HP's Adaptive Network Architecture

Overview

Holger Rank
HP Services
ANA EMEA Sales
holger.rank@hp.com

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Agenda

Adaptive Network Architecture Overview

- Brief Overview
- Practical Example
- Security Impact
- Benefits & References
- Summary

ANA
Brief
Overview

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What is ANA?

HP's Adaptive Network Architecture (ANA)

- is a **solution**
- **structures** the complete IT infrastructure
- implements **business** and **security** needs
- manages **IT wide compartment's**
- provides a **geographic independence**
- presents the IT in a **virtualized view.**

The components of ANA

- ANA structures networks into ‘Compartments’
- ANA connects ‘Compartments’ using a ‘Virtual Backbone’
- ANA controls access thru ‘Policy Enforcement Points’
- ANA is using a central ‘Policy Management System’
- ANA leverages your existing IT-, LAN- and WAN-Infrastructure

What do you get from ANA

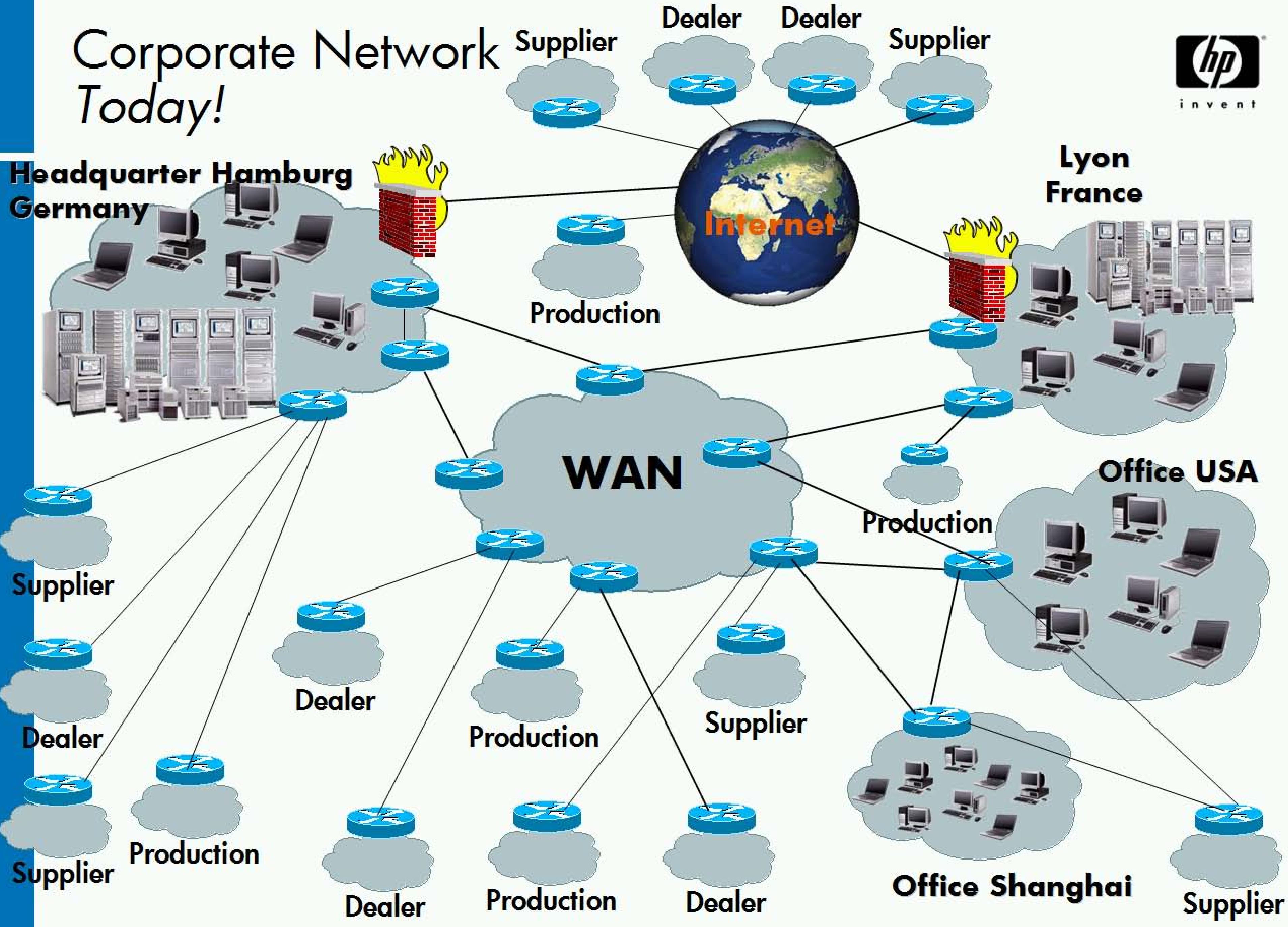
HP's ANA perform:

- fast alignment of **business needs** and IT infrastructure
- a **rapid** to implement and **changeable** IT Infrastructure with a very **short Time to Market**
- a **cost optimized** IT with a strong **cost saving** factor for future extensions.
- a **secure** and **auditable** IT wide infrastructure
- an **easy centralized management**

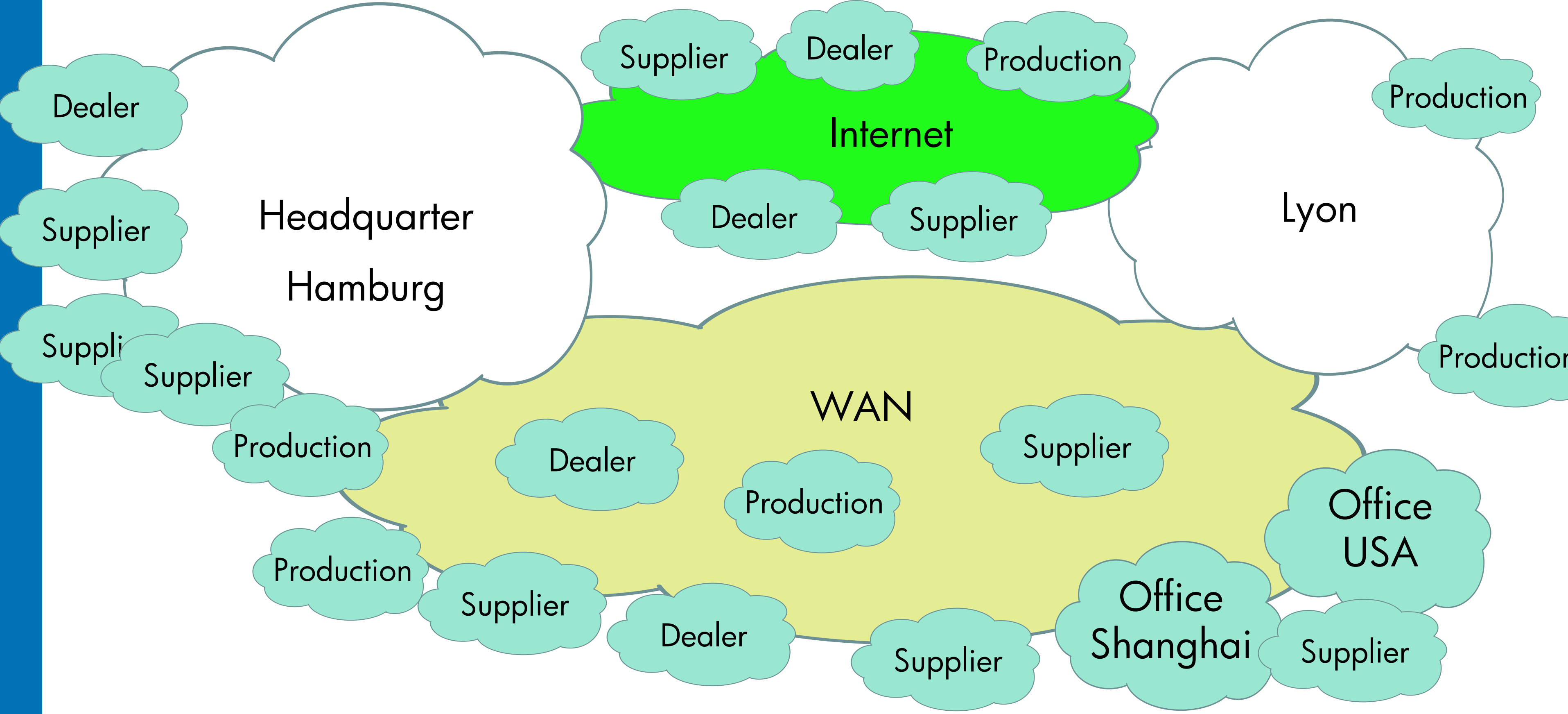
ANA
Practical
Example

i n v e n t

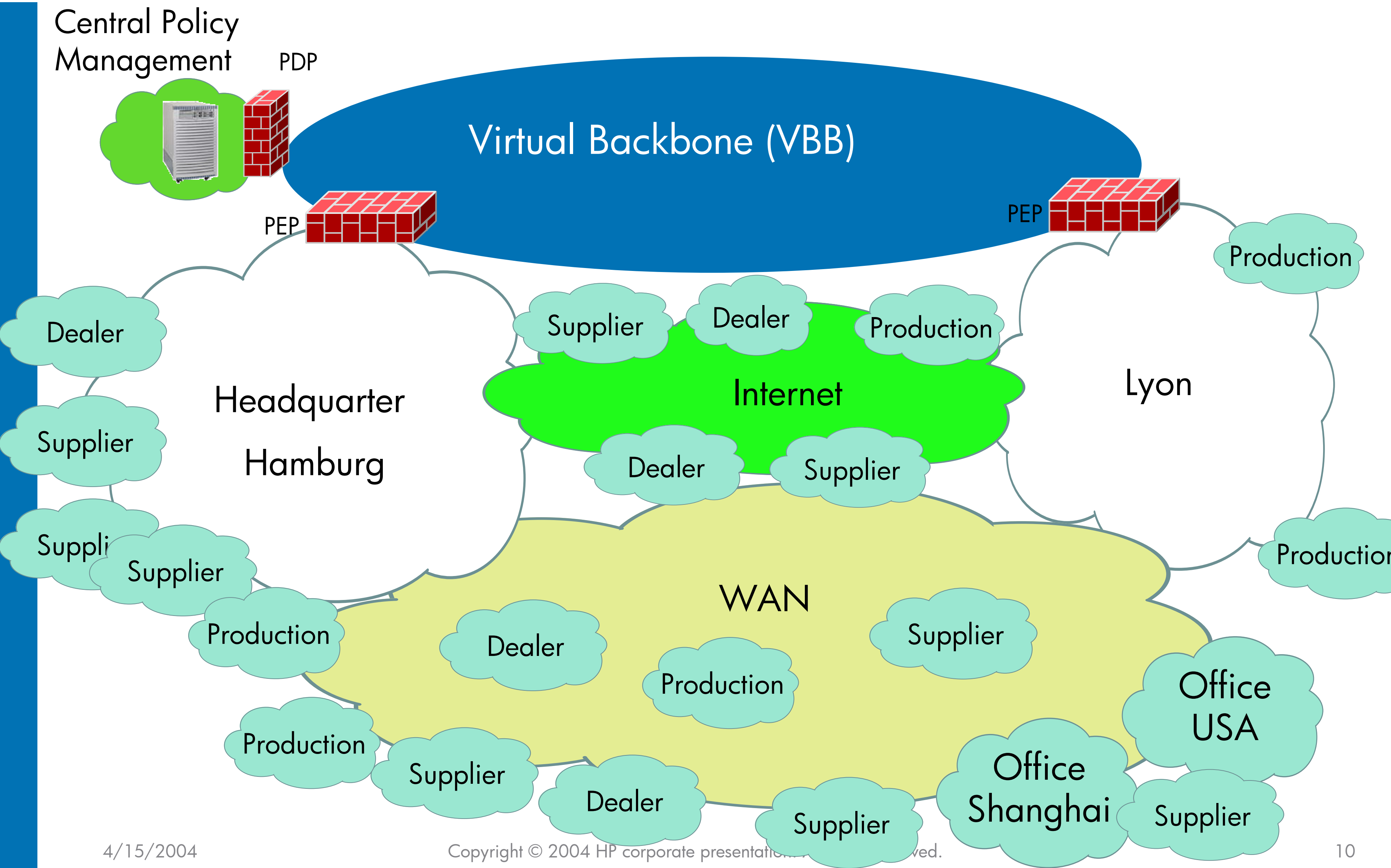
Corporate Network *Today!*


Supplier
Dealer
Dealer
Supplier
Headquarter Hamburg Germany
Internet
Lyon France
Production
WAN
Production
Office USA
Supplier
Dealer
Production
Supplier
Dealer
Production
Supplier
Dealer
Production
Dealer
Office Shanghai
Supplier
invent

Today Network – before ANA


Supplier
Dealer
Production
Dealer
Production
Internet
Headquarter
Hamburg
Lyon
Supplier
Dealer
Supplier
Suppli
Supplier
Production
WAN
Production
Dealer
Production
Supplier
Office USA
Production
Supplier
Dealer
Supplier
Office Shanghai
Supplier

ANA – Step 1



Central Policy Management

PDP

Virtual Backbone (VBB)

PEP

PEP

Production

Dealer

Supplier

Dealer

Production

Headquarter

Hamburg

Internet

Lyon

Dealer

Supplier

Supplier

Suppli

Supplier

Production

Production

WAN

Dealer

Supplier

Production

Office USA

Production

Supplier

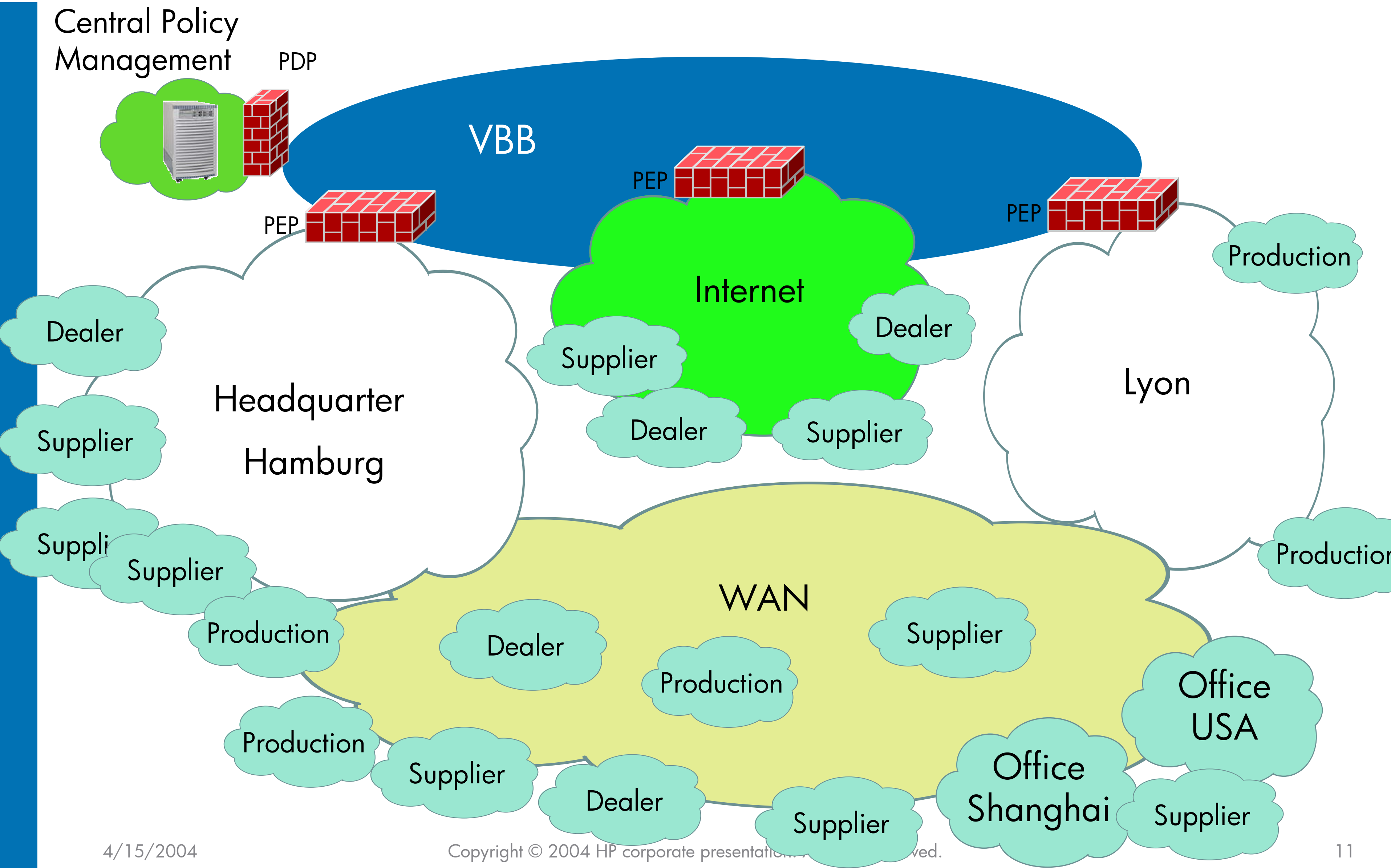
Dealer

Supplier

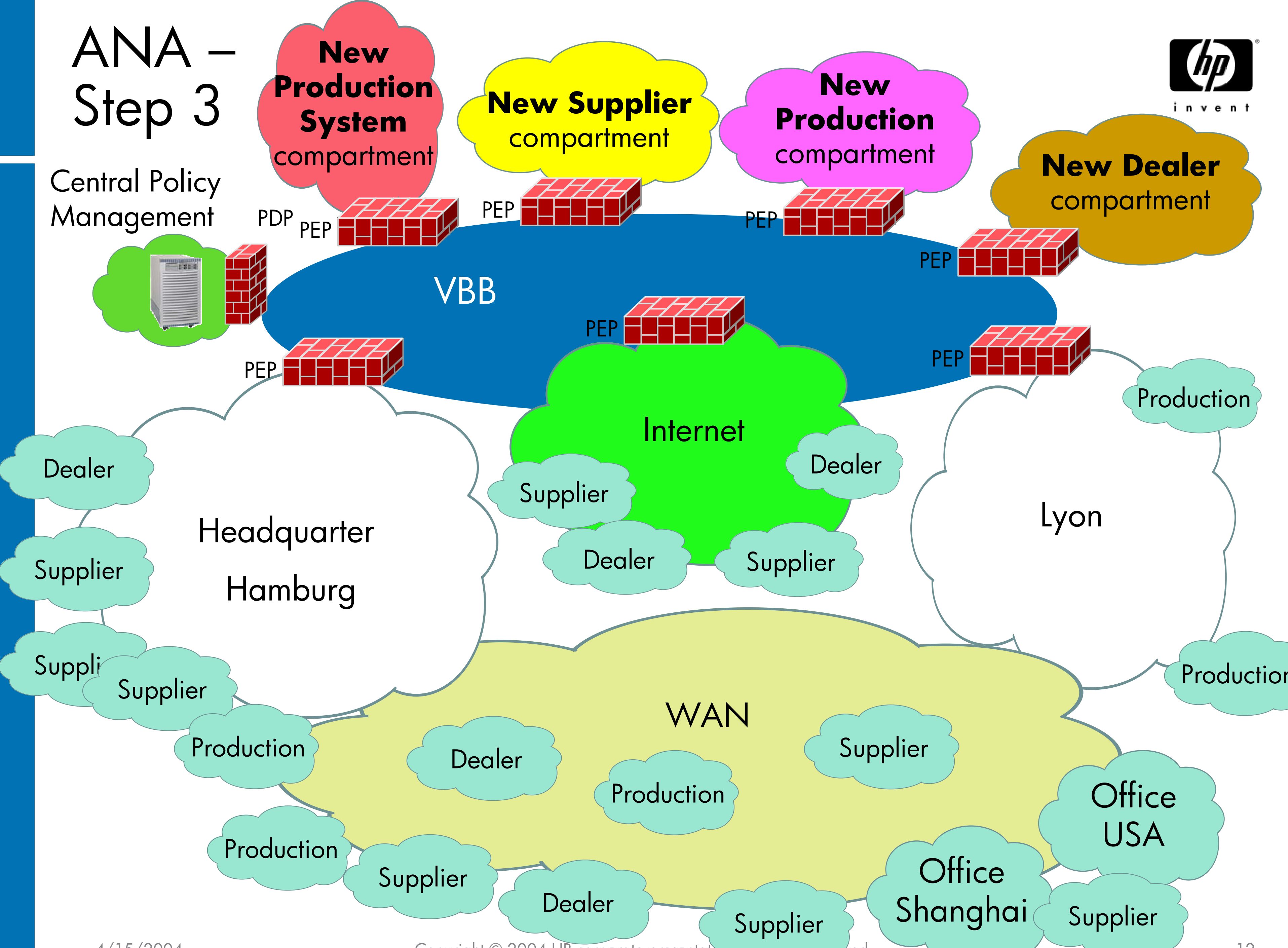
Office Shanghai

Supplier

ANA – Step 2


Central Policy Management
PDP
VBB
PEP
PEP
PEP
Internet
Dealer
Supplier
Dealer
Supplier
Lyon
Production
Production
Dealer
Supplier
Suppli
Supplier
Headquarter
Hamburg
Production
WAN
Dealer
Production
Supplier
Office USA
Office Shanghai
Production
Supplier
Dealer
Supplier
Supplier

ANA – Step 3



New Production System compartment

New Supplier compartment

New Production compartment

New Dealer compartment

Central Policy Management

PDP

PEP

PEP

PEP

PEP

PEP

PEP

PEP

VBB

Internet

Supplier

Dealer

Dealer

Supplier

Headquarter

Hamburg

Dealer

Supplier

Suppli

Supplier

Production

Lyon

Production

Productio

WAN

Dealer

Production

Supplier

Production

Supplier

Dealer

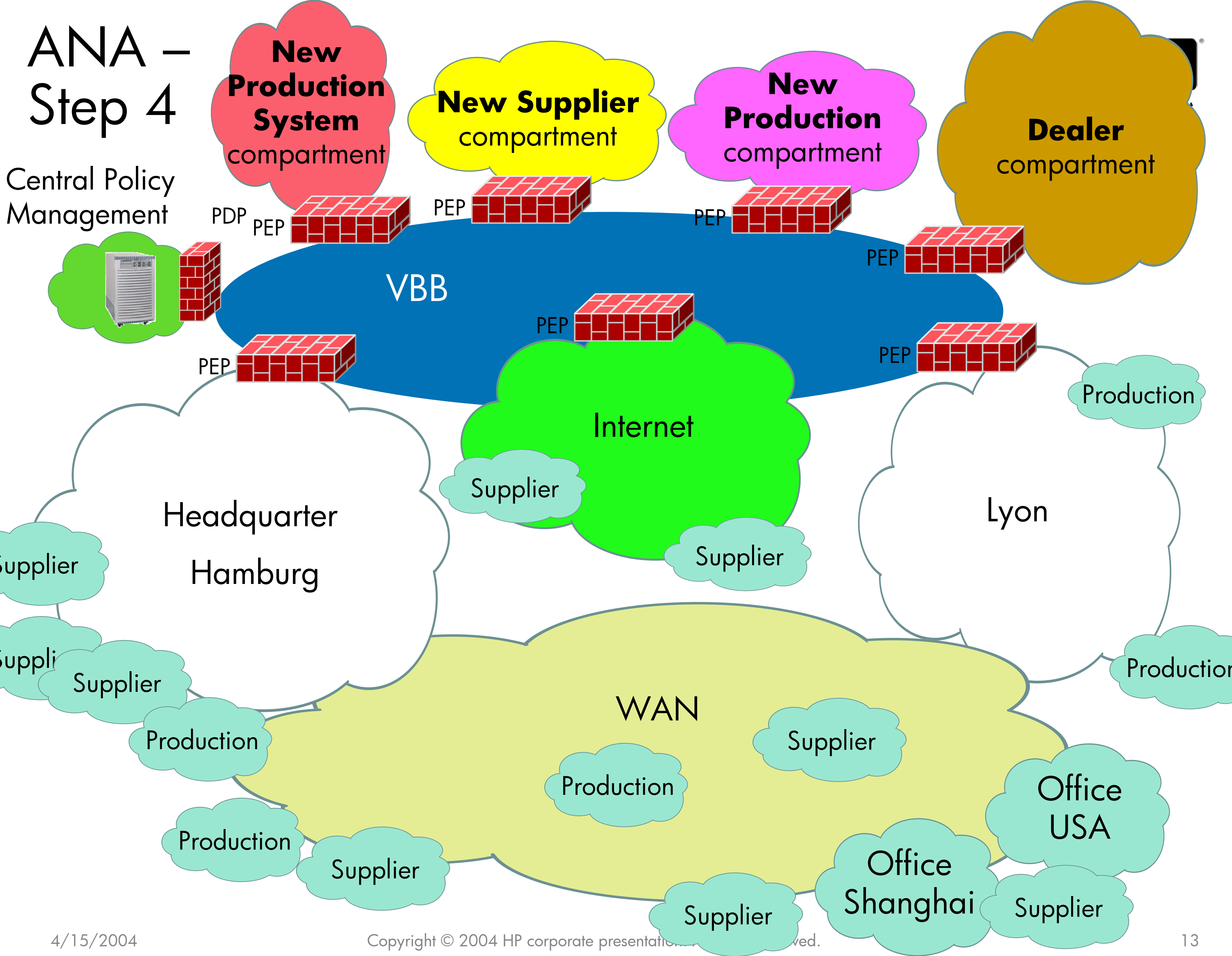
Supplier

Office Shanghai

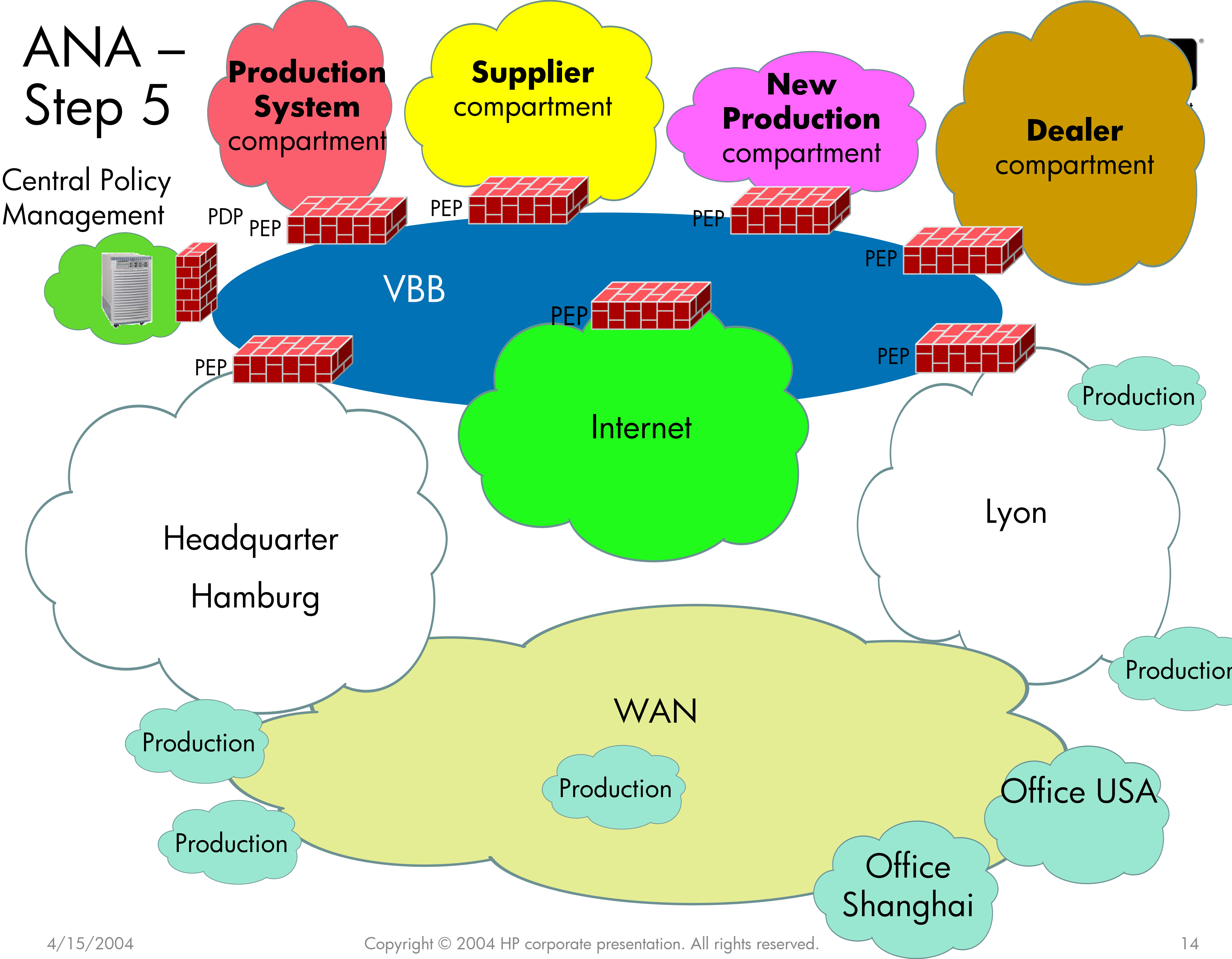
Office USA

Supplier

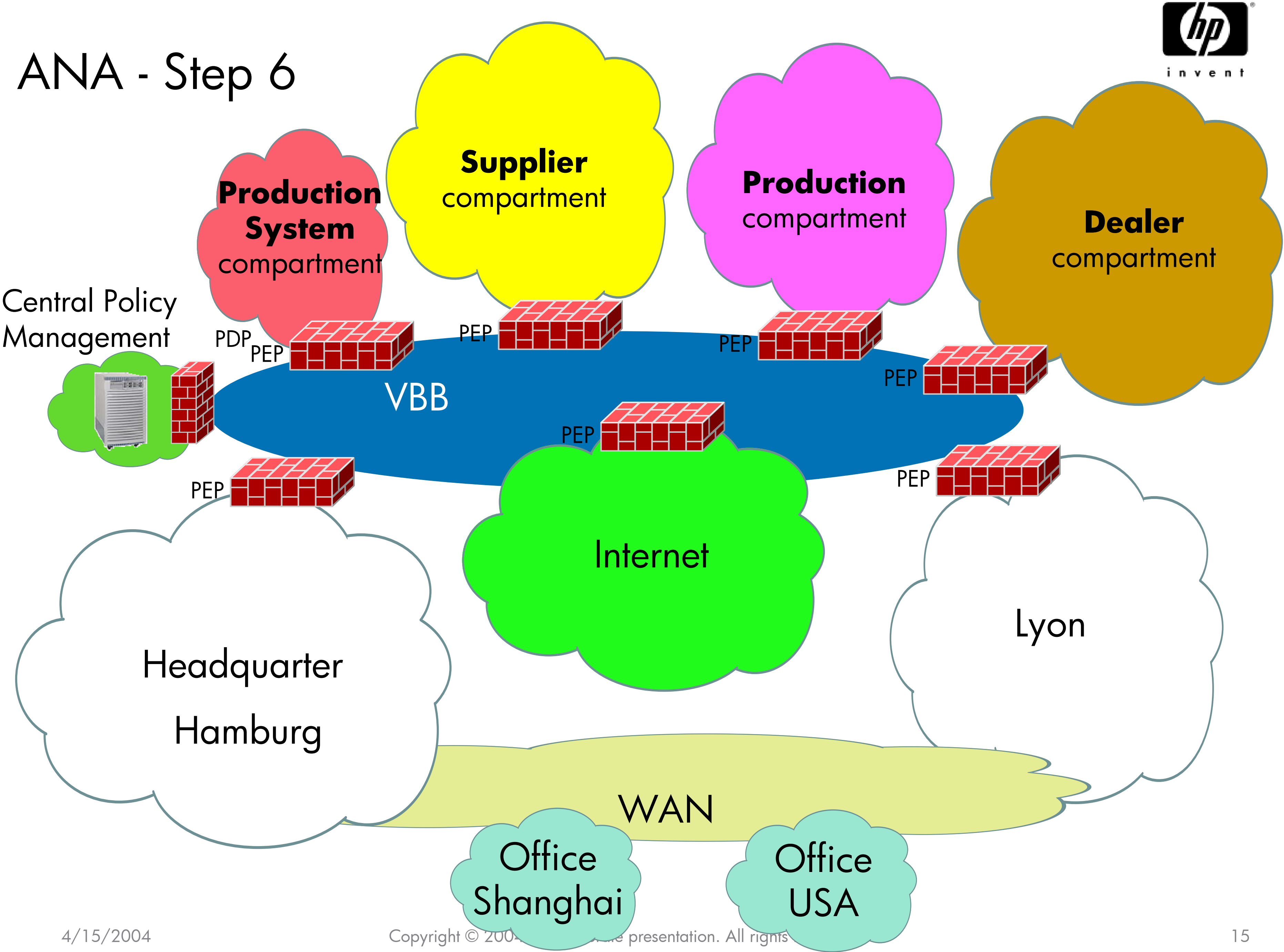
ANA – Step 4


Central Policy Management
New Production System compartment
New Supplier compartment
New Production compartment
Dealer compartment
PDP
PEP
PEP
PEP
PEP
PEP
PEP
PEP
VBB
Internet
Supplier
Supplier
Headquarter
Hamburg
Supplier
Suppli
Supplier
Production
Lyon
Production
Productio
WAN
Supplier
Production
Production
Supplier
Supplier
Office Shanghai
Office USA
Supplier

ANA – Step 5


Production System compartment
Supplier compartment
New Production compartment
Dealer compartment
Central Policy Management
PDP
PEP
PEP
PEP
PEP
PEP
PEP
PEP
VBB
Internet
Headquarter
Hamburg
Lyon
Production
Productio
WAN
Production
Production
Production
Office USA
Office Shanghai

ANA - Step 6


Production System compartment
Supplier compartment
Production compartment
Dealer compartment
Central Policy Management
PDP
PEP
PEP
PEP
PEP
PEP
PEP
PEP
PEP
VBB
Internet
Headquarter Hamburg
Lyon
WAN
Office Shanghai
Office USA

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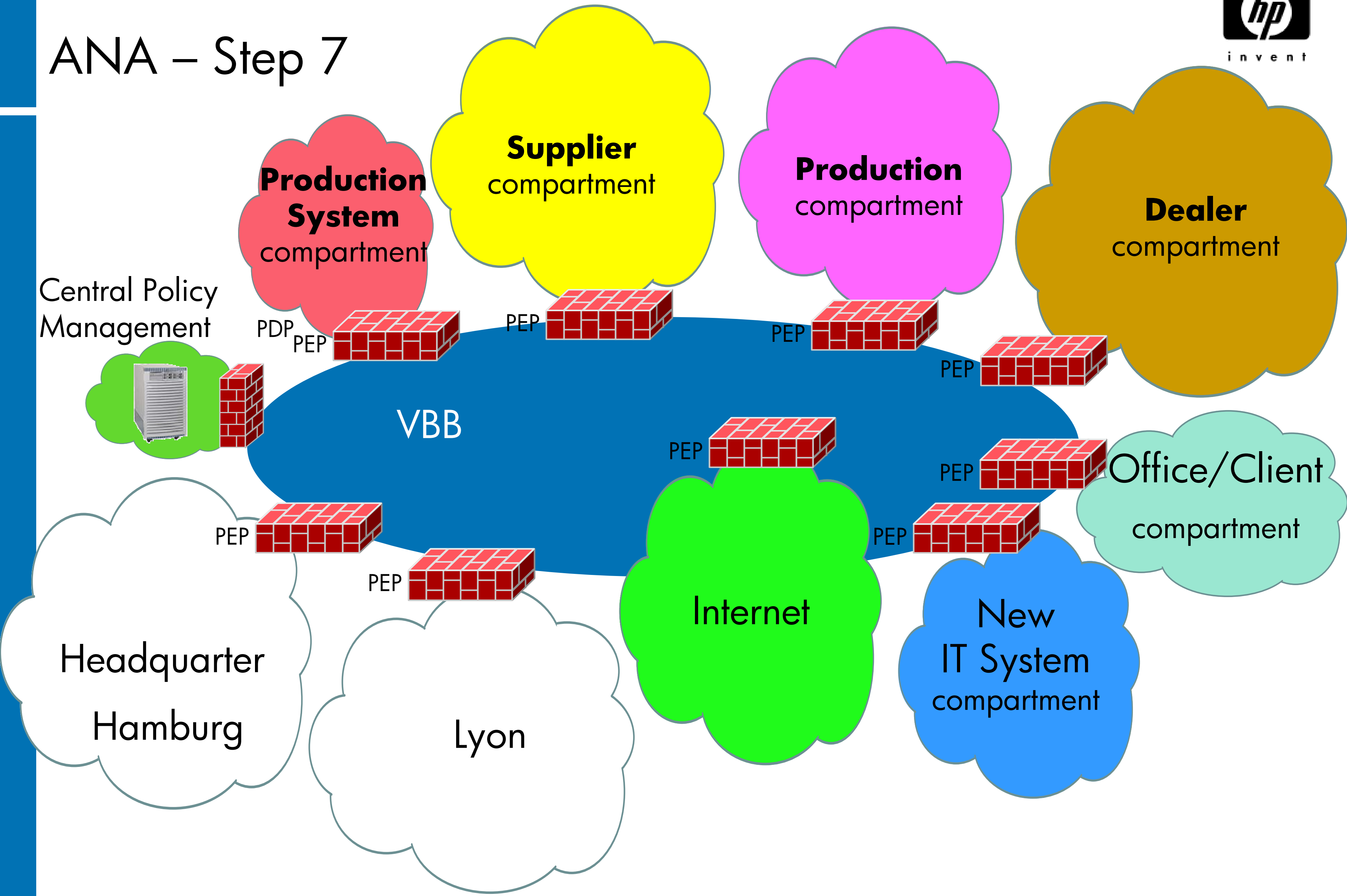
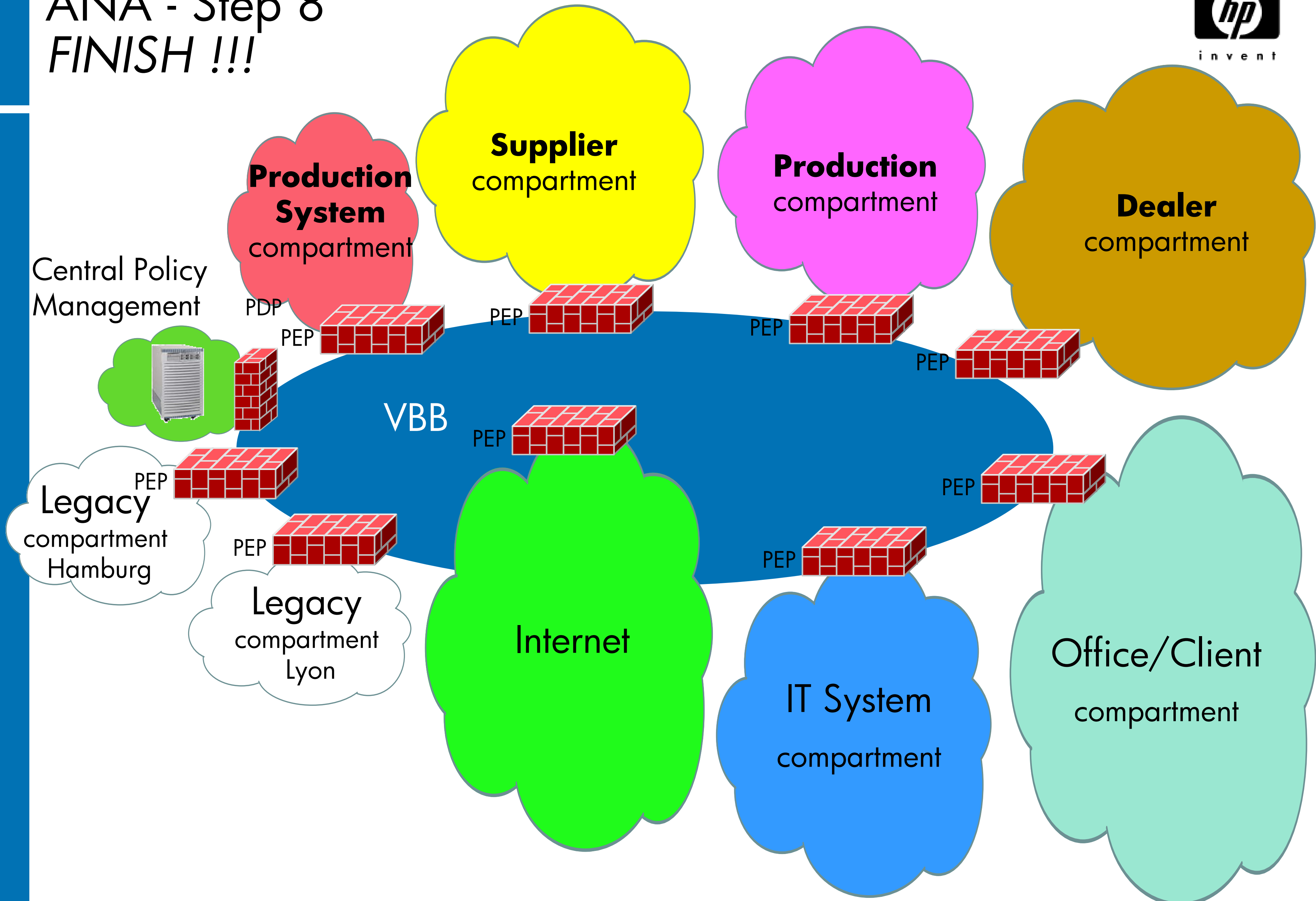
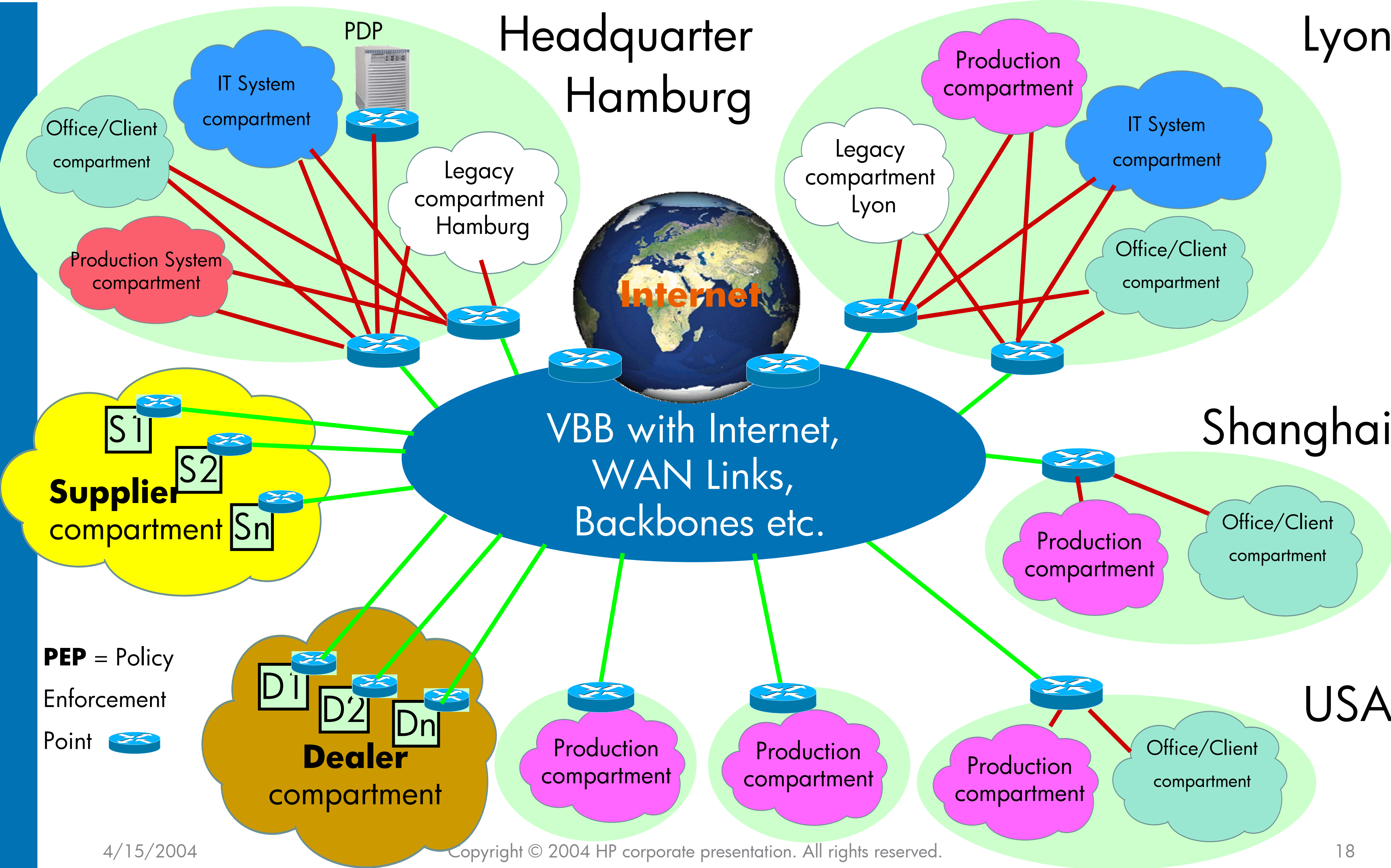
ANA – Step 7


Production System compartment
Supplier compartment
Production compartment
Dealer compartment
Central Policy Management
PDP
PEP
PEP
PEP
PEP
VBB
PEP
PEP
Office/Client compartment
PEP
PEP
PEP
Headquarter Hamburg
Lyon
Internet
New IT System compartment

ANA - Step 8
FINISH !!!


Supplier compartment
Production compartment
Dealer compartment
Production System compartment
Central Policy Management
PDP
PEP
PEP
PEP
PEP
VBB
PEP
PEP
Legacy compartment Hamburg
PEP
Legacy compartment Lyon
PEP
PEP
Internet
IT System compartment
Office/Client compartment

New Corporate Network - *with ANA*


Headquarter
Hamburg
PDP
IT System
compartment
Office/Client
compartment
Legacy
compartment
Hamburg
Production System
compartment
Internet
Lyon
Production
compartment
IT System
compartment
Legacy
compartment
Lyon
Office/Client
compartment
VBB with Internet,
WAN Links,
Backbones etc.
Shanghai
Production
compartment
Office/Client
compartment
S1
S2
Sn
Supplier
compartment
D1
D2
Dn
Dealer
compartment
Production
compartment
Production
compartment
USA
Production
compartment
Office/Client
compartment

PEP = Policy Enforcement Point

ANA Security Impact

ANA and Security

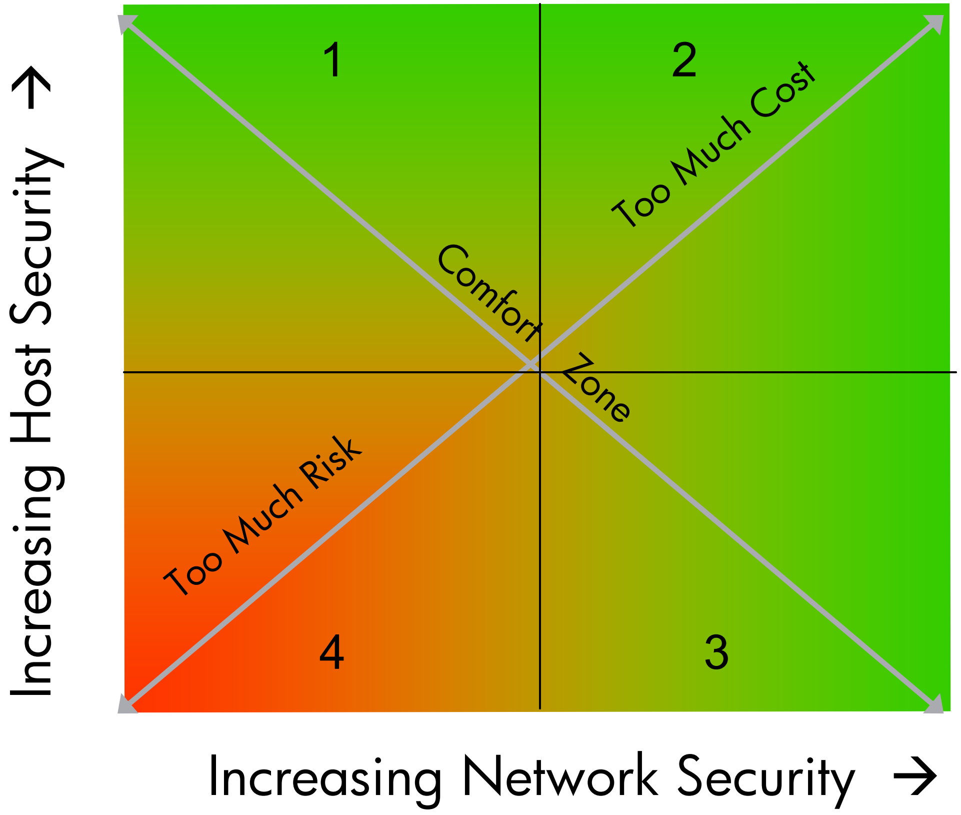
- ANA need a detail consideration of the business security aspects and requirements

- ANA is closely linked to Information Security (IS)

- Security needs a structured methodology
  - Could be based on the ISO 17799 or BS7799 standard
  - Local standards (Germany could use the BSI Basement Protection Manual and/or the ISO17799)
  - HP uses the best of it for ANA!
- Security is more than a Firewall or a Access-List

Security Policy Matrix
Security implications

A fundamental principal of ANA is the balance between network, host, and application security


Increasing Host Security →
1
2
Too Much Cost
Comfort
Zone
Too Much Risk
4
3
Increasing Network Security →

HP's ANA & Cisco's IBNS Solution

ANA IBNS Flash

ANA Benefits & References

i n v e n t

ANA – Tangible Benefits

- HP invest for ANA was only 66% of the annual savings which produced an ROI of 150%
- ANA improves productivity and it's measurement comes from:
  - better use of time and range of the support staff
  - faster time to maket, revenue increase
  - better use of the assets, CAPEX, savings
  - better use of the operational costs, OPEX, savings
  - improved security, lower downtime, improved data consistency, confidentiality and privacy, savings

HP Adaptive Network Architecture

Measurable business benefits

Time	Speeds implementation of network changes and reorganization
+	
Range	Enables deployment of new business models and reduces the complexity of the change
+	
Ease	Simplifies deployment and integration of applications, services and network devices

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Implement through critical people and governance processes

Based on the Agility Design Principles

Simplification	Logical network architecture based on information needs rather than physical layout
+	
Standardization	Centralized definition of distributed, enterprise-wide network domains
+	
Modularity	Dynamic provisioning and management of the architecture elements
+	
Integration	Pre-defined environments for integration of new applications, services or devices

References

- HP and Compaq Merger
- HP divestiture of Agilent
- Samsung
- Procter and Gable
- HP Cleanrooms
- HP over 3 years successful internal experience

ANA
Summary

HP’s Adaptive Network Architecture (ANA) Summary

- ANA is a solution framework that improves the security, flexibility and cost effectiveness of Corporate IP networks.
- ANA delivers tangible benefits for the following Corporate business needs
  - Improved security strategy implementations (with/without IBNS)
  - Faster supplier/partner network access and tear-down
  - More efficient mergers, acquisitions, and divestitures
  - Effective network application introductions (e.g. IPT, IPV.6,….)
- ANA customer solutions are identified via a consultative workshop approach, and ROI cost/benefit justification
- ANA is part of HP’s Adaptive Enterprise strategy, and is built around existing standard IP technology, enhanced by unique HP tools, processes & methodologies

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Addendum
References

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Success story: HP and Compaq merger

- Challenges
  - take advantage of opportunities from internet-based business practices
  - share data with extended workgroups (including partners from other companies)
  - execute M&A and divestitures
- Solutions
  - an adaptive network architecture
  - networks were re-engineered from the ground up
  - US $20M investment

- Results
  - $30 million annual savings
    - reduced administration costs
    - lower operating expenses
    - shortened acquisition lead times
  - time to integrate new partners into supply chain cut from 6 months to 2 weeks
  - Five pending patents
  - All employees integrated into the HP internal network on the first day of trading as HPQ

78,000 employees
in 60 offices worldwide

Success story: HP Divestiture of Agilent Technologies

- Challenges
  - 1100 applications to “clone and go”
  - transition from “internal” to customer
  - concurrent divestiture from Agilent
- Solutions
  - an adaptive network architecture
  - a “six-pack” routing and connectivity model for inter-enterprise connectivity
  - US $5M investment

- Results
  - managed six interconnected firewalls with a single consistent global policy
    - implemented changes daily
    - met the “day one” separation milestone with no adverse business impact
  - Agilent divested a business unit to an HP competitor during it’s own divestiture
  - global operational capability developed around the policy registry

Agilent Technologies

40,000 employees
in 120 offices worldwide

Samsung Electronics

Customer business challenge

- Maintain global leadership in fast-paced, ultra-competitive industry
- Improve efficiency and effectiveness of geographically dispersed operations
- Promote sharing of applications and services between subsidiaries

Solution: Adaptive Network Architecture

- Executive workshop to determine business drivers, objectives & measures
- Security analysis of the existing environment
- Architecture, deployment and configuration of compartments around subsidiaries and datacenter hosting shared services

Customer results/benefits

- Faster and easier integration of new locations or subsidiaries
- Higher availability of shared resources
- Centralized and unified security policies
- Cost reduction in management and security operations

Success story: Procter & Gamble

- Challenges
  - need to lower costs, improve quality & design of IT operations
  - managed 3 data centers, 2,000 computer servers, >80,000 desktops in 160 countries
- Solutions
  - HP Services will manage P&G's IT infrastructure, data center operations, desktop support, network management, applications development, worldwide maintenance support
  - 1,850 P&G employees in 50 countries will move to HP Services

- Results
  - Expected cost savings of 10-15% through outsourcing
  - $300-500M total savings during 10 year contract

> ***"HP is an industry leader and will help us substantially lower costs and accelerate innovation throughout P&G."***
>
> **Filippo Passerini**
> **Global Business Services Officer**
> **Procter & Gamble**

HP implementation pays big dividends

- Consumer products group supply chain management
  - Time to add new partner reduced from 6 months to 2 week
  - Supply chain management integration costs reduced
- Verifone divestiture (1,500 employees, 20 offices worldwide)
  - Separated from HP internal network on the day of transaction close
  - Project implemented in man-hours instead of man-months (3 weeks for planning and implementation)

Why HP?

- redefining the value of the network infrastructure for the business
- key enabling intellectual property— far in advance of any other infrastructure vendor
- tested and proven with successful large-scale deployments
- global reach and presence with the right skills

People + Process + Technology

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