

Cisco Touch: Die richtige Anbindung für Ihre Teleworker



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Agenda

- Typen und Beweggründe für Teleworker
- Mobility Portfolio für Cisco Remote Office
- Cisco Virtual Office
- Q&A

Mobile Arbeitsplätze

Casual Teleworker



Remote Contractor



Ad Hoc Office



Satellite Office



Premier Teleworker



Embedded Business



Mobile Road Warrior



Branch Office



Mobility ist heute eine Kernanforderung an ein Unternehmen

Mobility-Lösungen für Cisco Remote Office

Casual Teleworker

AnyConnect
IP Communicator
Unified Personal
Communicator

Remote Contractor

OfficeExtend

Ad Hoc Office

CVO Express
3G Wireless
WAN

Satellite Office

CVO Express
OfficeExtend

Premier Teleworker

CVO Express
OfficeExtend

Embedded Business

OfficeExtend

Mobile Road Warrior

AnyConnect

Branch Office

ISR
Local Controller
H-REAP

Cisco bietet eine breite Auswahl für Remote Offices

Mobility Solutions für ein Cisco Remote Office



- Enterprise-class Angebot
- Breites Portfolio
- Niedrigster TCO

AnyConnect/Softphone



- Software only Client-based Lösung
- Sichere Data & Voice / Collaboration
- Flexible Data Connectivity für Laptops, Desktops, WinMob, iPhone
- Cisco IP Communicator & Unified Personal Communicator für voice

CVO Express



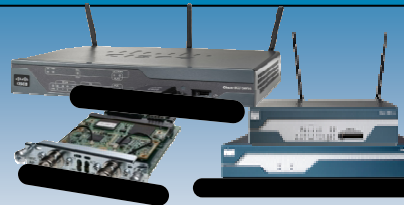
- Wired & wireless
- Secure Data, Voice & Video
- 3G WAN Certified bei 65+ SP's
- Head-end: ASA, Router, WLAN Controller (optional)
- Zero-touch End-user Deployment (Config engine)

OfficeExtend



- Wireless only
- Secure data & voice
- Head-end: WLAN Controller 5508
- Zero-touch end-user deployment

800 & 1800 ISR



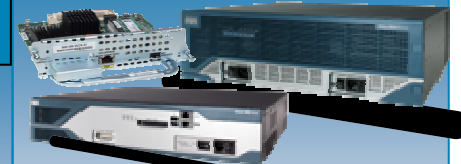
- Wired & wireless
- Secure data, voice & video
- 3G WAN certified by 65+ SP's
- CVO Express & CVO
- H-REAP & M-Drive (8xx)
- Integrierte AP's

H-REAP & ASA



- Zentral gemanaged
- Local Authentication für HA
- M-Drive mit seamless Roaming
- Zentrale Mobility Services
- Standalone & Integriert
- Remote Firewall mit ASA 5505

2800 & 3800 ISR



- Wired & wireless
- Secure data, voice & video
- 3G WAN certified by 65+ SP's
- Unified Network Services & Application Intelligence
- High density & performance for concurrent services
- Integrated controller options

Branch Controller



- Wired & wireless
- Secure data, voice & video
- Branch wireless network independent of WAN & data center
- M-Drive with seamless roaming
- Local mobility services
- Standalone & integrated options

Cisco Remote Office Portfolio

Road Warrior / Casual Teleworker

SOHO / Premier Teleworker

Small / Medium Branch

Medium / Large Branch

Cisco AnyConnect VPN Client

Typische Nutzer

- Verschiedenste Zugangstechnologien
- Contractor oder Business Partners, der nur sehr begrenzten Zugang braucht
- Vollzeit-Angestellte, die von unterwegs Zugriff brauchen
- Sofortige Verteilung von Access in Notsituationen

Features & Vorteile

- Software-only. Keine Hardware, die verteilt werden muss .
- Breite Unterstützung unterschiedlicher mobiler Zugangsoptionen, Clients und Betriebssysteme
- Optimale Sicherheit mit integrierter Threat Protection
- Flexibles Licensing für Notsituationen



Komponenten

- Cisco ASA 5500 Series VPN Edition oder Cisco IOS VPN headend Routers
- Cisco AnyConnect VPN Client (entweder AnyConnect Essentials oder AnyConnect Premium)
- Cisco AnyConnect Mobile License (optional)

Softphone – Cisco IP Communicator, Cisco Unified Personal Communicator

Typischer Nutzer

- Mobile Arbeitnehmer und gelegentliche Teleworkers mit Laptops nutzen Softphone-Applikation
- Einfacher Zugang für Voice, Video, Instant Messaging, Web Conferencing, Voicemail und Presence-Information von einem Interface aus
- Zugang zu allen Office IP-Telefonie-Features

Features & Vorteile

- Übernahme der Office-Rufnummer überall
- Bessere Zusammenarbeit mit Kollegen, Kunden und Partnern durch IM & Presence
- Schnellere Antworten durch Presence Status & Click to Call



Komponenten

- Cisco IP Communicator:
Cisco MCS Server, Cisco IPC Client Licenses
- Cisco Unified Personal Communicator:
Cisco MCS Server, Cisco Unified Presence Server, Cisco UPC Client Licenses
- Callmanager Express

Cisco OfficeExtend

Typischer Nutzer

- Teleworker braucht permanente Enterprise Class Mobility für Laptop und Wi-Fi Phone
- Erlaubt die Einrichtung von personal SSID zum privaten Gebrauch
- Satellite Offices ohne IT Ressourcen
- Business Partners (Konferenzen, Kiosks, Installation bei einem Kunden) mit der Möglichkeit zur LAN-Nutzung

Features & Vorteile

- Basiert auf CUWN-Architektur – einfache Erweiterung des Corporate Wireless-Netzwerks, einfache Infrastruktur, ein Management
- Enterprise-class Access Points mit M-drive Support: ClientLink und BandSelect
- Sicheres Plug-n-Play für End Users
- Nutzt Cisco UC und dual-mode Mobile Phones
- Niedrigste Kosten für IT



Komponenten

- Cisco 5500 Series Wireless Controller with WPLUS License
- [Cisco Aironet 1140 Series](#)
- [Cisco Aironet 1130 Series](#)
- [Cisco Wireless Control System](#)
- Cisco Wireless UC 7900 Series phone

Cisco 5500 Series Wireless Controller

optimal für 802.11n

Neu!

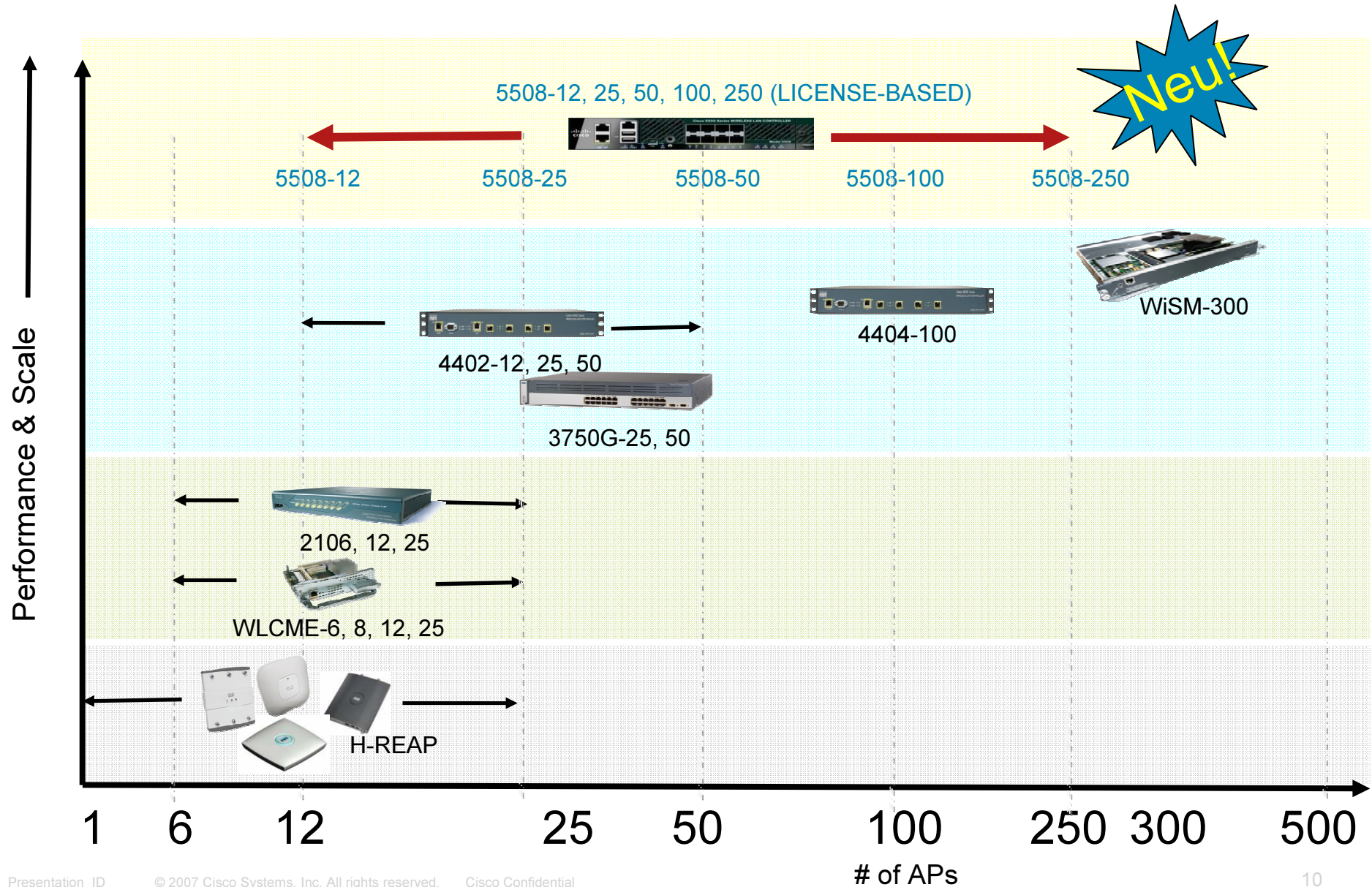
- Integriert sich in ein bestehendes Cisco Unified Wireless Network
- Optimiert für 802.11n
- Zusammen mit Aironet 1140 und 1250 sowie WCS 6.0 die “industry’s leading 802.11n solution”
- Nutzt Cisco M-Drive Technology inkl. BandSelect und ClientLink
- Licensing erlaubt scale-as-you-grow und Feature-Flexibilität



Spezifikation auf einen Blick

Access Points	12 - 250
Devices	> 7,000
Mobility Scale	18,000 APs in Mobility Domain
Form	1 RU Appliance
Interfaces	8 GigE Ports

Cisco Wireless Controller Portfolio



Controller-Vergleich

	5500	4400	WiSM
			
# of Access Points	12, 25, 50, 100, 250	12, 25, 50, 100	300
Throughput	Up to 8 Gbps	Up to 4 Gbps	Up to 8 Gbps
Clients	Up to 7,000	Up to 5,000	Up to 10,000
Concurrent AP upgrades/joins	Up to 100	Up to 10	Up to 20
Network I/O	Up to 8, 1 Gbps SFPs	Up to 4, 1 Gbps SFPs	Cat6k back plane
Mobility domain size	Up to 18,000 APs	Up to 7,200 APs	Up to 10,800 APs
# of controllers per physical device	1	1	2
Power Consumption	125W	47W	164W
AP count and feature upgrade via licensing	Yes	No	No
Encrypted data link between AP and controller	Yes	No	No
OfficeExtend Solution	Yes	No	No

OfficeExtend Highlights

OfficeExtend Solution



Vorteile

- Sicher, bequem, kosteneffiziente mobile Teleworker-Lösung für eine durchgehende mobile Experience
- Einfaches Deployment für die IT
Plug und Play für End User
- 802.11n ready 1140 AP und 1130 AP supported

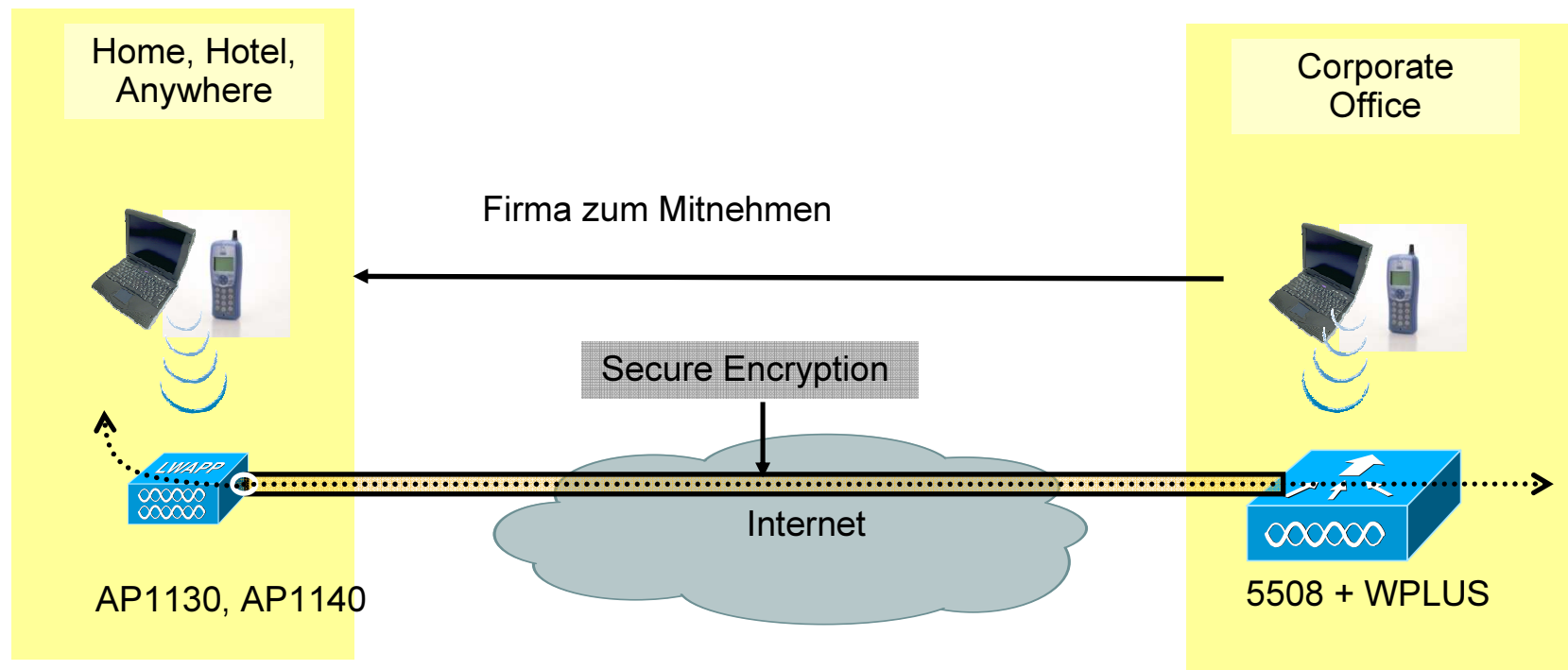
Features

- Bis zu 250 APs je Wireless Controller
 - WCS Provisioning für grosse Deployments
- Personal SSID für private Nutzung
- Einfache Konfiguration am Controller
- Encryption der Data at line rate, keine zusätzliche Hardware erforderlich
 - Unterstützt UC Wireless Phones

Bestandteile

- 5508 Wireless Controller
 - 1130 AP; 1140 AP
 - Management mit WCS
- OfficeExtend Solution ist WPlus Lizenz verfügbar

OfficeExtend Solution



Sicher



Sichere DTLS Encryption übers WAN

einfach



AP macht den Call Home automatisch

günstig



Keine Kosten mehr für GSM, UMTS ...

Privat-Nutzung

- Personal SSID kann über AP GUI konfiguriert werden
- Alle können damit einen AP nutzen
- Split-tunneling trennt zwischen personal Data und Firmendaten; persönliche Daten gehen direkt ins Internet (nicht durch die Firma)

The screenshot displays the Cisco AP GUI for AP1140. The interface includes a top navigation bar with links for HOME, CONFIGURATION, EVENT LOG, and HELP. The main content area is divided into three sections: General Information, AP Statistics, and Association.

Home: Summary

General Information

AP Name	AP1140	AP MAC Address	0022.90e3.3770
AP IP Address	172.20.225.162/DHCP	AP Uptime	2 days, 26 minutes
AP Mode	Remote	AP Status (Admin/Operational)	ADMIN_ENABLED/UP
AP Version	12.4(20090122:041427)	Software Version	6.0.78.0
Controller Name	Talwar-TME		

AP Statistics

Radio	Freq/Channel	Tx Power	Pkts In/Out	Bytes In/Out
Radio0-802.11N ^{2.4} GHz	2412 MHz/1	-17 dBm	3678059/613099256	8715/662340
Radio1-802.11N ⁵ GHz	5745 MHz/149	-17 dBm	956695/149052236	31308/2379408

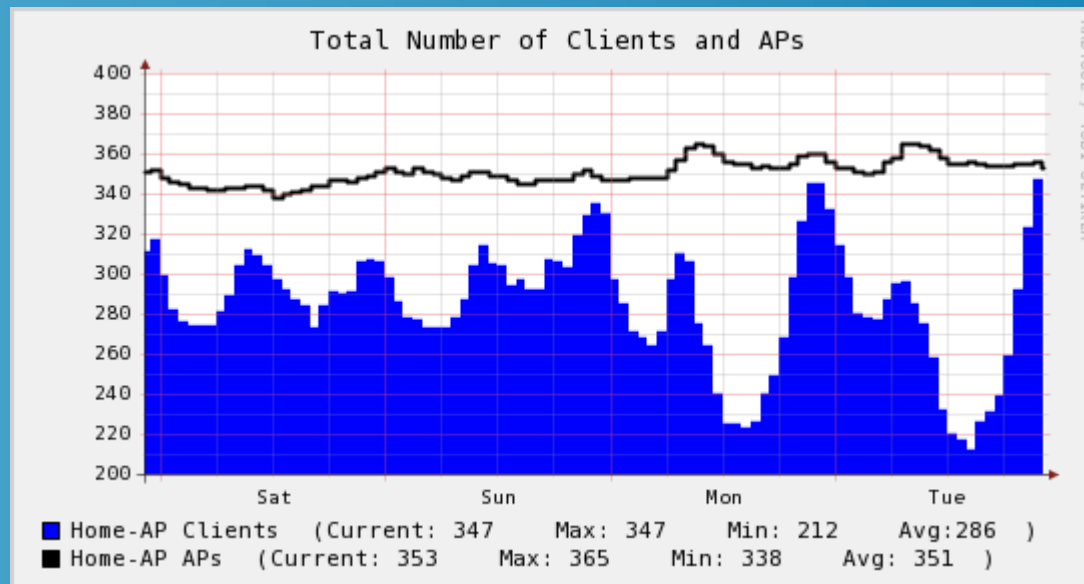
Association

To remove 'Local Wireless Connection' association or modify settings, click on [Configuration](#).

Client MAC	Client IP/Name	Pkts In/Out	Bytes In/Out	Duplicates Rcvd/Data Retries	Decrypt Failed/RTS Retries
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OfficeExtend Live @ Cisco

- Über 350 OfficeExtend APs in einem Cisco live Produktions-Netzwerk
- Corporate Network bei 350 Teleworker
- Verschiedenste Mobile Devices: Laptops, UC 7921 und UC 7925 Phones
- Über 15,000 Wi-Fi VoIP calls in einem Monat



802.11 Telefone: 7925G und 7921G



Neu im 7925

- kleiner
- Besserer Schutz gegen Wasser und Staub
- stabiler
- Bluetooth Integration

Cisco Unified Wireless Network

Hybrid Remote Edge AP (H-REAP)

Nutzer

- Zweigstellen wie Stores und Vertriebsbüros, wo ein lokaler Controller keine wirkliche Option ist
- Viele Zweigstellen brauchen kompletten wireless Service für Scanner und ähnliches mit Backupmöglichkeiten, schnellem Roaming, zentralem Management

Features & Vorteile

- Kosteneffizienz mit wenigen Komponenten
- mehrere APs und seamless Roaming
- Daten müssen nicht durch den Controller
- Clients können bei WAN ausfall auch lokal authentifiziert werden
- keine zusätzliche Hardware für 802.1x Authentication
- Bietet zentrale Mobility Services (Entscheidung per SSID)



Komponenten

- Standalone oder integrated Controller
- Aironet 1130 ,1140, 1240, 1250 Series Access Points
- Integrated Services Router
- Cisco Wireless Control System

Cisco Unified Wireless Network

Branch Controller

Typische Nutzer

- Außenstellen unabhängig vom WAN und Data Center
- Außenstellen mit großer Anzahl von AP's und Clients

Features & Vorteile

- Cisco Unified Wireless Network mit allen Optionen
- Mehr AP's
- Bessere Systemverfügbarkeit



Komponenten

- Standalone und Integrated Controller
- Aironet 1130 ,1140, 1250, 1240 Series Access Points
- Cisco Wireless Control System

Cisco Virtual Office Express

Typische Nutzer

- Premium Teleworker mit eigenem Phone
- Kleine Vertriebsbüros mit kompletter Infrastruktur

Features & Vorteile

- Alle Dienste verfügbar
- Einfache Einrichtung



Komponenten

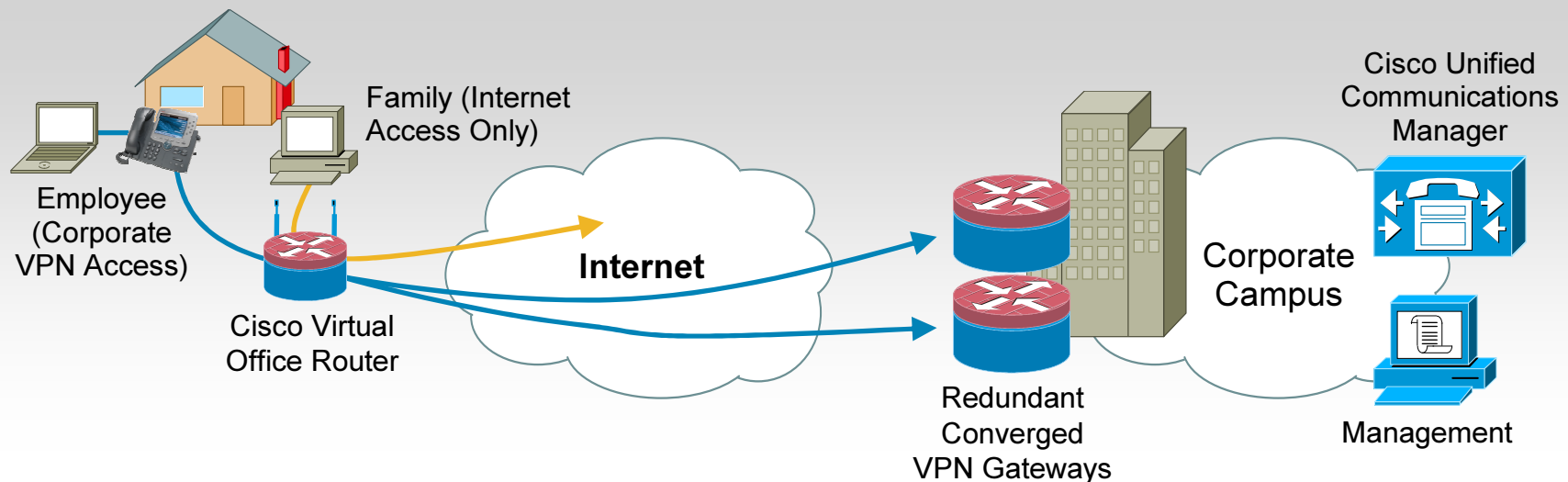
- Router 8xx
- Config Engine
- IP Phones (alle)
- Call Manager

Zusammenfassung

- Cisco bietet unterschiedliche Remote Office-Lösungen für unterschiedliche Anforderungsprofile
- Sie bestimmen, wie bequem dies für die Enduser ist!

What Is Cisco Virtual Office?

- Cisco Virtual Office is an end-to-end solution for employees that work in remote locations including branch and home offices
- The solution features office-caliber end-user experience with voice, video, wireless, and real-time data
- Integrated security protects the employee and the corporate network



Cisco Virtual Office

Technology Differentiators

- **Advanced network services and applications integration**

Voice, video, wireless, firewall, and IPS services solution-tested

Extracts full value out of powerful Cisco IOS® Software-based CPE

- **Simplified deployment and management**

Zero-touch deployment: Allows painless rapid deployment;
e.g., during disasters or M&A

Efficient, automated changes: Pushes policy from central server

Enterprise-class scalable, manageable, and proven

- **Converged VPN**

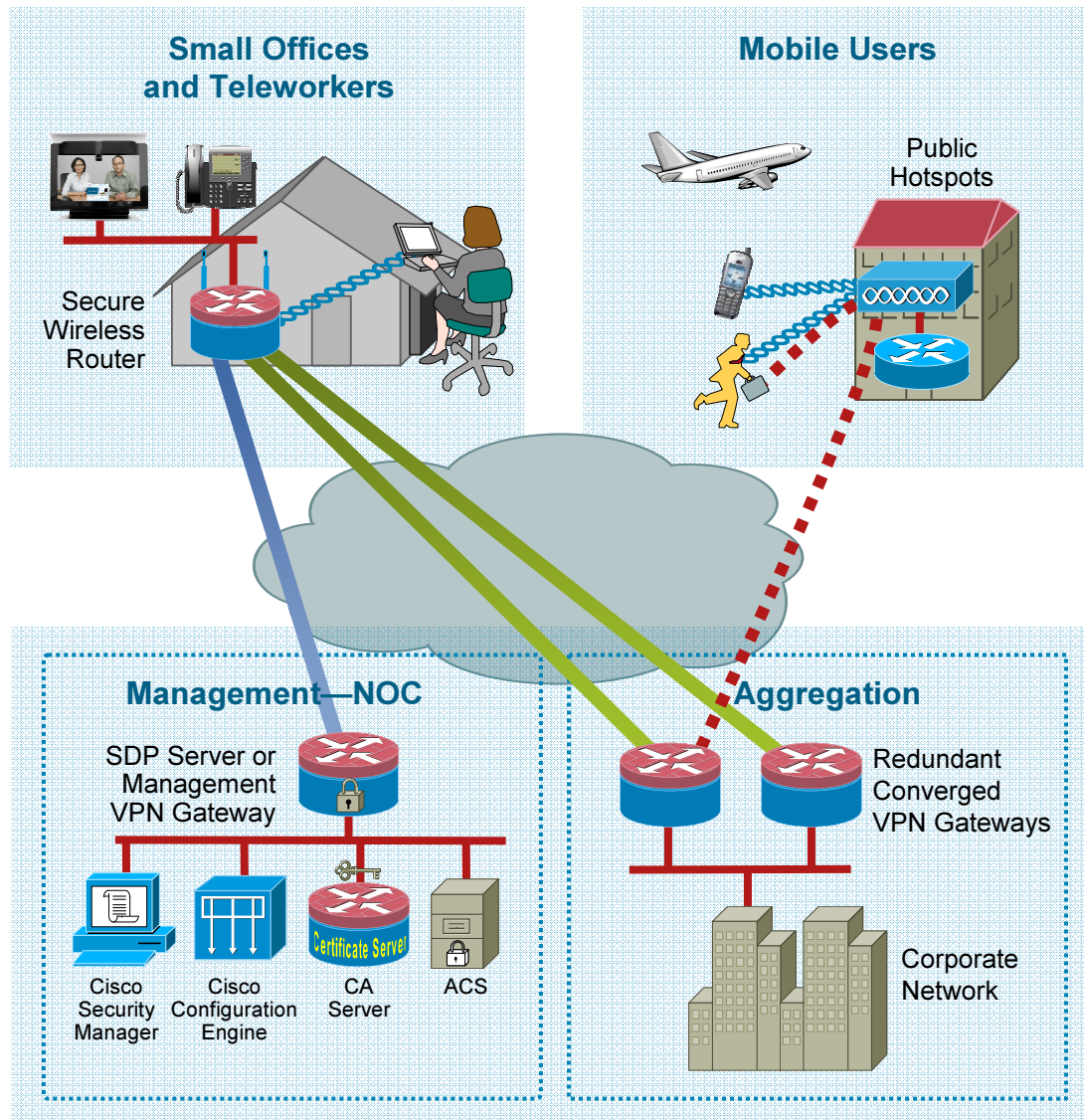
Multiple VPN designs for teleworkers, small o
and mobile users consolidated into headend ;
and management model

- **Layered identity**

Delivery of comprehensive user and device id
domain isolation, and lockout of stolen or hac



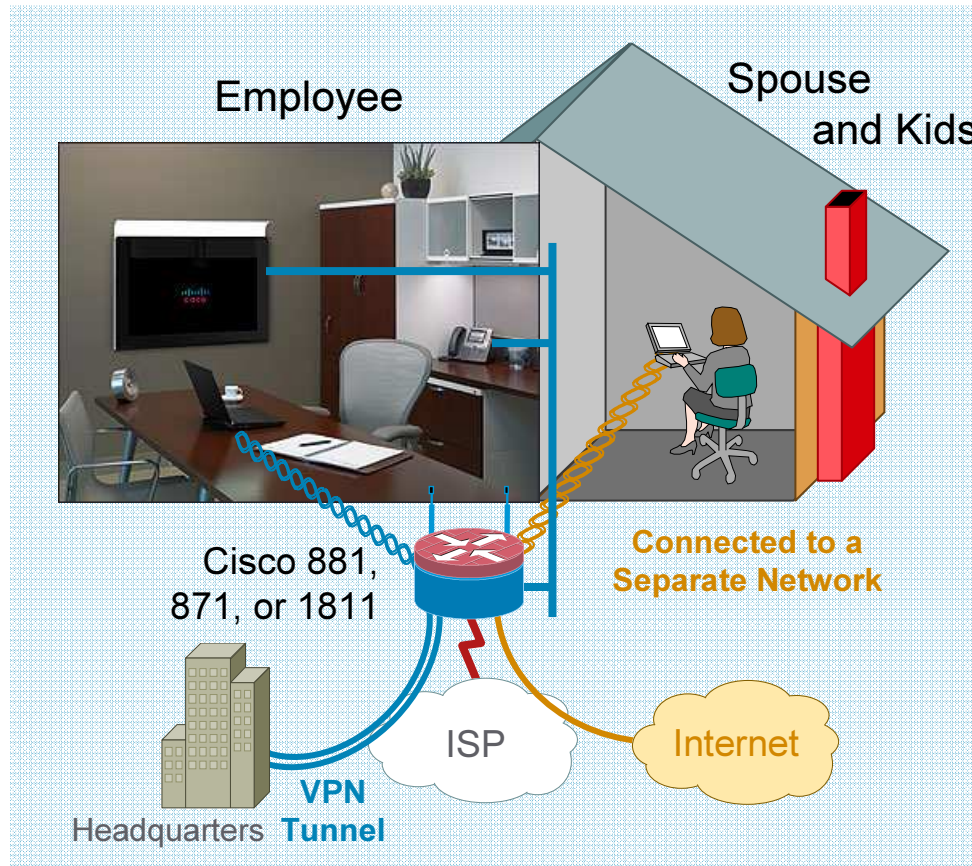
Cisco Virtual Office Architecture



- Remote routers can be shipped directly to end user with factory defaults or staged
- Strong PKI security authenticates remote devices
- RSA keys for management and converged VPN tunnels are separate
- Converged VPN to corporate network features active secondary tunnel to facilitate instant failover
- Architecture allows for outsourcing of NOC to separate IT entity
- Management tunnel stays up, allowing centralized push of policy changes
- Spouse and kids are on separate network with access only to Internet
- Mobile access is available from hotspots

Cisco Virtual Office Architecture

Small Offices and Teleworkers

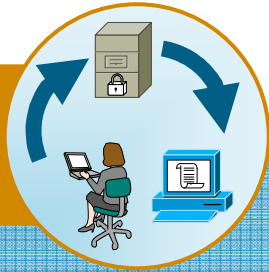


- VLAN assignment is separate for corporate and family endpoints
 - Access to corporate tunnel is based on IEEE 802.1x authentication
 - Non-authenticated users, or those connected to non-trusted VLAN, have Internet access only
 - Voice VLAN allows IP phones to bypass 802.1x authentication
- Cisco DMVPN with advanced QoS and IP Multicast integration provides secure transport, facilitating voice and video applications
- Wi-Fi or LWAPP protocols offer EAP-FAST, PEAP, TLS, WEP, WPA, and WPA2 authentication mechanisms

Cisco Virtual Office

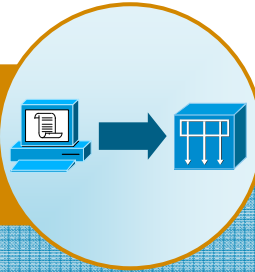
Zero-Touch Deployment

1



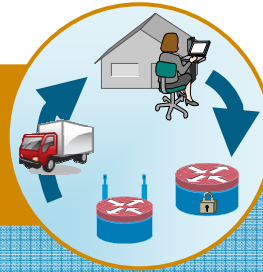
- End user requests Cisco Virtual Office service; gets approval
- User profile loaded on AAA, DNS, and CSM (phone no., Cisco Unified Communications Manager cluster, ...)

2



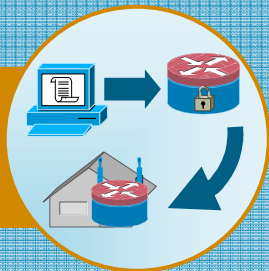
- CSM generates user configuration and stages deployment job in Cisco Configuration Engine (CE)
- CE waits for end-user router to call home

3



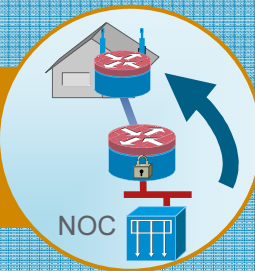
- Router and phone shipped to end user with factory defaults
- End user opens shipment and completes simple setup: plug in Cisco Virtual Office router and phone, type the SDP server URL

4



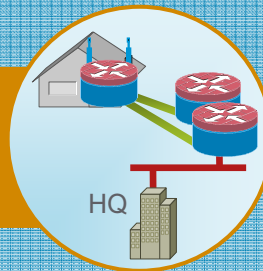
- SDP server authenticates router and user through AAA
- SDP server obtains bootstrap configuration from CSM and sends it to Cisco Virtual Office router

5



- Cisco Virtual Office router builds IPsec tunnel to management gateway, gains access to CE
- CE pushes full configuration, including certificate, to Cisco Virtual Office router

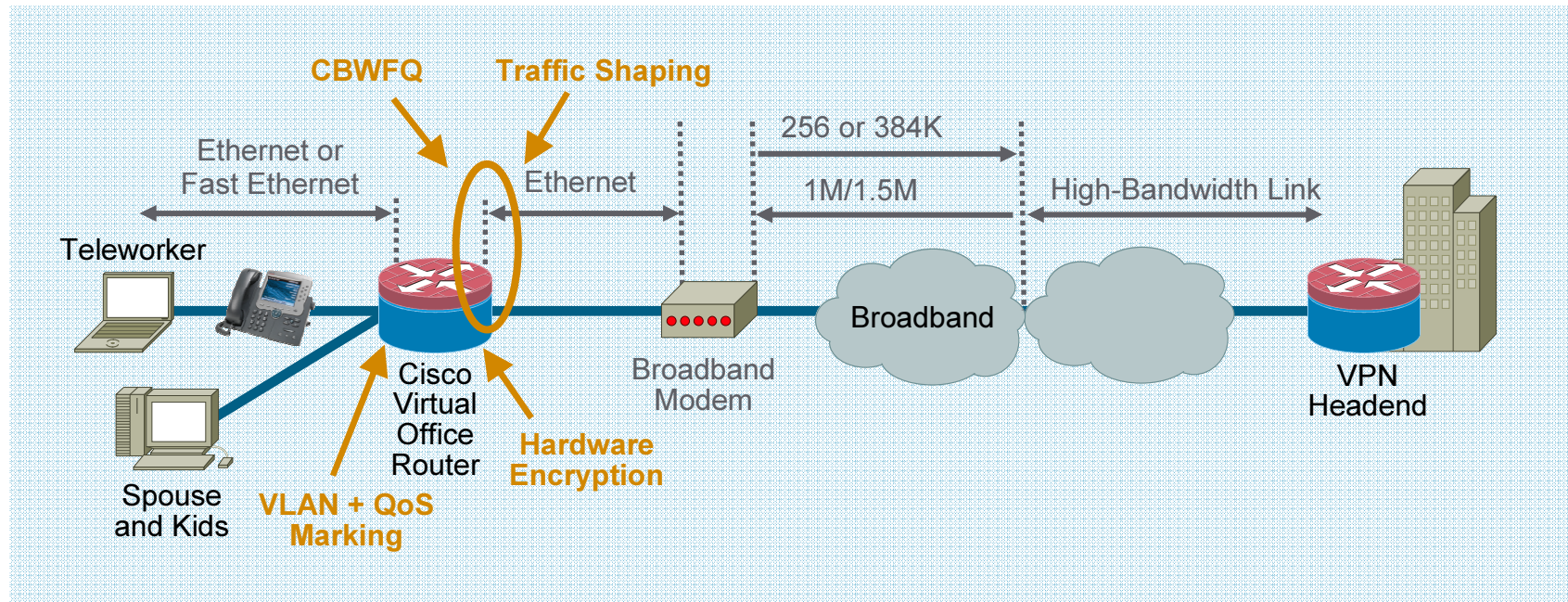
6



- Cisco Virtual Office router is now able to build IPsec tunnels to data VPN gateways

Cisco Virtual Office

Ensuring Voice and Video Quality



Feature	Benefit
Hardware Encryption	Lowers latency and jitter
CBWFQ and LLQ (QoS)	Prioritizes VoIP packets
Traffic Shaping (QoS)	Adjusts to speed mismatch
NBAR QoS Marking	Prioritizes corporate traffic over peer-to-peer, games, etc.

Cisco Virtual Office

Wireless

Feature	 Cisco 881W	 Cisco 871W	 Cisco 1811W
802.11 Modes Supported	802.11b/g/n	802.11b/g	802.11a/b/g
Diversity Antennas	MIMO	Switched Diversity	Switched Diversity
Frequency Band	2.4GHz	2.4GHz	2.4GHz/5GHz
Removable Antennas	Yes	Yes	Yes
AZR Support	Yes	Yes	Yes
Number of SSIDs and Wireless VLANs	16 SSID 8 Wireless VLAN	10	16
LEAP, PEAP, EAP-TLS, 802.1x, Static and Dynamic WEP, PSK, WPA, TKIP/SSN, MAC Auth, Survivable Local Auth, and RADIUS	Yes	Yes	Yes
10/100 Managed Switch	4-Port	4-Port	8-Port, Internal Power Supply, Optional Internal PoE
WAN Options	Fast Ethernet (881), G.SHDSL (888) (Future: VDSL2)	ADSL2+ (877/876), Fast Ethernet (871), and G.SHDSL (878)	ADSL2+(1801/1802), Fast Ethernet (1811/1812), and G.SHDSL (1803)

Empfohlene Produkte

Road Warrior Casual Teleworker

Cisco AnyConnect
Cisco IP Communicator
Cisco Unified Personal Communicator

SOHO/Premier Teleworker

- **Cisco OfficeExtend Solution**
 - 5500 Series Wireless LAN Controller
 - Aironet 1130 or 1140 Series Access Point
- **CVO Express**
 - Remote site: Cisco 870*, 880, 890 or 1800 Series ISR; Cisco Unified IP Phones 7900 Series
 - Headend: Cisco 2800, 3800, 7200, or ASR Series;
 - Headend (Optional): Wireless LAN Controller, WCS, Configuration Engine
 - *autonomous only

Small/Medium Branch

- **Cisco Integrated ISR**
 - Integrated AP on 800 & 1800 ISRs
 - Aironet AP and standalone controller options (2100/4400/5500)
 - Cisco Wireless Control System (WCS)

Small/Medium Branch

- **Cisco Unified Wireless Network (H-REAP)**
 - Remote site: Aironet 1130, 1140, 1240, 1250 Series Access Point; Integrated AP on 880 or 890, ASA 5505
 - Headend: 4400 or 5500 Series WLAN Controller or Cisco Catalyst 6500 Series/7600 Series Wireless Services Module (WiSM)
 - Cisco Wireless Control System (WCS)

Medium/Large Branch

- **Cisco Integrated ISR**
 - Wireless Controller Module for Cisco 2800/3800 ISR or Cisco 3750 switch
 - Aironet AP and standalone controller options (2100/4400/5500)
 - Cisco Wireless Control System (WCS)

