 6.3 inches  
440 x 300 x 160 mm

**LAU9339 8 x 5W 3.5G 5G NR RADIO****PRODUCT SPECS**

- MIMO: 8T8R Radio
- Band: N78 - 3.5 GHz
- Capacity: 1 Carrier / 128 users
- Power: 8 x 5W output
- Power consumption:  $\leq 200$ W
- Protection: IP66
- Weight: 17.6lb / 8kg
- Dimensions: 13.7 x 9.8 x 3.6 inches  
350 x 250 x 92 mm
- Network: CU/DU (x86 based)
- Antenna Gain: 10dbi

## LBU9001 4G/5G BBU



### PRODUCT SPECS

- Architecture: 4G/5G BBU
- Capacity – 5G NR:
  - 18\*100MHz Carriers
  - 43200 connected users, 14400 active users
  - 2\*25GE
- Capacity – 4G LTE:
  - 18\*20MHz LTE Carriers
  - 18000 connected users, 9000 active users
  - 2\*10GE
- Dimension:
  - 88\*440\*360mm/3.5\*17.3\*14 inches
- Weight: 18 kg/40 lb
- Power consumption: =<350w
- Environment requirement:
  - Temperature: -5°C~+55°C
  - Humidity: 15%-85%

## LAU9560 2.5G 4G/5G Massive MIMO RADIO



### PRODUCT SPECS

- Band: B41/N41 (2496-2690MHz)
- MIMO: 64T64R Massive MIMO
- Output Power: 240w
- Capacity – 5GNR:
  - 100Mhz Carrier, DL  
5.4Gbps/UL 650mBPS
  - 240 RRC\_connected users,  
800 active users
- Capacity – 4G LTE:
  - 3\*20Mhz Carrier, DL 3\*320Mbps/  
UL 3\*32Mbps
  - 3\*1000 RRC\_connected users,  
3\*500 active users
- Power consumption: =<1000w
- Protection: IP65
- Weight: 42 kg/92 lb
- Dimension: 868\*489\*187mm/  
34\*19\*7.3 Inch
- Networking with LBU9001

## 5G CU/DU



### PRODUCT SPECS

- Architecture: X86 based local server
- Typical Server Configuration:
  - Dell R740, Xeon Gold 6148 2.4G, 20C/40T, 4x16G Memory, 2x1 TB 7.2K RPM SATA
- Capacity:
  - Connect 4 AAU / 512 Users
  - Provide 4 x 100M carriers
  - Provide up to 6.4Gbps data throughout
- Dimension: 2U 19 inch rack server
- Power consumption: =<800w
- Environment Requirement:
  - Temperature: -5°C~+55°C
  - Humidity: 15%-85%

## TERMINAL PRODUCT PORTFOLIO -- 4G CAT 12

### PRODUCT SPECS

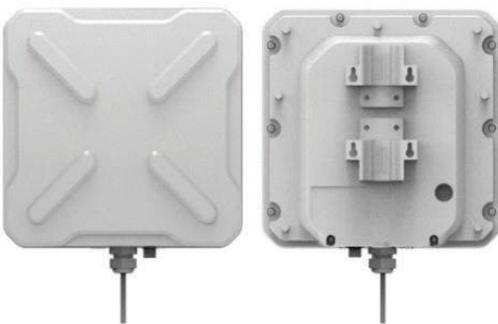
#### Indoor CPE, 2.4GHz/5GHz WiFi, 2 GE port, VOIP/Volte



- Module chip: GDM7243A
- Bands support: Band 41/42/43/48 (CBRS support)
- Down Link: 4CA 2x2 256QAM or 2CA 4x4
- Up Link: CA, UL SU-MIMO
- Antenna: Built-in 4 LTE high gain
- Standard: 802.11 b/g/n/ac
- Ports: 2GE LAN /RJ11 /USB

### PRODUCT SPECS

#### Outdoor CPE with high gain antenna, IP67



- Module chip: GDM7243A
- Bands support: Band 41/42/43/48 (CBRS support)
- Down Link: 4CA 2x2 256QAM or 2CA 4x4 MIMO or 8x4
- Up Link: CA, UL SU-MIMO
- Antenna: Built-in 4 LTE, 17dBi (3.5GHz)
- Power: 24V/48V POE support
- FCC Certified: Yes (only on CBRS Band)

## 5G Indoor & Outdoor CPE PORTFOLIO

### PRODUCT SPECS

#### LCR201 5G Indoor CPE, Sub6G, 3GPP R15, WiFi6, NR



- Worldwide Sub-6 5G and LTE-A coverage
- 5G NR and LTE-A Cat20 Dual mode
- Wi-Fi 6 Supports 802.11ax, OFDMA, and MU-MIMO. Maximum 1.8Gbit/s throughputs
- Support NSA & SA modes, Wi-Fi SON support
- Support two Gigabit Ethernet ports
- Robust software features, support NAT, Bridge and Router mode
- IPv4&IPv6 and Multiple PDN support
- Built-in VPN and L2/L3 GRE client support
- WEB, TR069 and SNMP-based device management

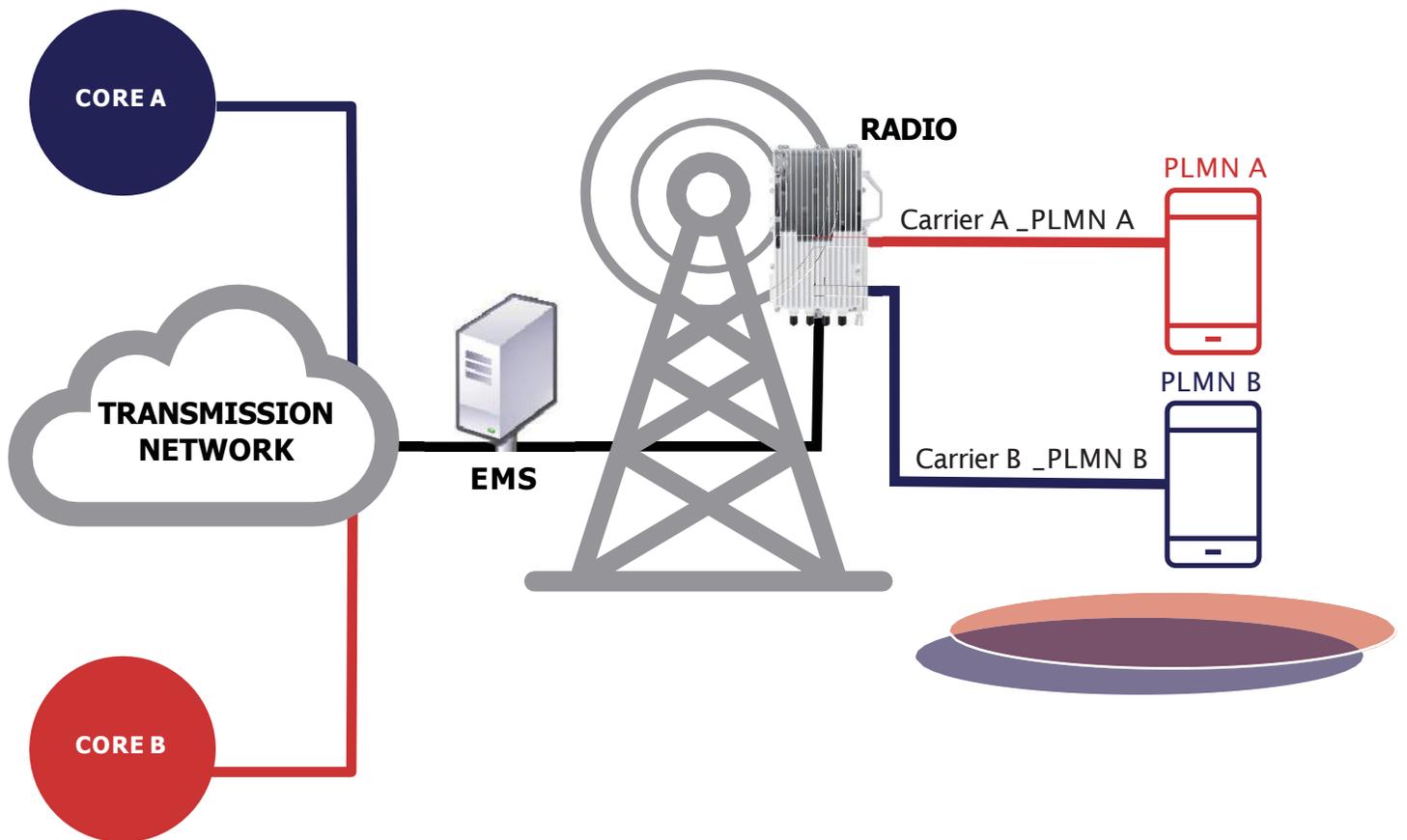
### PRODUCT SPECS

#### LCR202, 5G Outdoor CPE, Sub-6GHz, 3GPP Release 15



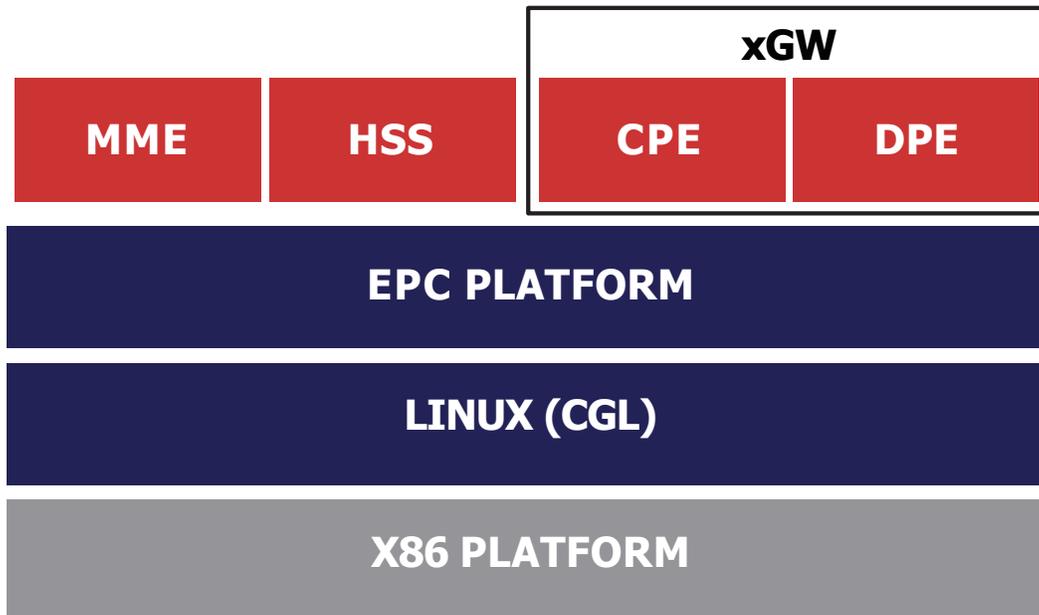
- Worldwide 5G and LTE-A coverage
- Supports SA and NSA
- Built-in high gain wide bandwidth antennas
- Advanced MIMO, AMC, OFDM support
- Built-in VPN and L2/L3 GRE client support
- IPv4 & IPv6 and Multiple PDN support
- Supports DMZ
- Supports NAT, Bridge and Router operation mode
- Standard TR-069 Management
- Chipset: Qualcomm SDX55

# MORAN SOLUTION



- MORAN: share all resource on RAN site except carrier.
- Multi-PLMN feature supported.
- Carrier level independent operation, includes feature deployment, parameter adjustment and management.

# CORE PRODUCTS -- 4G EPC



## CONSOLIDATED FUNCTIONALITY

**Platform:** HA, CM, FM, PM, DB, SNMP, NTP, IPC etc.

**Linux OS:** kernel 3.18.11 TIPC enhanced

- Multiple Applications

### Universal X86 Hardware

**Platform:** HA,CM,FM,PM,DB,SNMP,NTP ,IPC etc.

**Linux OS:** kernel 3.18.11 TIPC enhanced

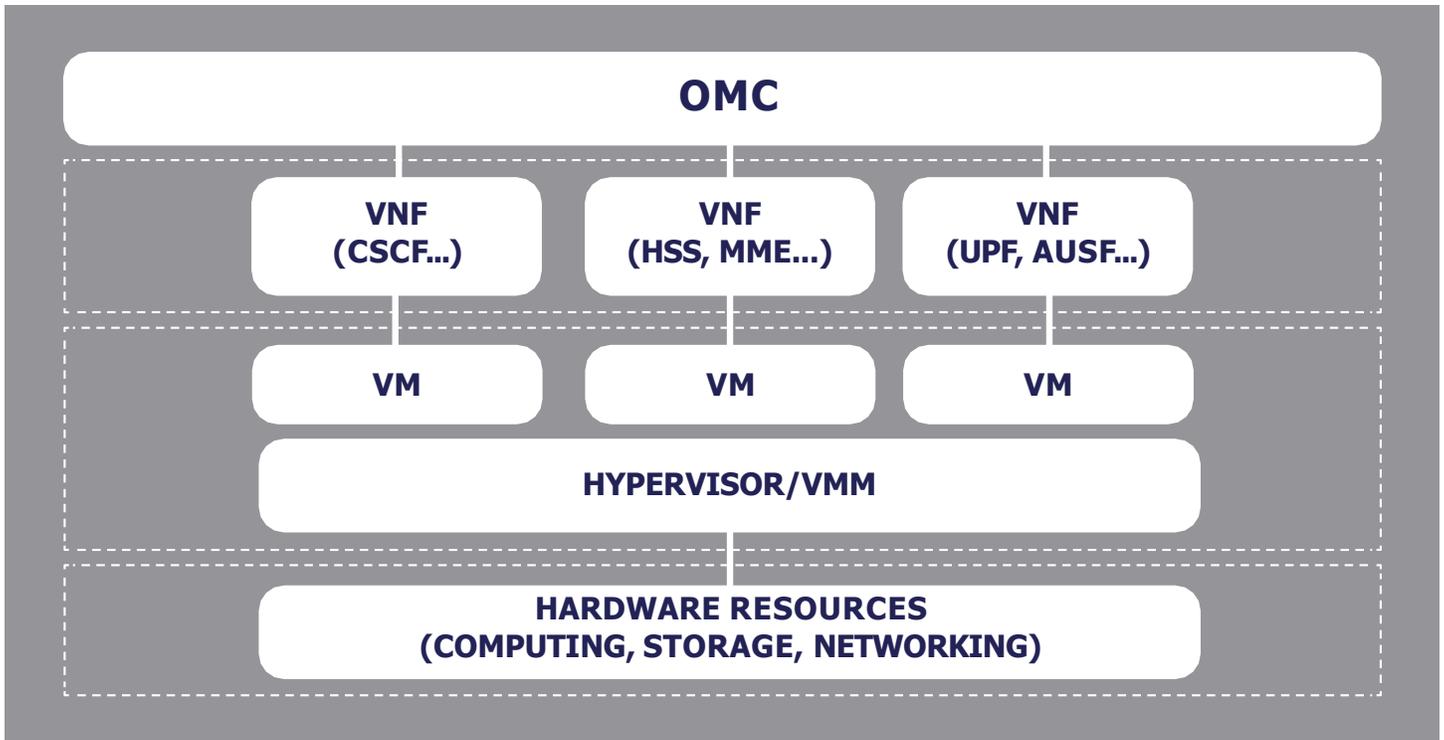
- Multiple Applications

### Universal X86 Hardware



- Server/SDN/Cloud based on common server hardware, virtualized architecture allows for decoupled HW and SW.
- Full function Evolved Packet Core (EPC) compliance to 3GPP standard Release 10.
- Complete operation & management function: CM/PM/FM/Call Trace/IMSI Trace etc.
- High availability and can work as cluster/private cloud, smooth capacity expansion.
- Support local offloading, MME pool, load balancing.
- Smooth evolution to NB-IoT, 5GC.
- High performance: only 2x common server provide capacity of 10k subscribers.

# CORE PRODUCTS - 5GC



**P1**

**BASIC FUNCTION**

- UPF
- UDM
- AUSF
- SMF
- AMF

RELEASED →

**P2**

**FULL FUNCTION**

- UPF/UDM/AUSF/S MF/AMF

**BASIC FUNCTION**

- PCF
- UDR
- THE IoT with NR
- NRF
- NEF
- NSSF

RELEASED →

**P2**

**FULL FUNCTION**

- PCF
- UDR
- NRF
- NEF
- NSSF

**BASIC FUNCTION**

- SMSF
- SEPP
- MANO

RELEASED →

**P2**

**FULL FUNCTION**

- SMSF
- SEPP

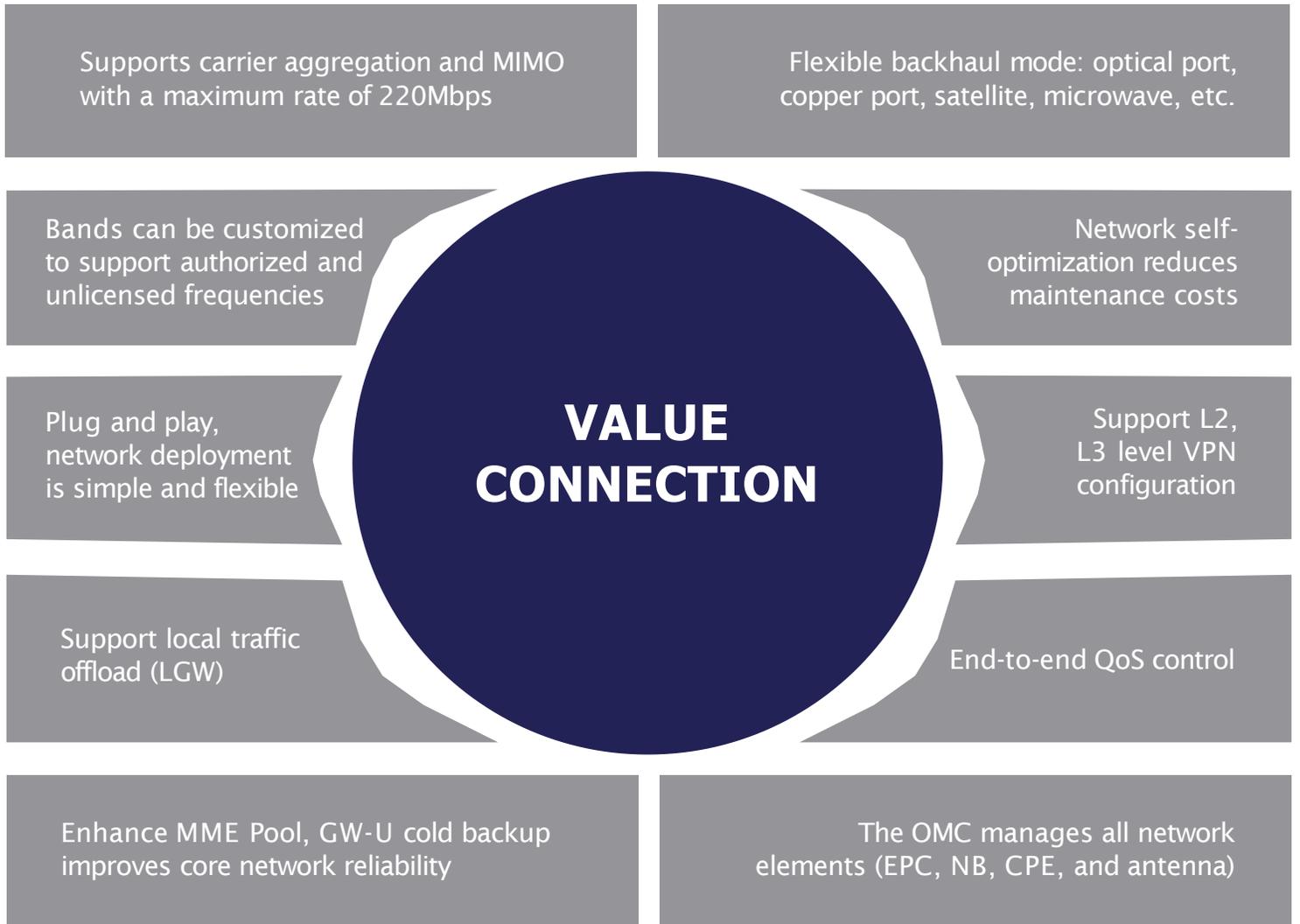
**3G/4G/5G CORE NETWORK CONVERGENCE**

- HSS/HLR/UDM
- GGSN/PGW/UPF
- GGSN/PGW/SMF
- PCRF/PCF
- MME/AMF
- STP/DRA/HTTP2 GATEWAY

RELEASED →

- Network Function Virtualization
- 5k subscribers scalable to 50k subscribers with license and virtual server expansion
- Grow as you go
- 5G Core Architecture:
  - AMF/SMF/UDM/AUSF/UPF/PCF
- Network Slicing
- VoLTE VoNR and EPS FB
- Hardware platform:
  - HP DL380 G9, or DELL R740, Other COTS

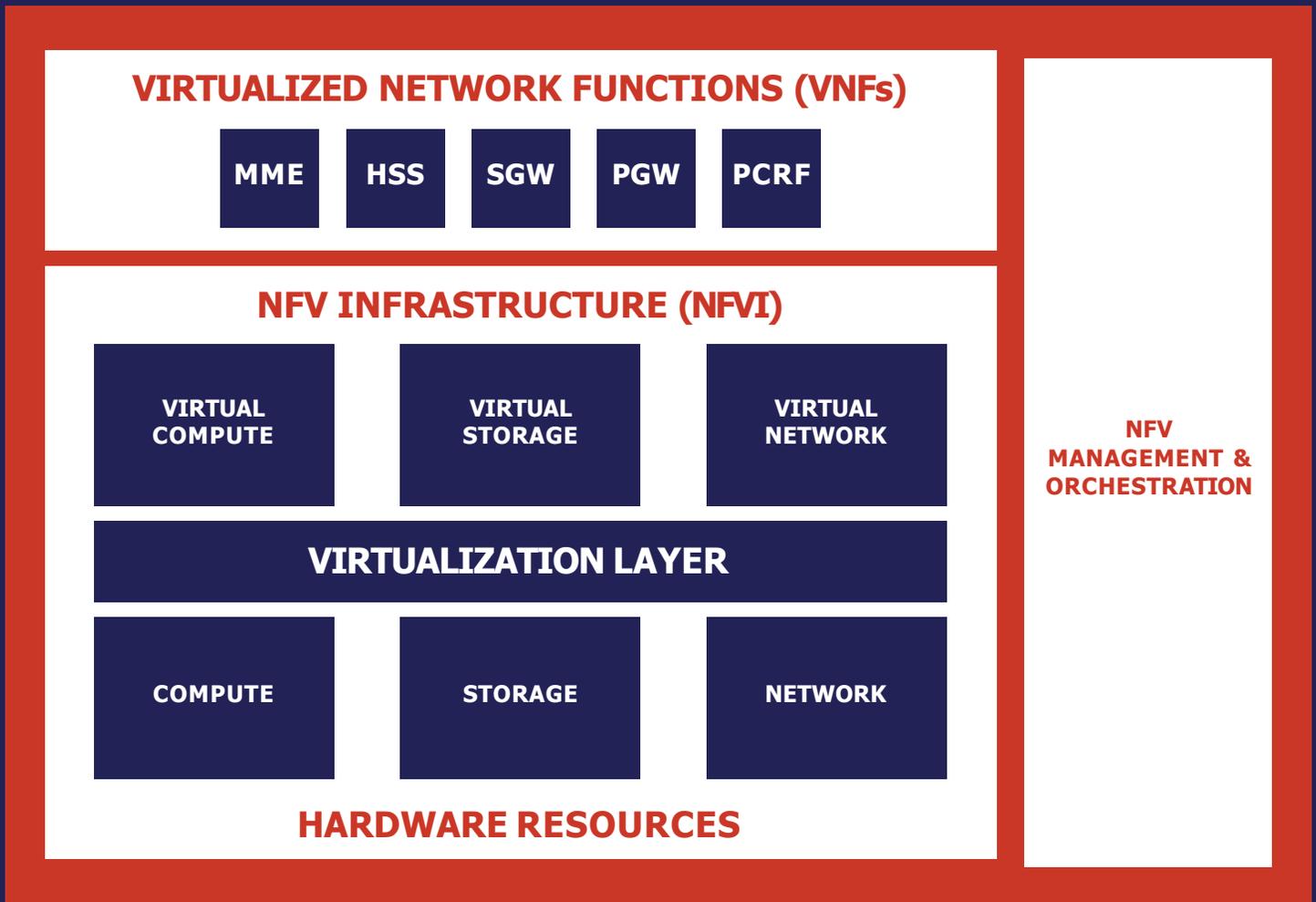
# ADVANTAGES OF LEAX SMALL CELL SOLUTION



# ADVANTAGES COMPARE WITH MACRO CELL

COST STRUCTURE	ANALYSIS
HARDWARE	Cost: Macro = Small Cell*10;
	Capacity: Macro = Small Cell*4
SOFTWARE	Macro: Comprehensive But Complex
	Small cell: Simplified
SITE ACQUISITION	Macro: Difficult/Expensive
	Small cell: Easy/Low Cost
BACKHAUL	Macro: Fiber/Cable/Satellite/Microwave
	Small Cell: Same
SPECTRAL EFFICIENCY	Macro: ~1.5 b/s/Hz
	Small Cell: ~2.2 b/s/Hz
WIFI INTEGRATION	Macro: Not Feasible
	Small Cell: Feasible
OPERATING	Cost: Macro = Small Cell*10

# ADVANTAGES COMPARE WITH TRADITIONAL CORE



## Device hardware is normalized

- Simplifies the types of equipment, reduce difficulties of logistic and spare parts management.
- Sharply improve HW utilization due to the fine-grained HW resource allocation.

## The COTS platform of the core network

- Commercial ready-made product makes much lower unit computing power cost.
- Always adopt the latest IT technology on the core network.

## Network Adaptiveness

- Decoupling hardware and software to reduce service deployment cycle from months to days.
- Dramatically reduce network provision period, providing Elastic network.

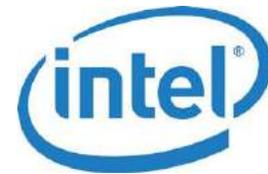
# LEAX GLOBAL R&D AND LOGISTICS CENTERS





# LEAX STRATEGIC PARTNERS

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# BSCT GROUP

One step ahead

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