

Application and Security Aspects of IPv6

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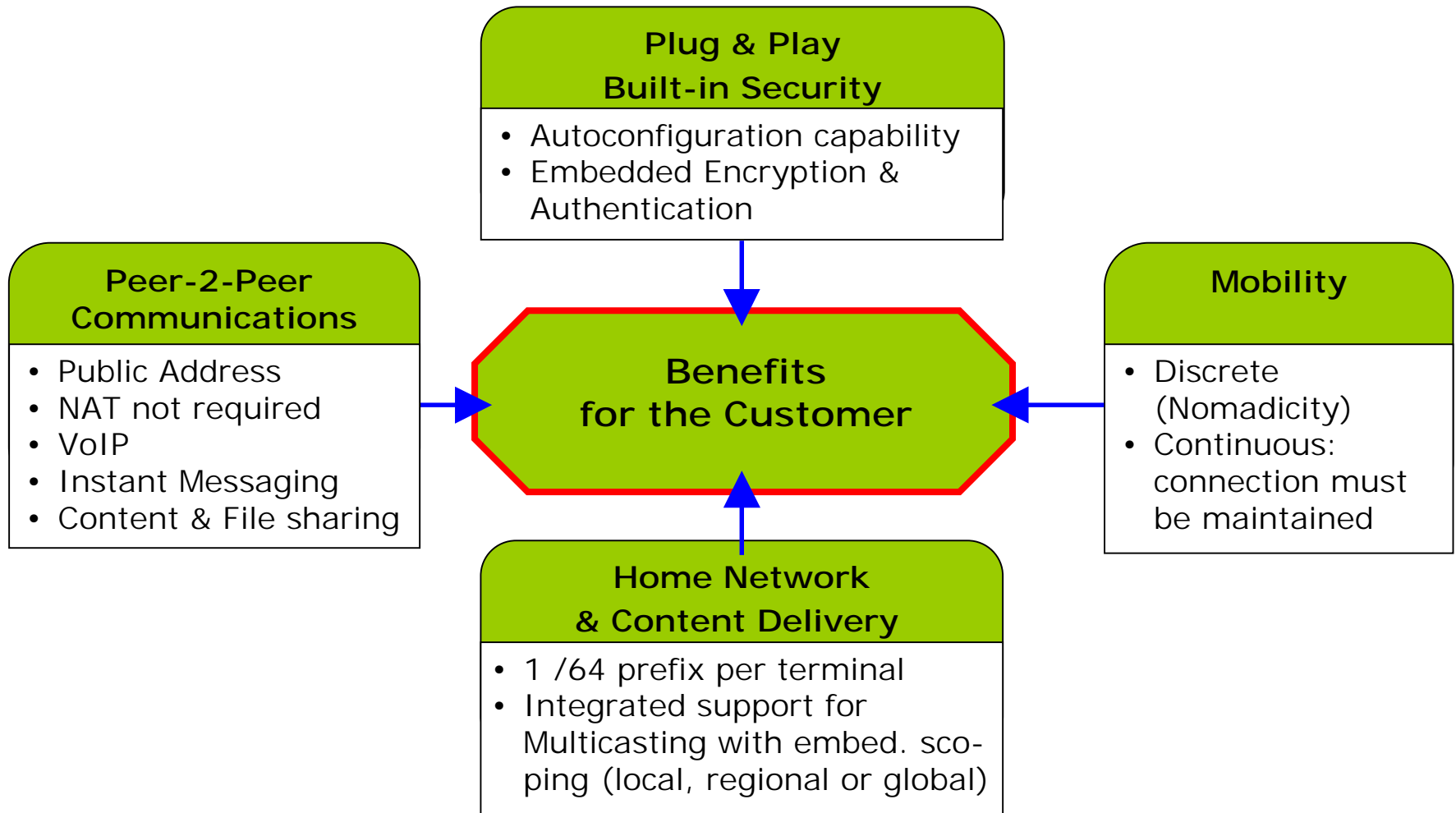
1st Austrian IPv6 Kolloquium, Vienna, March 31st 2004

Outline

- What does IPv6 bring to the end user?
- Will IPv6 solve security issues?



What does IPv6 bring to the end user?



The Ubiquitous Internet

IPv6 supports Peer-to-Peer services across different networks (global scale)

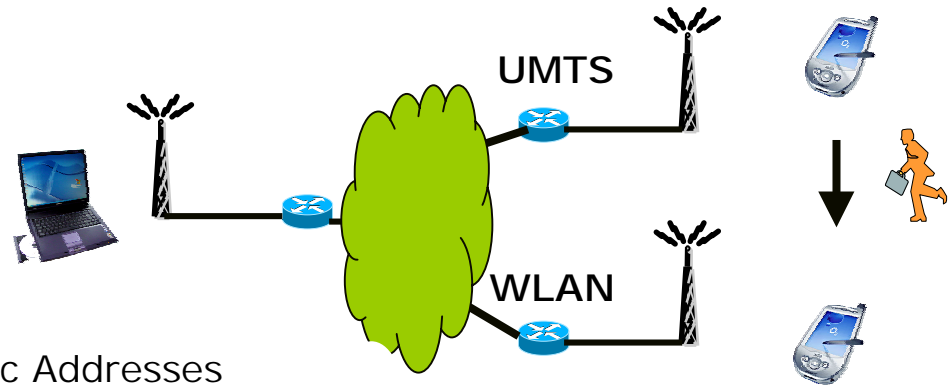
- Peer-to-Peer Applications are increasing in popularity (e.g. content sharing)
- End-to-End transparency enables the extension of P2P applications on a global scale
- Type of applications (today):
 - share content & files with friends
 - VoIP & Push-to-talk services
 - Instant Messaging
 - Play multiplayer games
 - Rich call capabilities
- IPv4 has limitations due to NAT!



What does IP Mobility bring to the Internet?

- **Requirements:**

- Access independence
- Session continuity
- Reachability -> Permanent Public Addresses
- Traffic routed directly, not through the Home Network



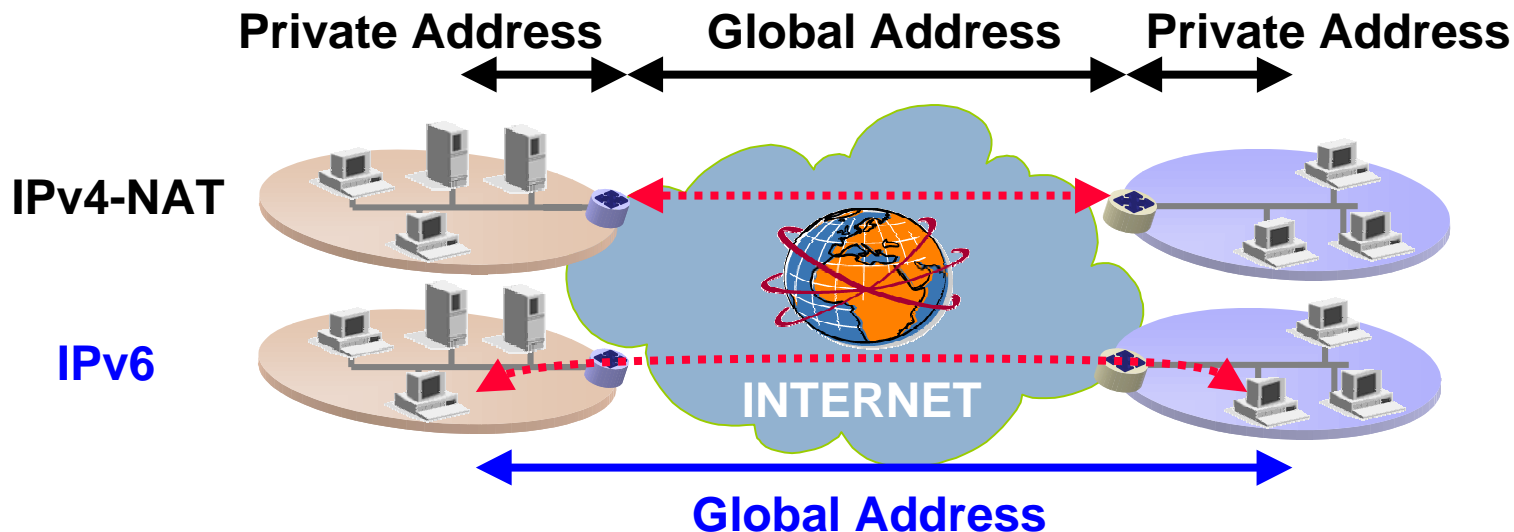
- **Different scenarios are applicable:**

- A company employee who goes to different company sites and connects to different IP networks.
- A new generation mobile phone company customer who changes networks while moving; the customer acquires a new IP address.
- An IP wireless telephone user who moves within his company, changing connection router.

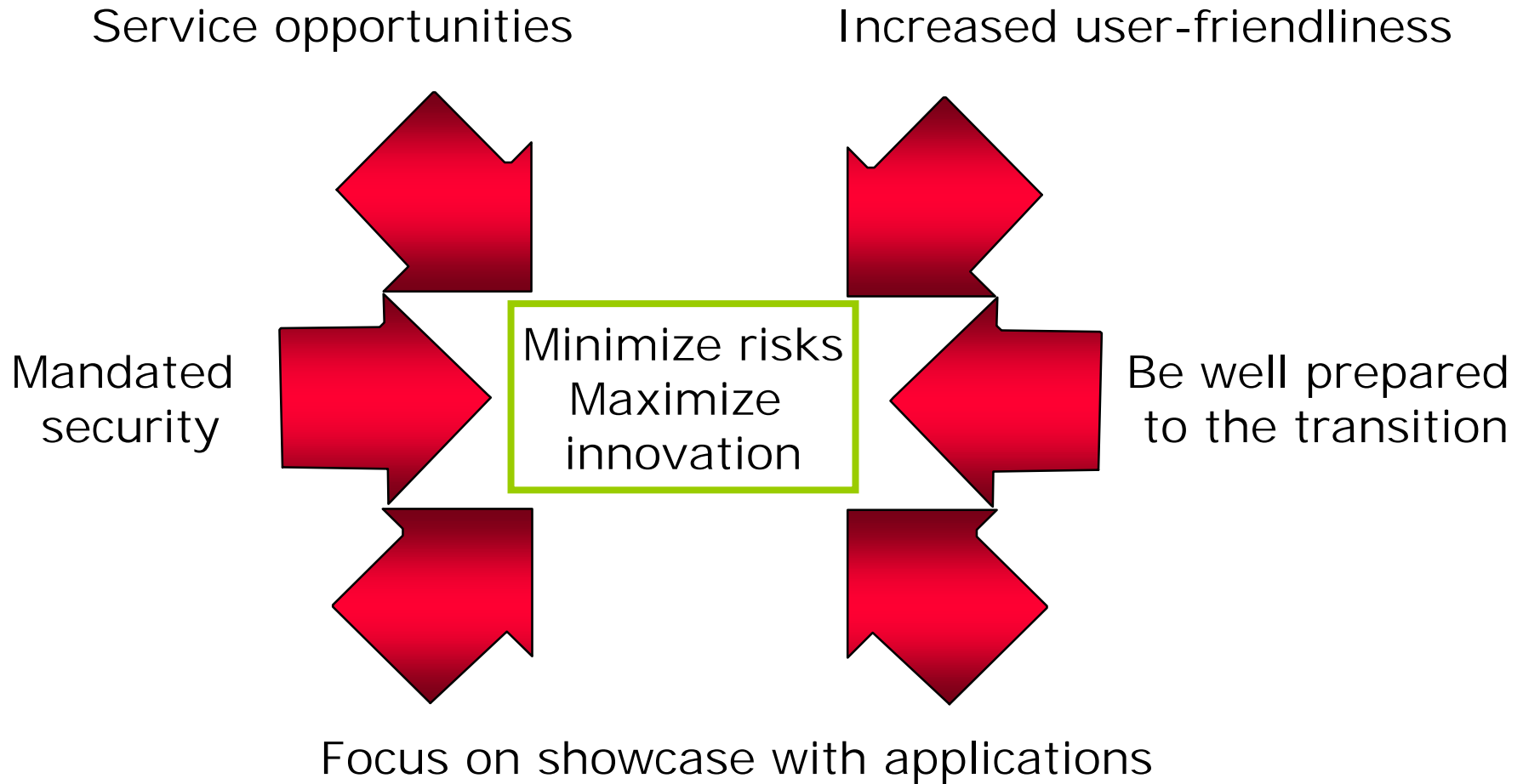
- **IPv4 mobility is not suitable for large scale development!**

Security Management services are available in IPv4 so is it necessary to change to IPv6?

- IPv4 was designed without security in mind -> security features were latter added as "Add-on" features. **IPv6 mandates security.**
- IPv6 can implement the **same security services** as IPv4: VPN IPsec and IP filtering for firewalls.
- IPsec is integrated directly in the protocol header which allow an **End-to-End security** (Host-to-Host).
- A critical period could be the **migration phase**: a well-prepared migration plan as well as the training of the staff will reduce the risk to a minimum.



Conclusion



Thank you for your attention!

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