



HUAWEI



Intent-Driven Network

Intent-Driven Network

Увеличивая стоимость бизнеса

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"E³" — Три ключевых бизнес-драйвера цифровой трансформации



Пользовательский опыт

*Real-time, On-demand, All online,
DIY, Social (ROADS)*

Source: Huawei MI

User interconnection



Операционная эффективность

30% **40x**
higher efficiency better quality

Source: BCG 2016

Machine interconnection



Построение новой экосистемы

3.7%
growth in GDP as a result of digital
transformation

Source: Accenture 2016 (China)

Service interconnection

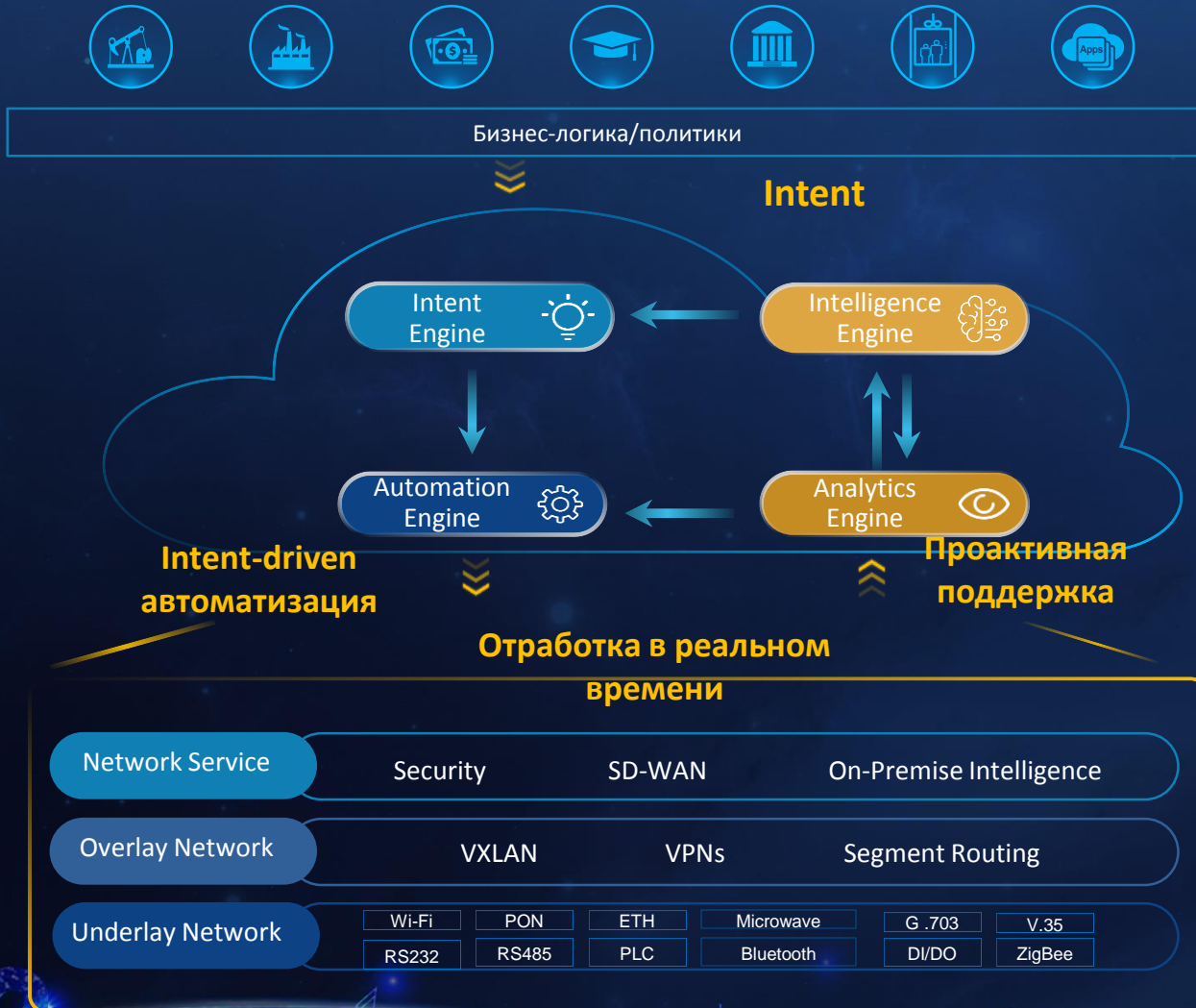
Взаимодействие создает ценность



Закрывая пропасть между бизнесом и сетью



IDN объединяет бизнес и сеть, делая бизнес Умным



Традиционная сеть

- От устройств
- Реактивное
- Зависит от квалификации
- Замкнутая архитектура

IDN
Intent-Driven Network

- **От пользователя**
- **Проактивная**
- **AI автоматизация**
- **Открытые платформы**

Intent-Driven Network



Intelligence



Simplicity



Ultra-broadband



Openness



Security

Huawei Intent-Driven Network – ключевые моменты

Huawei IDN

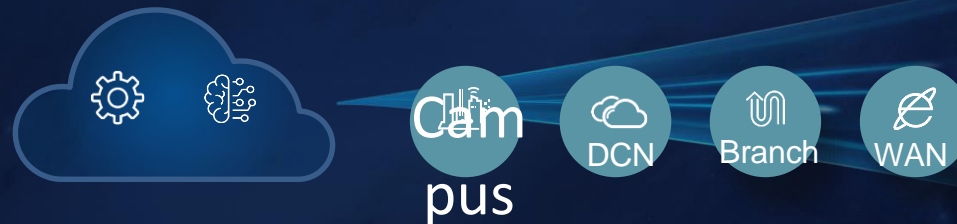
Самая Простая в Индустрии конвергентная сеть

30+ access modes, unified service support, OT & IT network convergence



Самая Продвинутая автоматизация

Centrally enables networks based on business intent



Самая Открытая сетевая архитектура

Open architecture + Open API + Standard protocols

Индустрия, IBN

LAN & WAN

Campus-centric only

Private

IDN
Intent-Driven Network

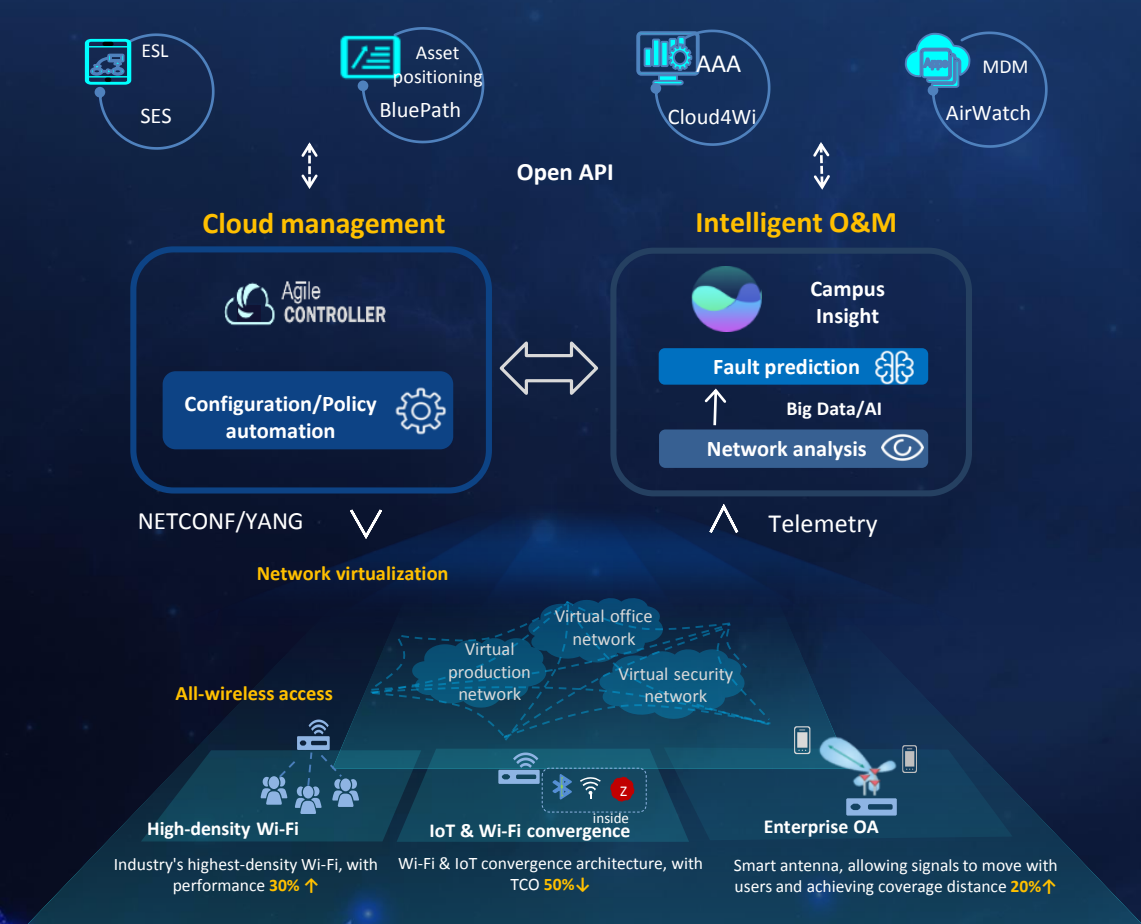
IDN: максимальная отдача для бизнеса



IDN для CloudCampus:

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Адаптация пользовательского уровня и достижение визуализированных, предсказуемых и управляемых воздействий для каждого пользователя в каждом приложении в каждый момент



Интеллект

- O&M: fault prediction and analysis based on machine learning
- User experiences: a VIP high-quality campus network built to guarantee key user services



Простота

- Management: full lifecycle cloud management
- Deployment: virtual networks and policy deployment automation
- Architecture: Wi-Fi & IoT convergence



Широкие полосы

- Industry's first 10G Wi-Fi network
- Industry's first 100G fully programmable modular switch



Открытость

- 150+ APIs
- Easy integration with third-party AAA systems, policy systems, and LBS systems



Безопасность

- MACSec-based end-to-end physical layer security
- Big Data-powered security policy automation

1000 начальных и средних школ в Парагвае. Создание эффективных, безопасных облачных управляемых кампусных сетей

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Проблемы

- The average budget for each school is less than US\$ 11,000, which requires CAPEX reduction.
- The schools don't have enough money to pay for a professional O&M team.
- The Ministry of Education requires networks to filter out improper information.

Достижения

43% ↓

Reduction in number of new APs

70% ↓

Reduction in OPEX

99.95% ↓

Threat detection Rate



IDN для CloudFabric:

Ориентированные на приложения, управление всем трафиком, проактивное управление рисками



Интеллект

- **Pre-event:** Inband Telemetry is used to implement real-time assessment, avoiding global faults.
- **During-event:** AI-powered analytics enables network fault detection in seconds.
- **After-event:** Applications and networks are intelligently associated, achieving minute-level fault locating and repairs.



Простота

- **Architecture:** hybrid cloud; unified architecture for multiple clouds
- **Deployment:** drag-and-drop; network automation; service deployment in minutes



Шировая полоса

- Industry's first high-density 400G line card
- Superfast, lossless AI-powered Ethernet network



Открытость

Pre-integration with 20+ cloud platforms/container platforms



Безопасность

VM-level micro-segmentation

Open-source, Open APIs Обеспечение быстрого взаимодействия с облачными платформами и развертывание служб за минуты



360 million online banking users



eChannel as part of daily lives



Fast innovation on financial services

Fast responding to customer needs and accelerating product updates/go-to-market (months -> days)

Проблемы

- The cloud platform on the live network failed to collaborate with network devices. As a result, new service rollouts were time-consuming, taking **more than 1 month**.
- Different types of servers for the same service were located within the same subnet, without any secure isolation measures. This failed to meet **the requirements of classified protection**.

Достижения

Minute-level service rollouts



- Openness for easy interconnection: The Agile Controller provides **open APIs** to interconnect with the cloud platform and automate service rollouts.

2 -> 3 network-wide security levels



- Micro-segmentation allows isolation configurations **at any mode** (such as VM name, OS, MAC, and discrete IP).

IDN для SD-WAN:

Гарантированная возможность подключения приложений и максимальная эффективность связи



Интеллект

- AI-powered fault prediction, fault backtracking in minutes
- Application-level intelligent routing for optimized experiences and bandwidth



Простота

- Device plug-and-play; automatic orchestration of VAS chains
- Interconnection between full series of high-performance CPEs in all scenarios



Открытость

- Open uCPEs (X86 & ARM64) supporting 10+ mainstream VASs
- Easy deployments on multiple public clouds, such as those from Microsoft, Amazon, and Huawei



Безопасность

- Flexible association between uCPEs and Huawei or third-party vFWs
- Encrypted transmission of services through IPSec; end-to-end secure isolation

Создание WAN сети с задержкой в 100 мс на базе Huawei с оптимизированными возможностями подключения приложений



Проблемы

- Global **1000+** branches, with annual bandwidth costs increased by **20%**
- Bandwidth conflicts for **600+** applications; poor experiences with cloud applications such as Office365
- Traditional WAN optimization controller (WOC), time-consuming security device deployment (**> 3 months**)
- No visibility to applications**; difficult fault locating

Достижения

Bandwidth costs

20% ↓

A mix of MPLS and Internet links increases the bandwidth utilization from **60% to 90%**.

Application experiences

10X ↑

AR1000V cloud gateway collaborates with the **Microsoft cloud** to optimize cloud application access.

VAS rollouts

30 minutes

Riverbed vWOC, F5 Proxy, and other VASs are quickly rolled out.

O&M costs

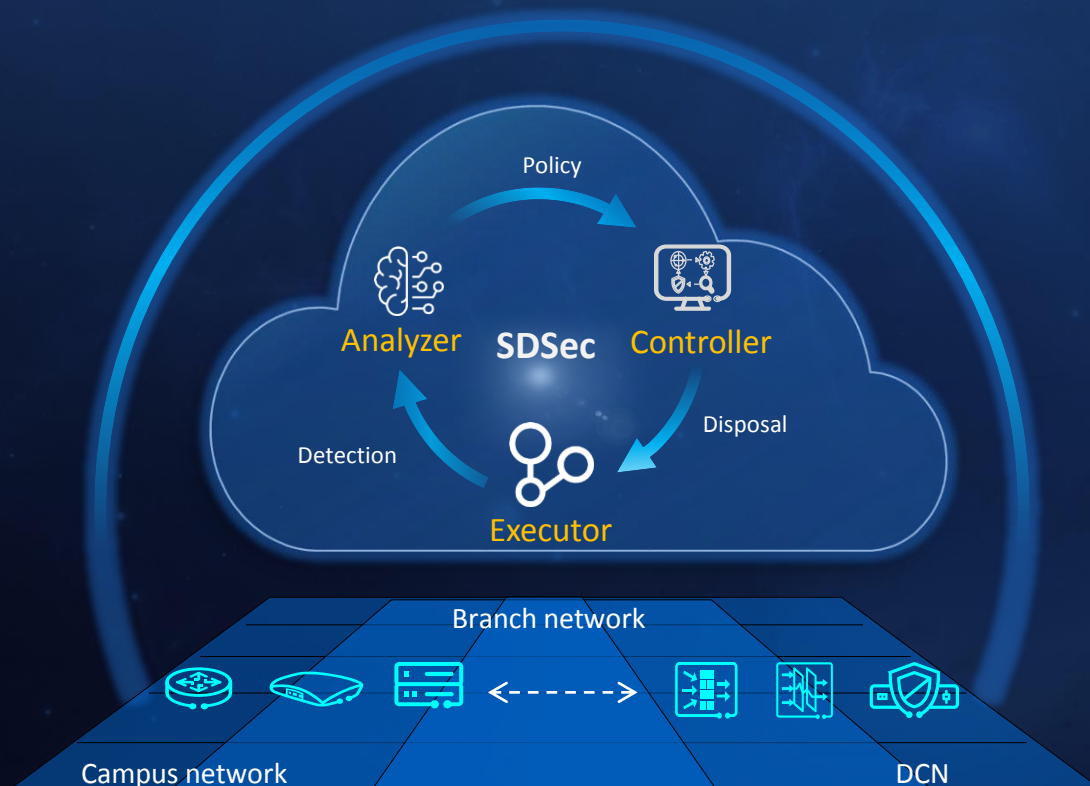
80% ↓

45+ reports based on applications, links, sites, and users; fault prediction



IDN для SDSec:

Ситуационная осведомленность о сетевой безопасности, активная защита на базе AI



Интеллект

- AI-powered awareness of advanced threats and security policy O&M
- AI-powered synergy network security defense



Простота

- Security services that can be obtained on demand
- Configuration automation; on-demand policy orchestration



Широкая полоса

- All-in-one gateway that integrates LAN, WAN, and security functionalities
- 128 VMs, 2.5T vFWs
- Clustering of 16 firewalls



Открытость

- Adaptation to 6+ mainstream cloud platforms
- Huawei security alliances



Huawei помогает известному коммерческому банку справиться с рисками безопасности за счет улучшений интеллекта

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- Big Data-capable CIS platform for security analytics
- Network-wide probes across HQ and branches, situational awareness of security

Сложности

- **Key information theft:** leakages of user names, passwords, and bank cards
- **Terminal hosts penetrated:** Extranet access of zombie hosts in branches
- **Emails infected with viruses:** 19 malicious emails found in 2 weeks

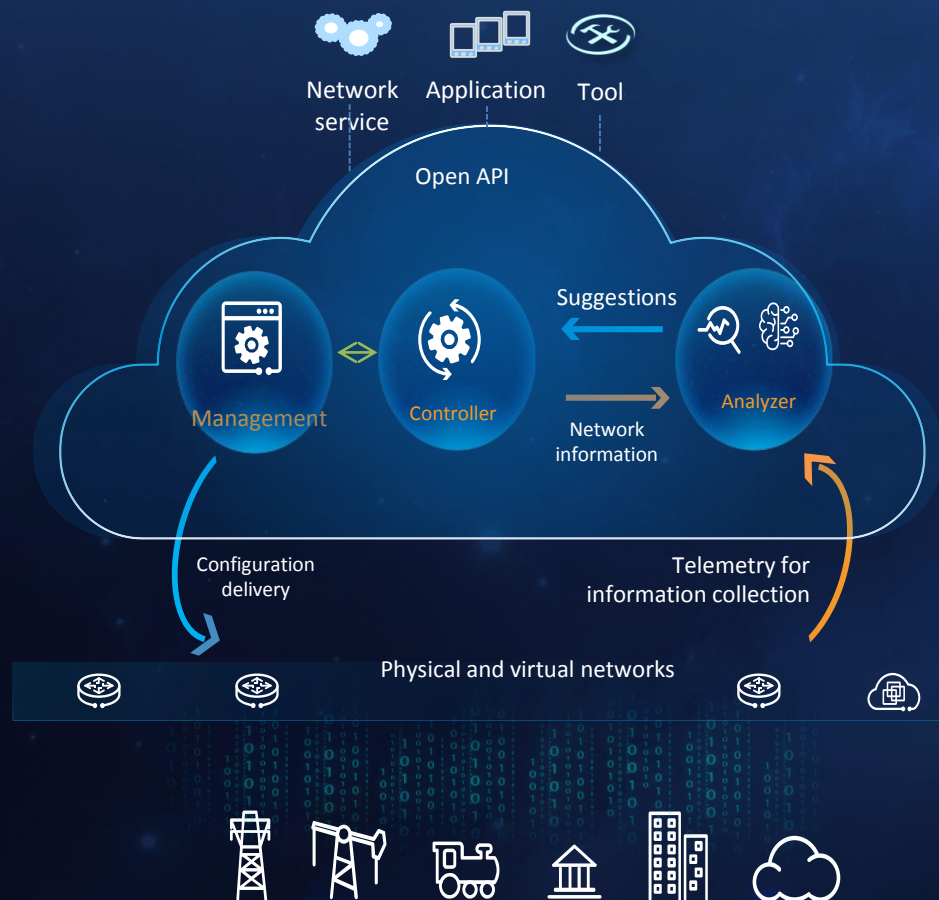
Достижения

- **Proactive threat detection and network-wide united action based on intelligence enhancements**
- Early threat discovery: **2 weeks -> 2 hours**
- **20%** more advanced threats found; prevention from asset losses of up to **40%**
- First-month findings since its debut: **8 first-of-their-kind advanced malwares**, 9 servers controlled by hackers, **34 viruses for which no alarm is reported**



IDN для AgileWAN:

Создание всех сценариев WAN-подключения



Интеллект

- AI-like second-level network fault detection and self-healing
- Proactive network optimization and traffic prediction based on real-time data collection, detection, and SLA



Простота

- Soft and hard pipe network architecture simplifies the network and reduces TCO by 40%.
- SDN-based minute-level service deployment and delivery contribute to business innovations.



Широкая полоса

- Industry's first 4T line card with a high level of integration
- Industry's first 400GE interface



Безопасность и надежность

- Three-level (chip-, device-, and network-level) security assurance achieves high reliability of 99.999%.
- Hardware BFD (with detection packets sent at intervals of 3.3 ms) and 10+ switchover technologies enable the network to run reliably.

Помощь EPM в Колумбии при создании высоконадежной интеллектуальной сети

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Grupo·epm[®]

Сложности

- Aged network; an urgent need to migrate SCADA and relay protection services to an **IP network**
- Coexistence of dual networks, resulting in **high operating costs**
- Many PCM devices; no unified management system for **devices from multiple vendors**

Достижения

IP
hard pipe

Mission-critical services are reliably carried on an IP network.

Unified
bearing

Multiple networks are integrated into one, reducing TCO by **40%**.

PCM
card

E2E unified management increases **O&M efficiency by 30%**.





Полностью подключенный, интеллектуальный мир

Интеллект
reshapes user experiences.

Простота
enables service agility.

Широкая полоса
keeps network advantages.

**Открытость и
безопасность**
ushers in a win-win ecosystem.



The background is black with a fine grid pattern. On the right side, there are several thin, curved lines in orange, yellow, red, and light blue that sweep across the frame. The word 'СПАСИБО' is written in large, white, bold Cyrillic letters in the center-right area.

СПАСИБО

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