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# HP's IPv6 Vision

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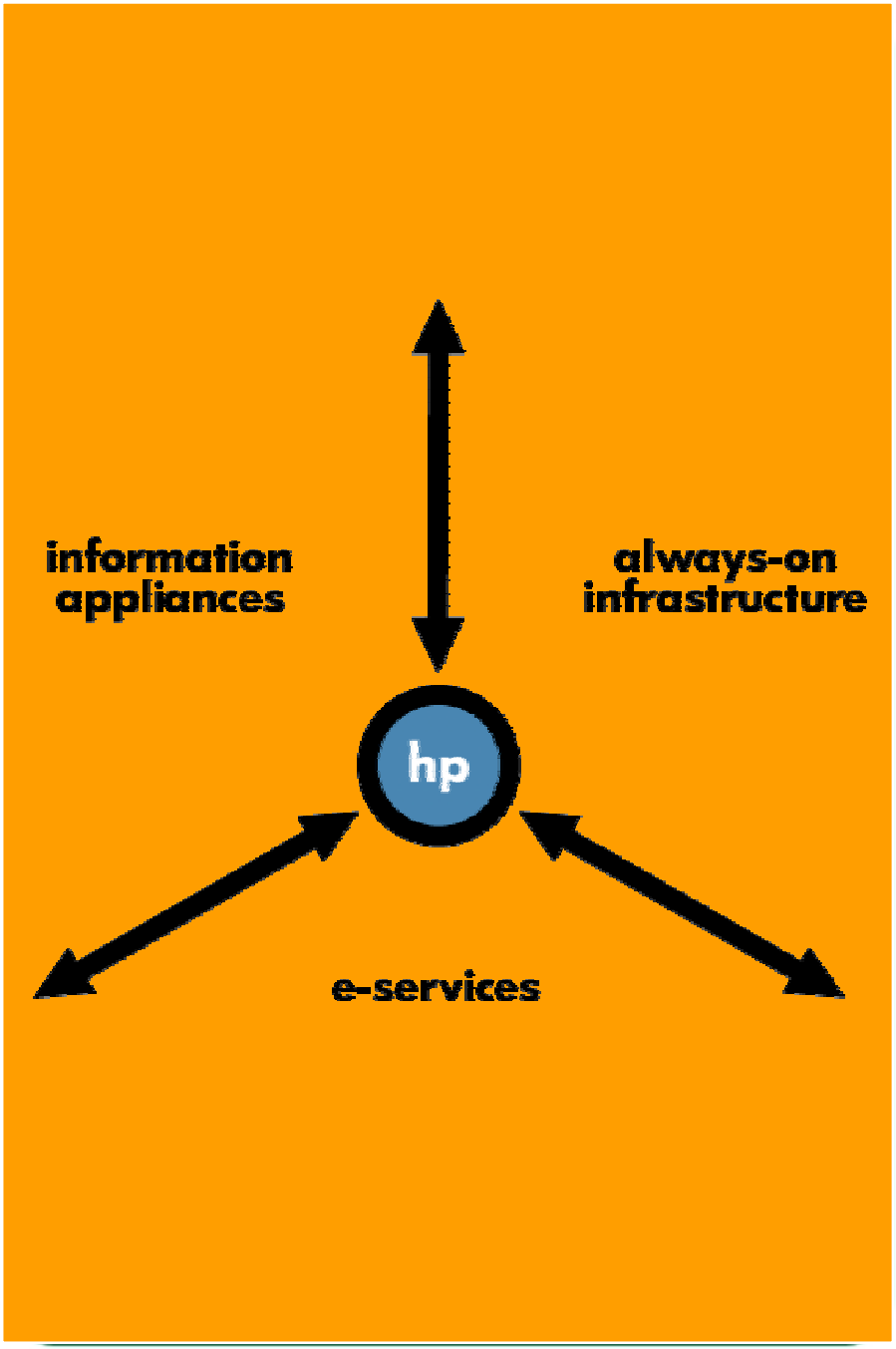
# HP’s IPv6 Agenda

- HP’s Intersection
- HP’s IPv6 Roadmap
- Market Transformation
- Where it will happen
- How it will happen
- Summary

# the intersection




Source: BSTO

HP

# IP The Next Generation

IPv6 FORUM

IETF

# HP in IPv6 World

IETF

- HP participates in the IPNG, NGtrans and other IPv6 related working groups regularly. (e.g. IPv6 activities on MobileIP, DNS, DHCP) .

IPv6 Forum

- HP is one of the early Founding Members to promote IPv6.

UNH IPv6 Consortium

- HP is a member of the IPv6 Consortium - involved in ongoing conformance and interoperability testing.

# HP-UX IPv6 Roadmap

| Dec 1998 | Mar 2000 | 2nd half 2001 (Targeted) | 1st Qtr 2002 (Targeted) |
|---|---|---|---|
|   |   |   |   |
| •Based on 11.0<br>•32-bit only<br>•10/100 BT LAN | •Based on 11.00 990P release<br>•32/64 bit OS<br>•L / N Classes<br>•10/100 BT LAN | •Latest APIs<br>•10/100 BT, Gigabit, FDDI<br>•IPSec, Mobile IP, Bind 9, NFS, OpenView, ... | •Complete HP-UX Conversion |

# Detail information of SDK 1.1 (I)

- Release on March 10, 2000
- Download URL
  - http://www.software.hp.com/
- Configuration
  - 32 / 64 bit
  - 11.0 990P base
- Link Layer
  - 10/100 BT LAN workstation (C200, B180)
  - HSC 100 BT LAN Server (K, J, T, and D class)
  - PCI 100 BT (A, R, L and N class)

# Detail information of SDK 1.1 (II)

- **IP Layer**
  - IPv6 Unicast and Multicast support
  - IPv6 Packet Forwarding
  - IPv6 Path MTU Discovery
  - IPv6 Fragmentation and Reassembly
  - IPv6 Neighbor Unreachability Detection
  - Stateless Address Autoconfiguration
  - Prefix Discovery with Invalid Lifetimes
  - Duplicate Address Detection
  - Link layer and auto-configured addresses for Ethernet devices
  - IPv6 over IPv4 Automatic and Configured Tunneling
  - TCP and UDP over IPv6
  - Router Discovery

# Detail information of SDK 1.1 (III)

- **Internet Services**
  - ftp server and client
  - identd
  - inetd support for IPv6 network daemons
  - sendmail
  - telnet server and client
- **Remote Execution Commands**
  - remsh and remshd
  - rlogin and rlogind
- **Name services**
  - DNS (Bind8)
  - /etc/hosts (files) support

# Detail information of SDK 1.1 (IV)

- **Network Configuration, Status and Testing Utilities**
  - ifconfig, route, ping
  - ndd, netstat, nslookup
- **API Layer**
  - Basic IPv6 socket interface support
  - Address to Hostname Translation
  - Hostname to Address Translation
  - Protocol-Independent Hostname and Service Name Translation
  - Various socket options

# RFCs supported in SDK 1.1 (I)

- **Addressing:**
  - IPv6 Addressing Architecture (RFC 2373)
- **Internet Control Message Protocol**
  - ICMP for IPv6 (RFC 2463)
- **Path MTU Discovery**
  - Path MTU Discovery for IPv6 (RFC 1981)
- **Packet Tunneling**
  - Generic Packet Tunneling in IPv6 (RFC 2473)
- **IPv6 Specification**
  - Internet Protocol, Version 6  (RFC 2460)

# RFCs supported in SDK 1.1 (II)

- **Neighbor Discovery**
  - Neighbor Discovery for IPv6 (RFC 2461)
- **Auto Configuration**
  - IPv6 Stateless Address Autoconfiguration (RFC 2462)
- **IPv6 over Different Media**
  - Transmission of IPv6 Packets over Ethernet Networks (RFC 2464)
- **Program Interfaces**
  - Basic Socket  Interface Extension for IPv6 (RFC 2133)
- **Domain Name System**
  - DNS Extensions to support IPv6 (RFC 1886)

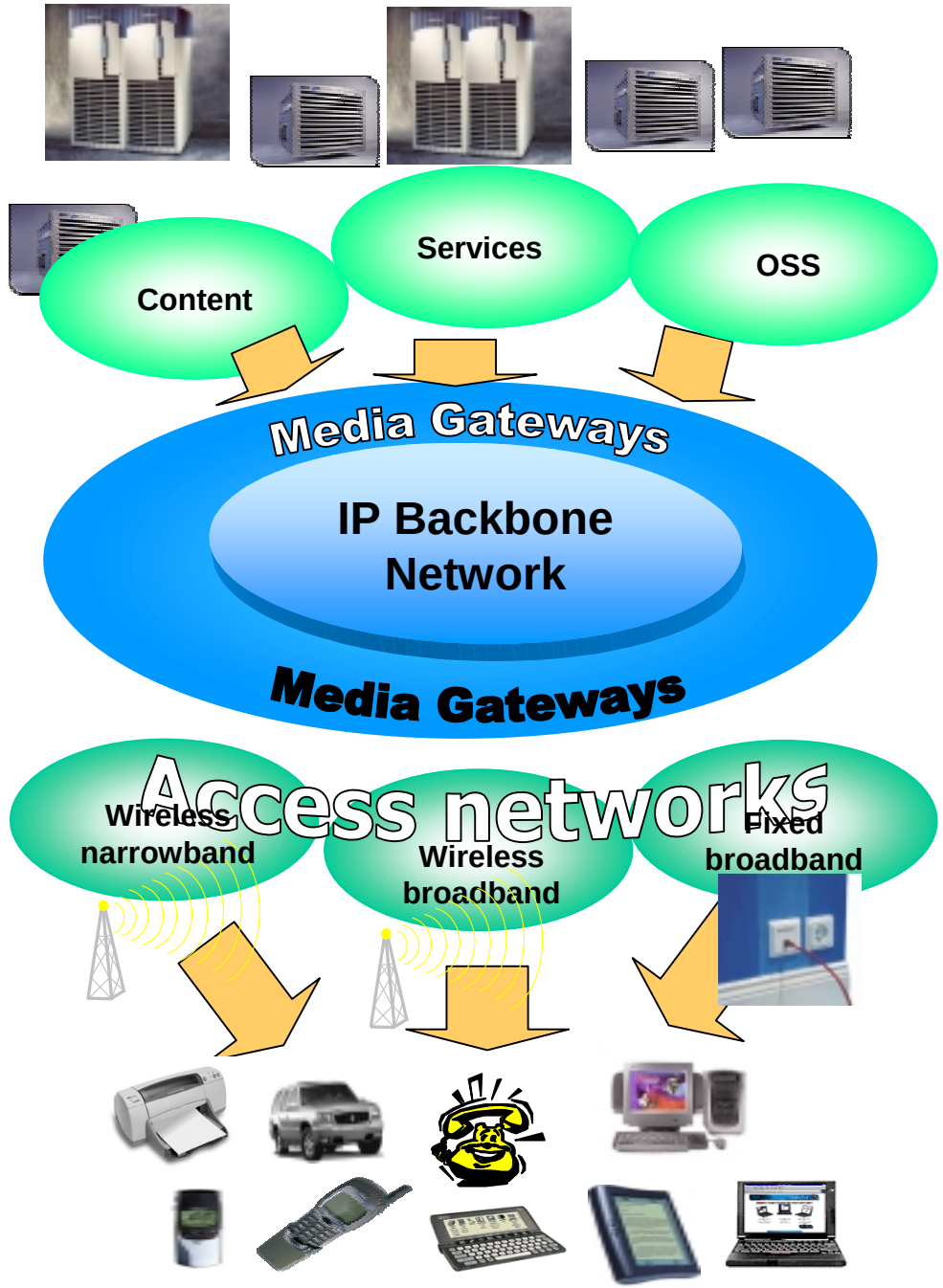
# IPv6 Core Product: Release I Content

- Will be released in the 2nd half of 2001
- SDK 1.1 functionality plus the following features:
  - IPSec support in IPv6
  - Advanced Sockets API
  - MIB support for IPv6
  - Routing Protocols (OSPFv6, gated)
  - Web Browser / Server
  - DHCPv6, BIND9, NFS
  - Network Information Name Services (NIS+)
  - Gigabit Ethernet and FDDI support
  - Configuration and Diagnostics tools: SAM, SD, tcpdump, nettl, netperf
  - Transition Mechanisms
- Always on Infrastructure Solutions: ie OpenView, OpenCall, JVM (TBD).

# Market Transformation

- Enormous growth of Mobile Internet
- Convergence in communication networks
- Address space is running out in IPv4
- Push type of applications

# Where will it happen?



# Mobile networks will drive

DEPLOYMENT

1. Mobile networks

2. Consumer Appliances

3. Long haul providers

4. Enterprises

# How will it happen?

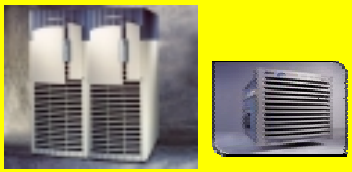
# How will it happen?

- Test networks are already up and running
- Mobile networks will follow stepwise; IPv6 is part of 3G
- When there is enough critical mass in the Internet infrastructure, appliances and services, the enterprises will come on board

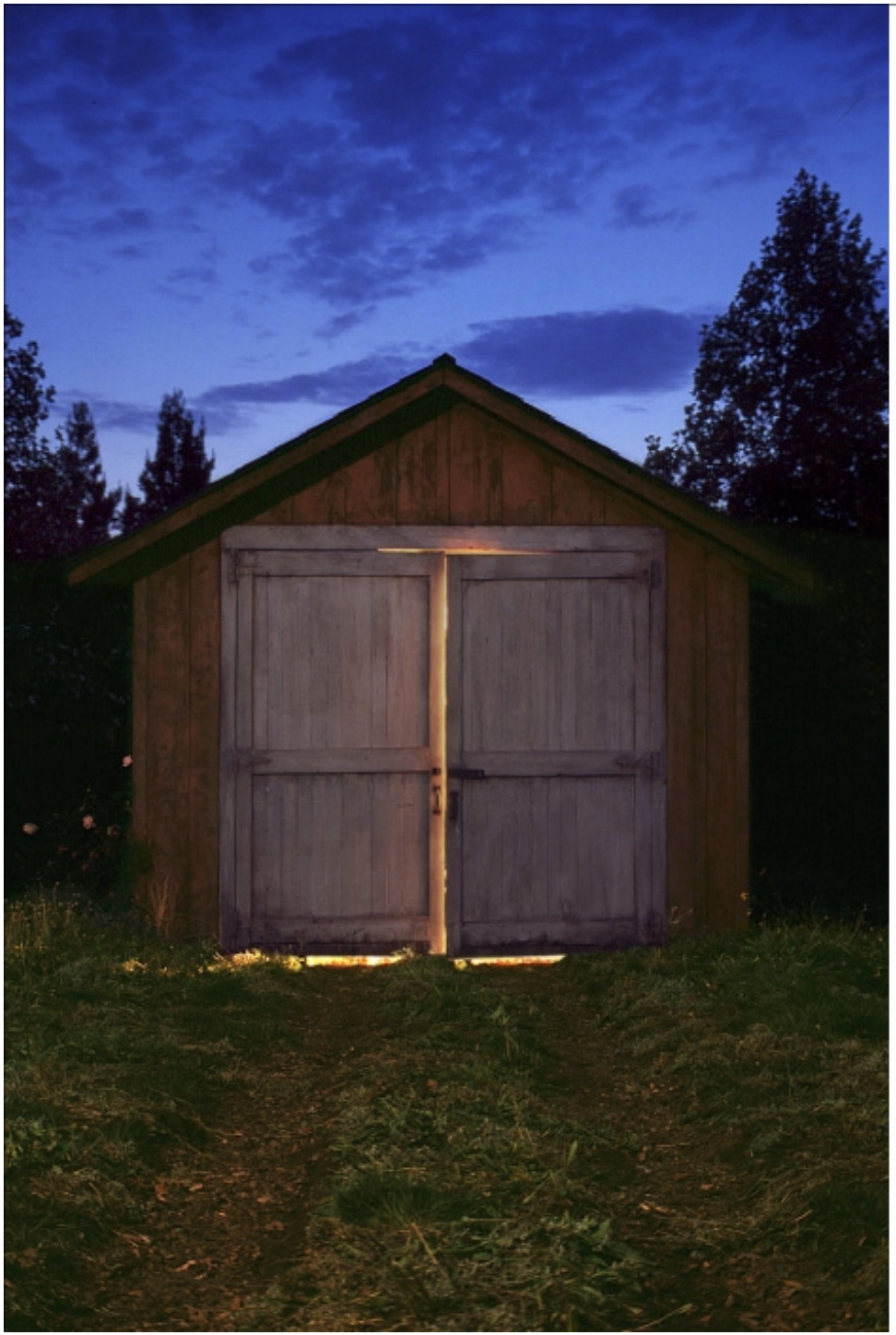
# HP's Intersection

**Appliances**


**Always On Infrastructure**



**e-Services**



The original company of inventors started here.

It is returning here.

The original start-up will act like one again.

From this day forward.

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