

Join the **DATA REVOLUTION**




# Alcatel-Lucent LAN és WiFi újdonságok

## Young Partner Nap 2012

**Luky Gábor**  
2012 Május



Kommunikációs rendszerekben gondolkodunk

..... Alcatel-Lucent   
Enterprise

# A tartalomból

## 1. Adatközponti megoldások

- Kihívások
- Alcatel-Lucent Mesh architektúra

## 2. Vezeték nélküli megoldások kis- és közepes vállalatok számára

- Virtuális központi vezérlő - Instant AP megoldás

# PORTFOLIO

## MANAGEMENT



IP address, data center, network, security and performance management

## SWITCHING



WLAN Switching



LAN and Data Center switching



MPLS Switching

## SECURITY



Embedded security



Host Integrity Check



Unified Threat Management



# Challenges



Network under unprecedented stress

# OmniSwitch 6900

## 10 GigE Top of Rack Data Center Switch

Architecture

OmniSwitch OS6900-X40 (front / back views)

Ethernet management port, Serial and USB ports

Optional Module #1

Optional Module #2

Hot swappable fan tray  
3+1 fan redundancy,  
Front to Back cooling

Redundant slide-in power supplies (AC or DC)

1U

OmniSwitch OS6900-X20 (front)

40 GigE Module

### Raw Performance and Flexibility

- up to 1.28Tbps of capacity, sub-microsecond latency, 128K MAC addresses
- 20 and 40 port models for different types of rack configuration
- Optional module for utmost flexibility and future proofing
- Power Efficient: 3.5W per 10GbE port



# OmniSwitch™ 10K

Core and End of Row Data Center Switch

Architecture



## Leader in Raw Performance

- 256 ports of 10GigE wire rate, non blocking
- Layer2, Layer3, uni-cast, multi-cast
- Verified by Independent Tests (Lippis / Ixia)
- 5.12 Tb/s current switching capacity
- Platform to Evolve to 40GigE, 100GigE

## Ready for Lossless Ethernet (FCoE)

- Platform support for Latest IEEE standards
- Enhanced Transmission Selection (802.1Qaz), Priority Flow Control (802.1Qbb)

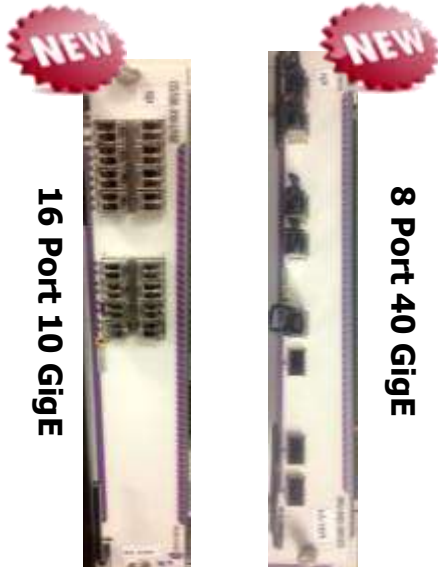


## 40 GigE Line Cards

- 4 x 40GigE
- 8 x 40GigE

## 10 GigE Line Cards

- 8 +8 x 10GigE
- 16 x 10GigE



16 Port 10 Gige

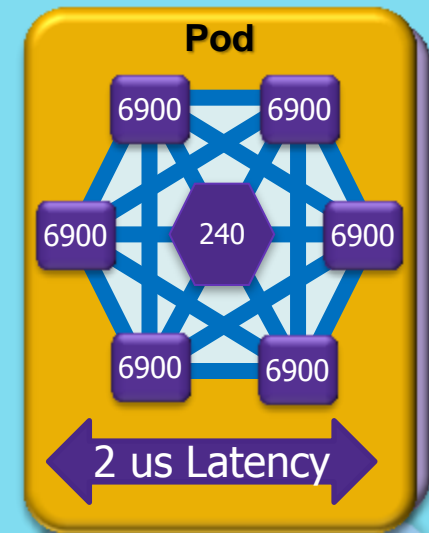
8 Port 40 Gige



- A Mesh architektúra három fő elemből épül fel:
  - **POD:** A ToR switchek összekapcsolása (MC-LAG és Virtual Chasse, később Shortest Path Bridging, VC)
  - **SuperPOD:** Több POD összekapcsolása
  - **Core:** Több SuperPOD összekapcsolása
- Az összekapcsolás lehet 10GE és/vagy 40GE

# "POD"

- A POD 'N' darab OS6900 switch összekapcsolása 10G vagy 40 G kapcsolatok segítségével
- A 6 elemű POD közvetlen kapcsolatot biztosít minden egyes eszköz között – Shortest path
- Az egész struktúra végpont-végpont közötti késleltetése < 2 microszekundum
- Akár **(240) 10G szerver port**
- A POS minden eleme **egy hop** távolságra van egymástól



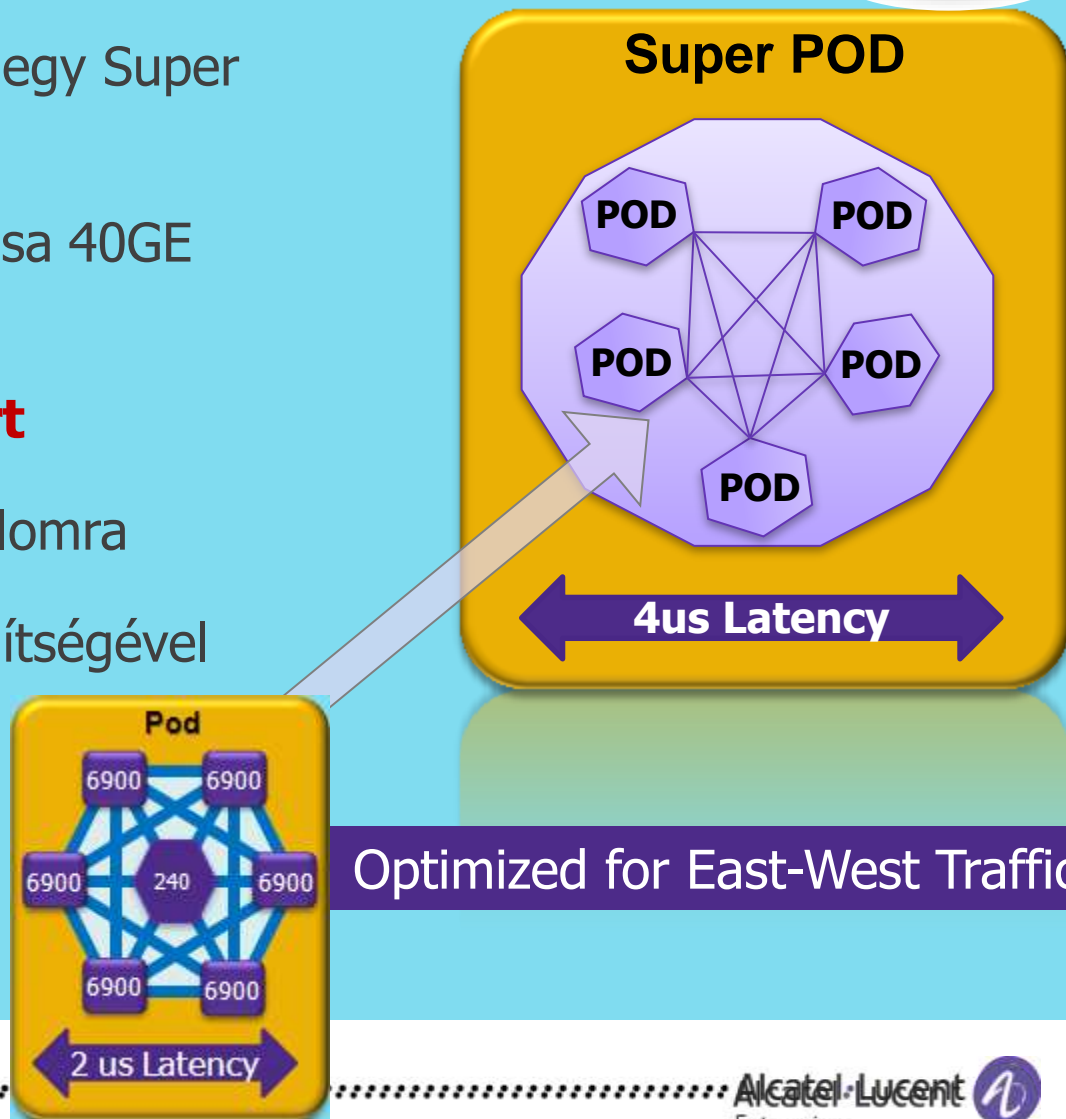
Optimized for East-West Traffic



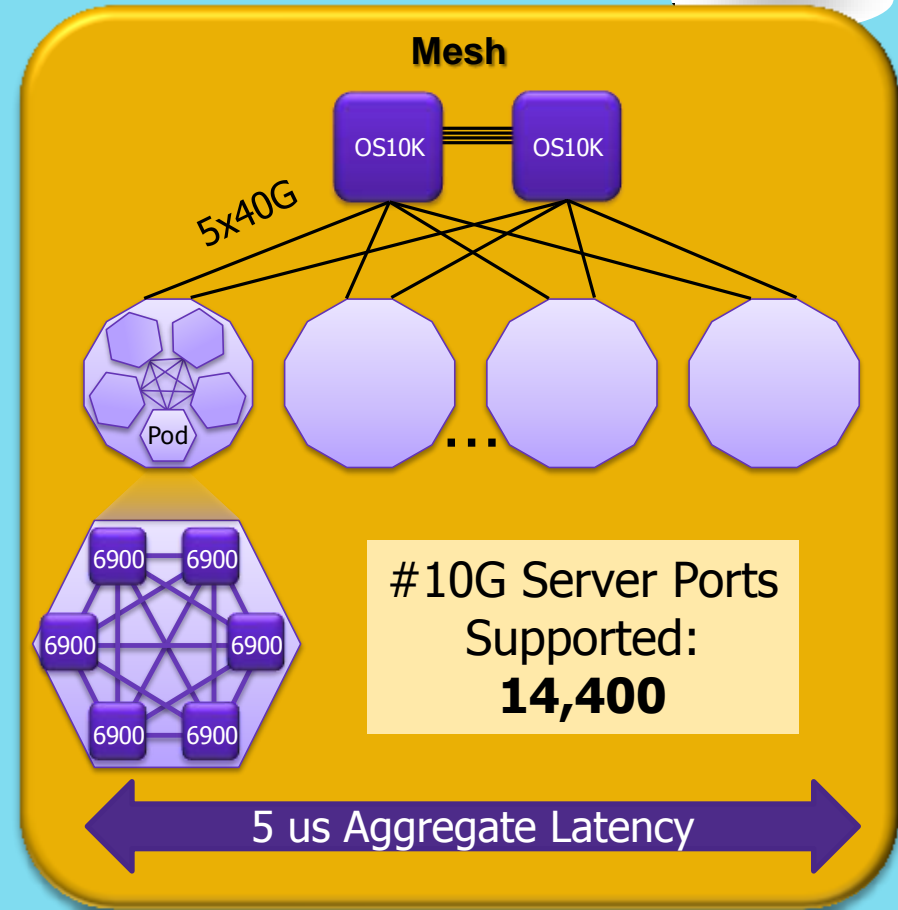


# "Super POD" (A Pod-ok POD-ja)

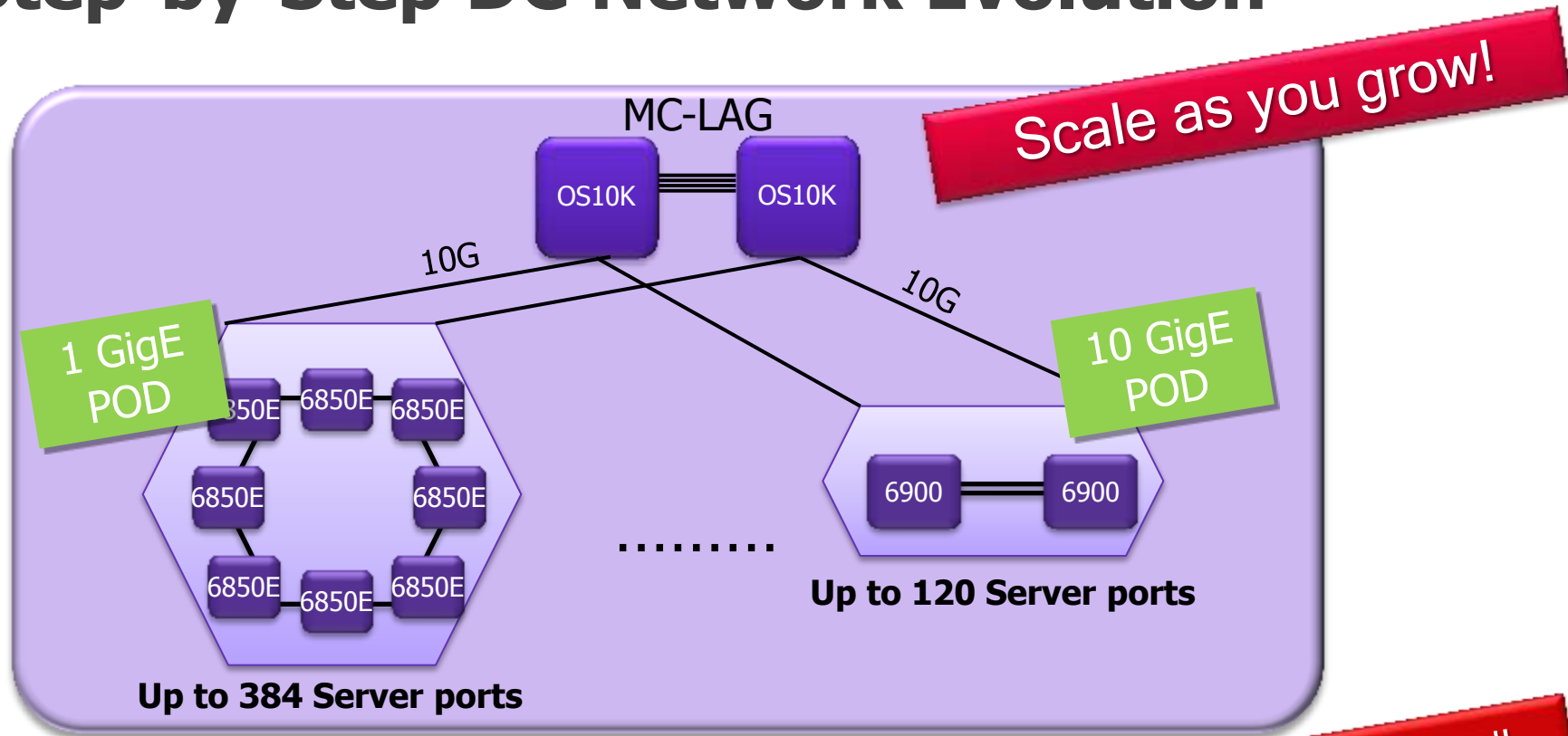
- Több POD összekapcsolásával egy Super POD jön létre
- A példán 5 POD összekapcsolása 40GE kapcsolatok segítségével
- Akár **(1200) 10G server port**
- A POD közötti East-West forgalomra
- POD-onként 4x40GbE port segítségével egy SuperPOD Mesh jön létre



- Összekapcsolás
  - **Super POD**
  - **WAN**
  - **DC - DC**
- A full-mesh architektúra egy **skálázható** megoldást biztosít néhány száz elemtől akár több ezer elemig.
- **Nincs egyedi meghibásodási pont**



# A Step-by-Step DC Network Evolution



## Ready For The Future

- 40/100 GigE
- Loss-Less Ethernet
- Fiber Channel Over Ethernet (FCoE)
- Shortest Path Bridging (SPB)



# Applications Managed as a Service

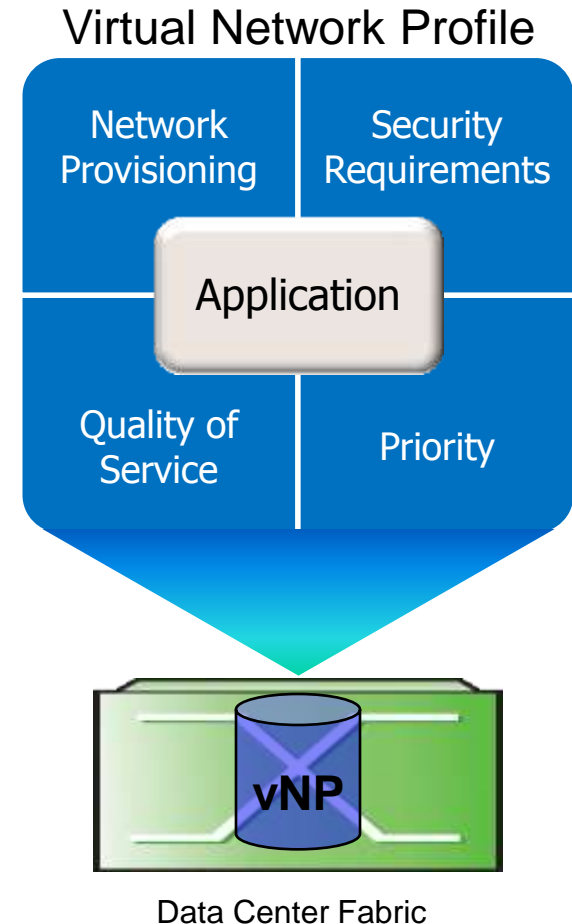
Control

## The Network Understands Each Application

- Provisioning requirements
- Security profile
- Expected quality of service levels
- Priority of the application for the corporation
- Latency and jitter requirements

## The Network Automatically Manages Applications

- Automated binding of vNP to virtual machine
- Automatic discovery of virtual machine location
- Automatic provisioning of applications
- Network configuration follows virtual machine moves
- Dynamic tuning of QoS parameters
- Network requested VM moves to minimize latency



# OmniVista 2500 Virtual Machine Manager (VMM)

Operation

## Mesh Automatically Adapts with VM Movement

### Visibility

- Provides a unified dashboard of switches, ports, hypervisors and virtual machines
- Live and historical data tracking and logging

### Provisioning

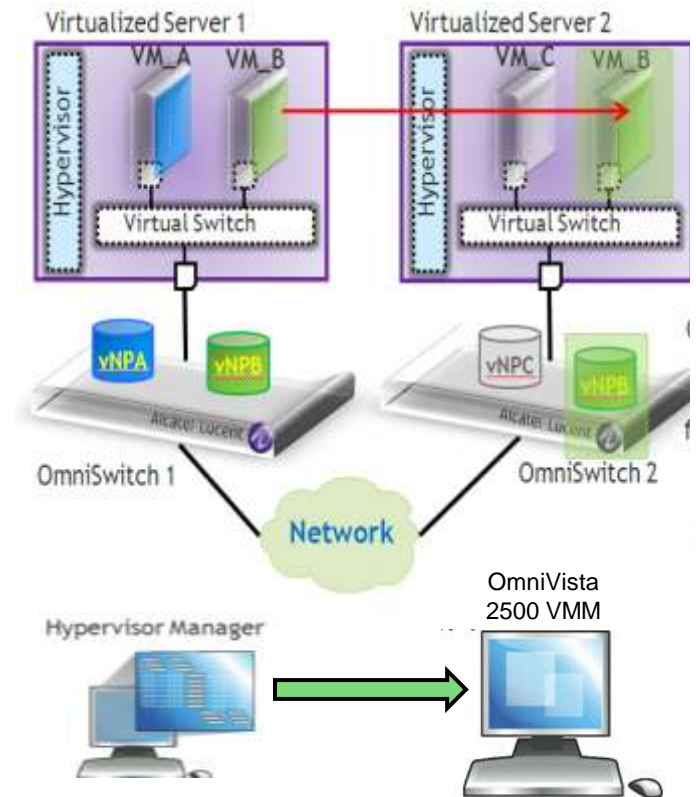
- Definition of bindings between VM and vNP

### Movement

- Creation and deployment of vNP
  - Security & QoS parameters, VLAN configuration
  - Add, migrate, remove

### Integration

- vCenter, Hyper-V, XENServer and KVM



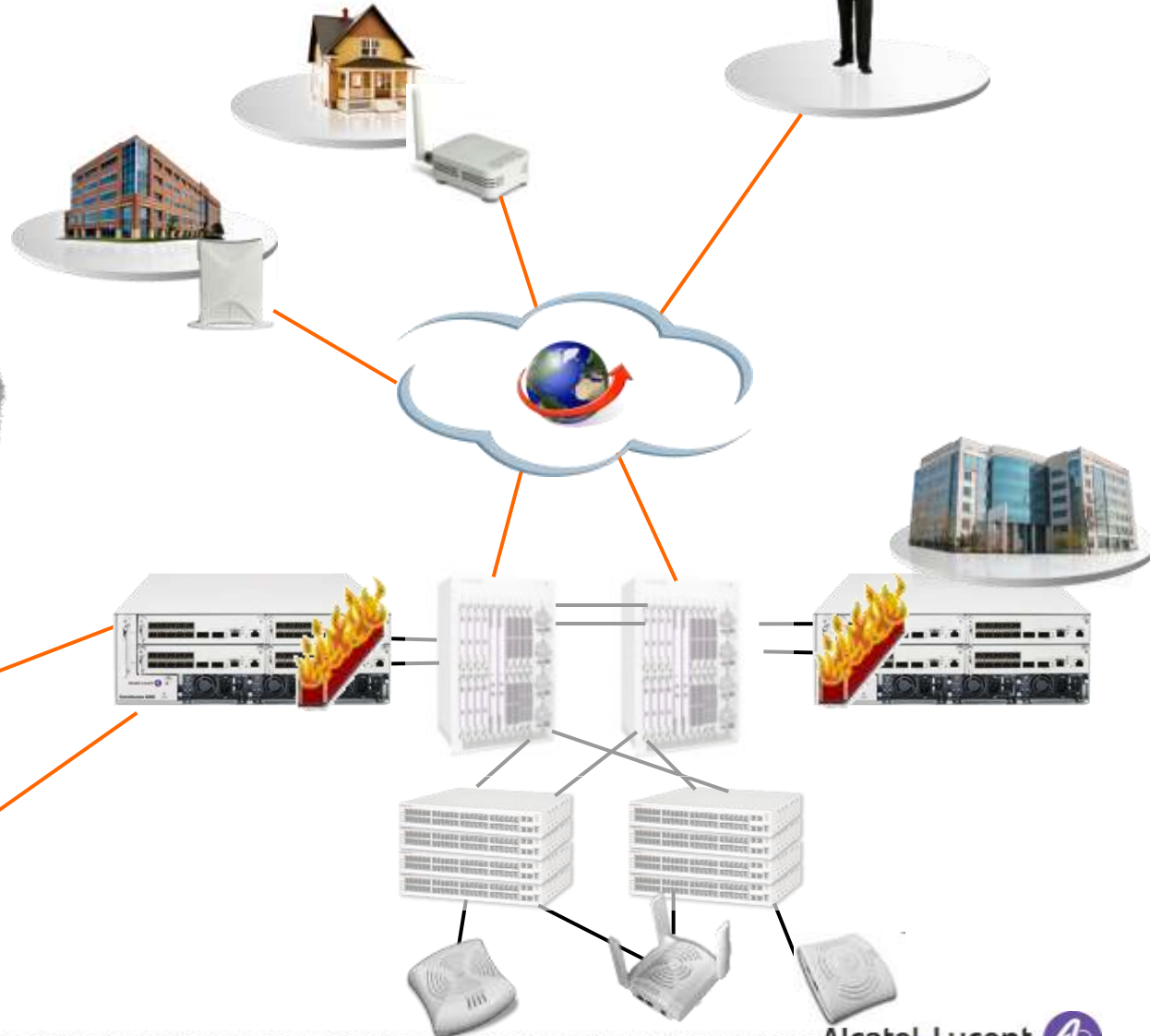
# OmniAccess Wireless

# OmniAccess Wireless One Network

Architecture

With the same system:

- Remote access - VPN
- Firewall
- Wireless IPS
- ARM
- User based access control
- Captive portal
- ...



# OmniAccess Wireless

## Instant Access Points (IAP) Overview

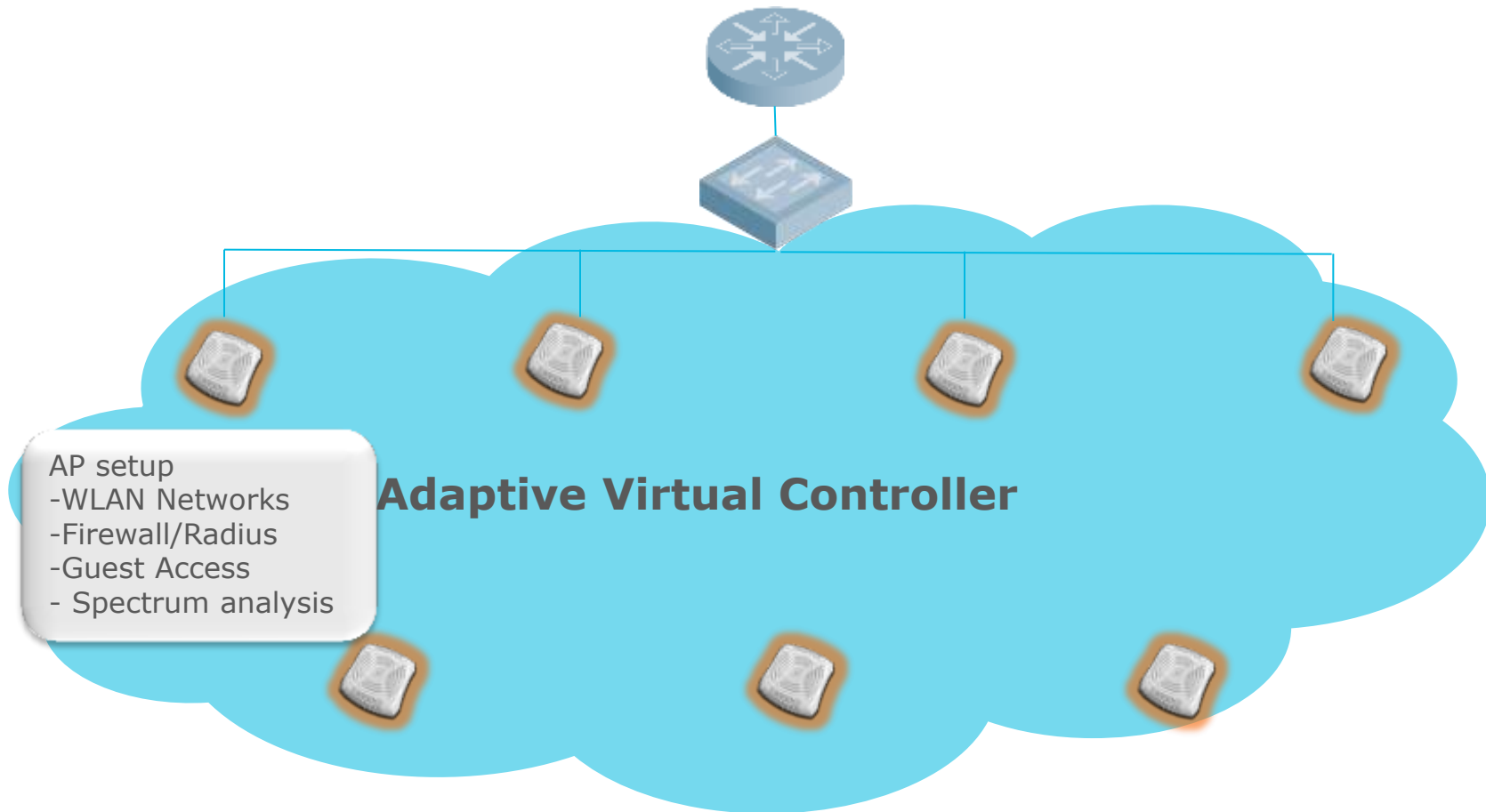


- OAW-IAP134/135: Dual radio external/internal antennas
- OAW-IAP105: Dual radio, integrated antennas
- OAW-IAP92/93: Single radio external/integrated antennas
- 16 IAPs per group

- **Virtual Controller Technology**
  - Adaptive Radio Management
  - Stateful firewall & rogue AP protection
  - Stateful QoS for voice & video
- **3-minute WLAN Install**
  - Over the air provisioning
  - Single screen user interface
- **Optional Cloud-based Management**
  - Network operations by OmniVista 3600 Air Manager
- **Software Upgradable to Join Controller-based WLAN**



# OmniAccess Wireless Instant Virtual Controller



# OmniAccess Wireless

- Enterprise grade Wireless LAN solution in a box
  - No additional wireless switch or controller required
  - No software licenses need to be bought
  - Can work “stand alone” or can be deployed up to 16 IAPs in a group to provide mobility
  - Excellent solution for:
    - Small and Medium Businesses (SMBs)
    - Branch office deployment
    - Distributed geographic locations
    - Autonomous WLAN deployment
    - Optional centralized management using OV 3600

# OmniAccess Wireless

- Offers one of the lowest Total Cost of Ownership (TCO) for an enterprise grade wireless solution
- Low CAPEX
  - List Price
    - OAW-IAP92/93: ~300 €
    - OAW-IAP105: ~500 €
    - OAW-IAP134/135: ~1000 €
- Low OPEX
  - Easy to deploy – takes less than 3 minutes to set up basic wireless LAN connectivity.
  - Automatic software upgrade provisions
    - Automatic notification for software bugs/new feature releases

AT  
THE  
SPEED  
OF  
IDEAS

?

[www.alcatel-lucent.com](http://www.alcatel-lucent.com)

[gabor.luky@alcatel-lucent.com](mailto:gabor.luky@alcatel-lucent.com)