

Summit

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10:25-10:40 CST

Speaker



RedCap Enables Ubiquitous 5G IoT, Striding to the Intelligent World

Redcap 使能泛在5G物联，加速迈向智能世界

Xiang Fang,

Vice President of Wireless Network
Product Line,
Huawei

方向，华为无线网络产品线副总裁

Hosted @ **MWC**
GSMA

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MWC Shanghai 2024

26th - 28th June

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方向

Xiang Fang

华为无线网络产品线副总裁

VP of Wireless Network Product Line, Huawei

AI浪潮已来，引领移动物联迈向万物智联

AI Wave is Coming, Leading Mobile IoT towards Intelligent Internet of Everything

AI将融入千行百业，让智能无处不在

AI Will Enter Every Verticals, Enabling Ubiquitous Intelligence



1000亿联接规模
100Bn Connection Scale

4500亿GB内容生成
450Bn GB Content by AIGC

10X联接密度
10X Connection Density

5G全场景物联打造无处不在、无处不宽、无处不快的智能联接基础设施

5G Full-scenario IoT Builds Ubiquitous, Ultra-wide, Ultra-Fast Infrastructure for Intelligent Connectivity

联接范围更广阔

Wider Connection Range

从人到具身智能机器人、数字人
From People to Embodied AI, Digital Avatar

交互内容更丰富

Richer Interaction Content

文字到多模态数据
From Text to Multimodal data

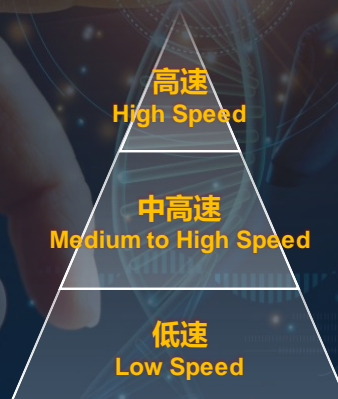
话务模型更多样

Diversified Traffic Models

从下行到上行、时延等
From DL to UL, Latency etc.

5G全场景物联打造智能联接基础设施

5G Full-scenario IoT Builds Infrastructure for Intelligent Connectivity



• 5G eMBB

• RedCap
• eRedCap

• 5G LPWA
(NB-IoT<E-M)
• Ambient IoT

覆盖无处不在
Ubiquitous Coverage

网络无处不宽
Large Capacity

部署无处不快
Fast Deployment

5G

RedCap小投资大收益，释放5G物联全部潜能

RedCap Unleashes Full Potentials of 5G IoT with Low Investment & Huge Benefits

RedCap轻量化5G实现成本性能双优

RedCap as Lightweight 5G Enables Optimal Cost and Performance



RedCap使能泛在5G物联，小投资大收益加速5G变现

RedCap Enables Ubiquitous 5G IoT, Monetizing 5G with Low Investment and Huge Benefits

智慧工厂 Smart Factory



50% 5G DTU成本降低
50% 5G DTU Cost Reduction

智慧安防 Smart CCTV



80% 5G摄像头成本降低
80% 5G Camera Cost Reduction

智能穿戴 Wearables



50% 模组尺寸降低
50% Module Size Reduction

5G局域网
5G LAN

高可靠低时延
uRLLC

超大容量
Large Capacity

低功耗
Low Power Consumption

网络切片
Network Slicing

广覆盖
Wide Coverage

RedCap使能泛在5G物联 RedCap Enables Ubiquitous 5G IoT

小投资：复用5G基础设施
Low Investment: Reusing 5G Infrastructure

大收益：驱动业务增长
Huge Benefits: Driving Business Growth

• 站点
Sites

• 基带
Baseband

• 射频
RUs

• 天线
Antennas

• 连接增长
More Connection

• 流量增长
More Traffic

• 业务增长
More Business

RedCap发展正当时，全球运营商加速商用

RedCap is Now, Accelerating Global Commercialization

中国引领RedCap部署，2025年实现全国覆盖

China Leads RedCap Rollout, towards Nationwide Coverage in 2025



2025 产业目标
2025 Target

• 全国县级以上城市
RedCap规模覆盖
RedCap scale coverage in
all cities above county
level

• 千万级增长
RedCap连接数
Tens of millions of
RedCap connections

• 5个以上百万级连接
RedCap应用
5+ RedCap applications
with million-level
connection



全球20+产业伙伴发布RedCap推广倡议，加速全球商用进程

20+ Global Partners Release RedCap Promotion Initiative, Accelerating Global Commercialization

蜂窝物联网未来峰会 @24年巴展
Cellular IoT Next Step Summit @MWC24



• 加快网络开通：提供高质量广覆盖网络

Network Rollout Acceleration: Accelerate the RedCap deployment with good coverage and quality.

• 孵化产业生态：繁荣芯模端生态规模经济

Ecosystem Incubation: Achieve economies of scale for RedCap ecosystem including chipsets, modules, and terminals.

• 探索应用场景：丰富行业及消费市场应用

Application Exploration: Explore RedCap application in consumer market and various verticals.

亚太 APAC



泰国AIS完成5G RedCap
首商用验证
AIS Thailand Completes First
Commercial Verification of
5G RedCap

中东 Middle East



沙特Zain完成5G
RedCap技术商用验证
Zain Kuwait Completes Trial
of RedCap Technology

欧洲 Europe



德国TO2在慕尼黑完成
5G RedCap商用验证
TO2 Germany Completes
RedCap Tests in Munich

...

场景丰富，RedCap开启亿级物联新征程

RedCap Starts a New Journey of 100Mn IoT with Rich Scenarios



RedCap提供5G多维能力，使能泛在5G物联
RedCap Provides Multidimensional 5G Capabilities, Enabling Ubiquitous 5G IoT

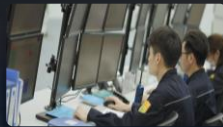
RedCap大上行使能5G视联规模部署

RedCap Large Uplink Capacity Enables Large-scale Deployment of 5G CCTV



多频块叠加
Multi-BWP On Demand
1*BWP->5*BWP

多用户混合配对
Multi-user Hybrid Pairing
MBB->MBB&RedCap

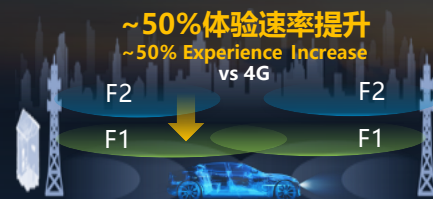


@万华化学
Wanhua Chemical
单厂区摄像头规模
CCTV Connection per Campus
3000

摄像头DOU
DOU for CCTV
800GB

RedCap高体验加速5G网联车发展

RedCap High Experience Promotes the 5G Connected Vehicles



移动性场景切换优化
Handover Optimization in
Mobility Scenarios

RedCap专属多频策略
RedCap-dedicated Multiband
Handover Policy



Source: 兰德智库, Huawei MI

中国网联车市场空间
Connected Vehicle Connection in China
2.59亿@25

网联车DOU
Connected Vehicle DOU
100GB

RedCap低功耗加速智能穿戴5G渗透

RedCap Low Power Consump. Accelerates 5G Penetration of Smart Wearables



连接态节能
Pwr. saving in
connected mode

- 稀疏包物联网用户快速释放
Fast release of IoT UEs with sparse packets
- 连接态RRM测量放松
Relaxed RRM measurement

空闲态节能
Pwr. saving in
connected mode

- PEI按需唤醒
PEI on demand wakeup
- eDRX间歇寻呼
eDRX/Intermittent Paging



Source: IDC, Huawei MI

中国智能穿戴年出货量
Annual shipment of smart wearables in China
~2000万

蜂窝渗透率@2025
Mobile penetration rate@2025
58%

网络筑基，实现有5G的地方就有RedCap

Network is the Foundation, Enabling RedCap Wherever There is 5G

连接覆盖层 Coverage Layer

■ 广域
Wide Area
■ 泛在
Ubiquitous

• 智能穿戴
Smart Wearables
• 车联网
Smart Vehicles
• 视联网
Smart CCTV

SLA保障层 SLA Layer

■ 切片
Network Slicing
■ 低时延高可靠
URLLC

• 智慧电网
Smart Grid
• 智慧工厂
Smart Factory
• 智慧钢铁
Smart Steel

容量体验层 Capacity Layer

■ 大容量
Large Capacity
■ 多业务
Multiple Services

• 物联多业务规模上量
Large-scale IoT Deployment
in Multiple Scenarios

网络优化 Network Optimization

更低网络时延
Lower Latency

更高网络容量
Larger Capacity

更快部署周期
Faster Deployment

更优现网体验
Better Experience

FDD打底覆盖，做厚基础连接
FDD Provides Basic Connectivity with Good Coverage

TDD容量提升，增强网络体验
TDD Enhances Network Experience with Large Capacity

网络先行 Network First

连续覆盖 | 按需叠加
Continuous Coverage | Add-on-demand

SLA保障 SLA Assurance

时延 | 抖动 | 不卡顿
Latency | Jitter | No Stuttering

连接上量 Connection Scale-up

长在线 | 快速开发 | 高效适配
Long Online Duration | Fast Coding | Efficient Adaptation

生态聚力，充分发挥5G产业规模经济效应

Ecosystem Ignites Partnership, Maximizing 5G Scaled Economy Effect

RedCap生态商用成熟，24年上市百款终端

RedCap Ecosystem is Commercial Mature, 100+ Terminal Types@2024

物联产业伙伴纷纷推出RedCap产品，芯模端持续丰富

More Partners Enrich the RedCap Ecosystem with More Products



Source: Huawei MI, by 2024

RedCap越用越便宜，充分发挥5G产业规模经济效应

The More RedCap is Used, the More Affordable 5G is, Maximizing 5G Scaled Economy Effect

RedCap模组轻量化带动5G终端普及化

RedCap Promotes Low-cost 5G Industry Terminals



5G发挥规模效应，联接更多场景更多行业

5G Brings Scale Effect to Connect More Scenarios and Industries



更多场景
More Scenarios

更多行业
More Industries

Source: IDC, Huawei MI, by 2030

产业共生，加速迈向万物互联的智能世界

Industrial Symbiosis Strides to a Fully Connected, Intelligent World



行业更智慧 More Intelligent Verticals

智慧电网、智慧工厂
Smart Grids, Smart Factories, etc.



城市更智能 Smarter City

视联网、车联网等
Smart CCTV, Smart Vehicles, etc.

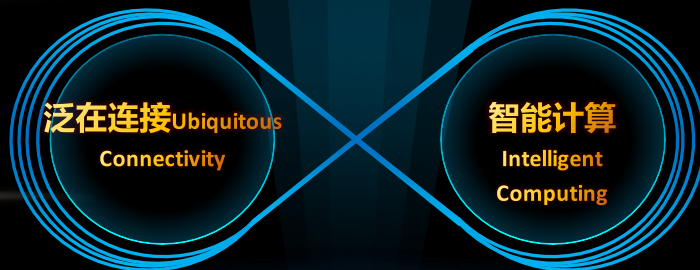


生活更美好 Better Life

智慧穿戴、移动宽带等
Smart Wearables, Mobile VPN, etc.

构建万物互联的智能世界

Building a Fully Connected Intelligent World



全球生态伙伴

Global Ecosystem Partners

• 模组厂商
Module Suppliers

• 终端厂商
Terminal Vendors

• 芯片厂商
Chipset Suppliers

• 集成商
ISV, IHV, SI

全球运营商

Global Mobile Operators

• 网络厂商
Network Vendors

• 中东北非
MENA

• 欧洲
Europe

• 行业客户
Vertical Enterprises

• 亚太
APAC

• 拉美
Latam



GTI