

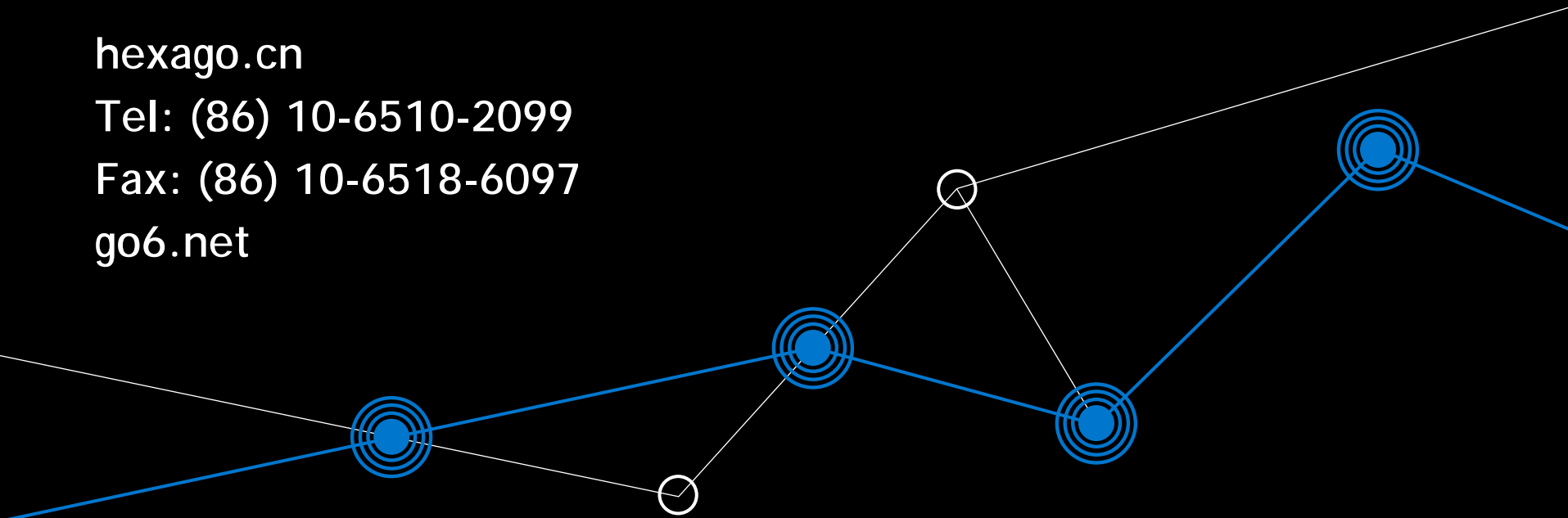
# Deploying IPv6 Services over Fixed and Mobile Networks

hexago.cn

Tel: (86) 10-6510-2099

Fax: (86) 10-6518-6097

go6.net



April 2007

# Company History

Canadian company - started IPv6 consulting in 1997 and became a product company in 2003

## Experience

- Active participants in IETF IPv6 Working Groups - Softwires, IPv6 WG, Mobile IPv6 WG, V6Ops WG
- Co-founders of the IPv6 Forum
- Long term involvement in the 6bone network, 6NET, Moonv6
- Designed 6TAP exchange
- Hands-on deployment experience in 4 continents
- Founder wrote *the IPv6 book: Migrating to IPv6*, Wiley, 2006

## Accomplishments

- Launched Freenet6 ([www.freenet6.net](http://www.freenet6.net)) in 1999 which has provided IPv6 access to over 150K people
- Released the Hexago Gateway6 in 2004
- Launched go6.net, in partnership, in 2007



# Partial Customer List

## Network Operators



## Defense & Government



## Research & Education



## Manufacturer



# Overview Video



# Product Overview

## Gateway6

- IPv6 service delivery platform for fixed and wireless networks
- Deploy IPv6 services over IPv4 network
- Provide interoperability between IPv6 - IPv4 - IPv6 networks



## Dongle6

- Plug 'n' play IPv6 CPE
- Plug into Ethernet port anywhere in the LAN to get IPv6



## P2P6 ( Peer-to-Peer6) Platform

- Platform to deploy P2P services
- Works in IPv6 networks or in IPv4 networks with Gateway6

# Gateway6 Solution

## Description

- An IPv6 service delivery platform
- Extends IPv6 from the core to the edge of the network (last mile or last hop)
- Provides interoperability between IPv6 & IPv4 hosts, networks and services

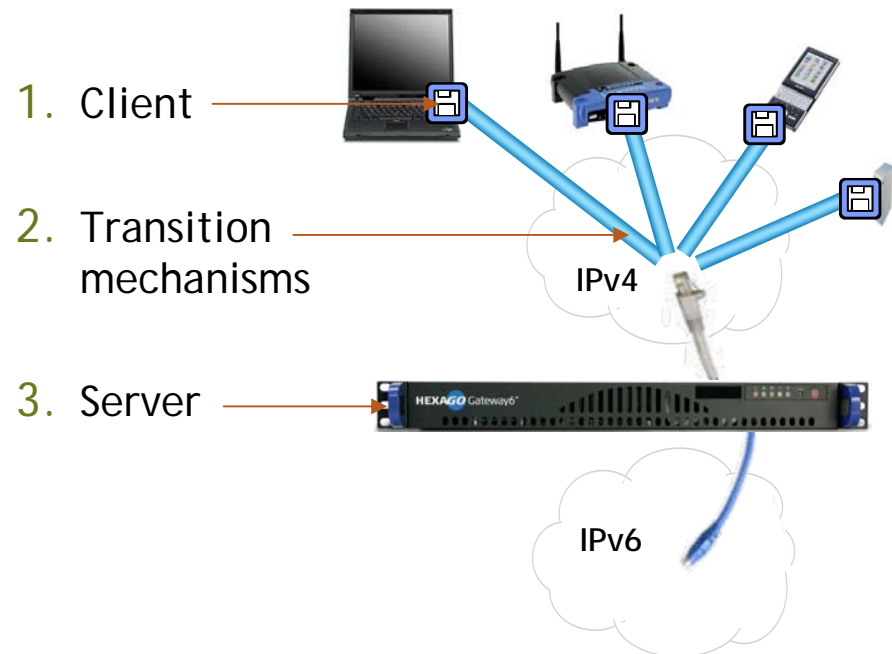
## Value Proposition

- Enables IPv6 services to work over IPv4 networks

## USP

- The only IPv6 service delivery platform sold today

Consists of 3 parts:




# Gateway6

- 1U Internet appliance
- 2 x 1GbE interfaces
- Supports up to 50,000 tunnels
- IPv6 in IPv4 tunneling
- IPv4 in IPv6 tunneling (DSTM)
- NAT traversal
- RADIUS support
- IPv6 permanent (or temporary) addresses
- Node and network mobility
- IPv6 prefix delegation
- Authentication, Authorization & Accounting (AAA)
- Automatically update DNS information
- Monitoring



# Gateway6 Client

Small footprint - uses v6 resources already in OS   
 BSD licensed. Source code and OPENWRT port available  
 Deployed in three ways:

1. Software download for computer
  - Is available on Windows 2000, Server 2003, XP, Linux, FreeBSD, OpenBSD, NetBSD, Solaris, OS X, VxWorks
2. Dongle6 - "Plug 'n' play" hardware device
  - Plug anywhere in network to provision IPv6 to LAN
3. Ported to various CPE devices



# Gateway6 Transition Mechanisms

## Tunneling

- Tunneling protocol is used to establish tunnel between client and Gateway6 server
- Utilizes the Tunnel Setup Protocol (TSP), DSTM, L2TP (prototype) and others soon

## Translation

- IPv4 -> IPv6 & IPv6 -> IPv4 proxy functionality
- IPv6 -> IPv4 & IPv6 -> IPv4 translation functionality

# Dongle6

Plug 'n' play IPv6 CPE

Dongle6 eliminates client software

Provisions IPv6 over L2 network

Can be installed by user

Cost effective way to upgrade exiting CPE deployments to IPv6



# P2P6 Platform Overview

Opens a new class of services for the Operator to sell

- Broadband fixed
- 3G mobile

All services are plug 'n' play - user can install

Platform supports the deployment of IPv6 P2P service over IPv4

Provides secure access to the home from anywhere on the internet

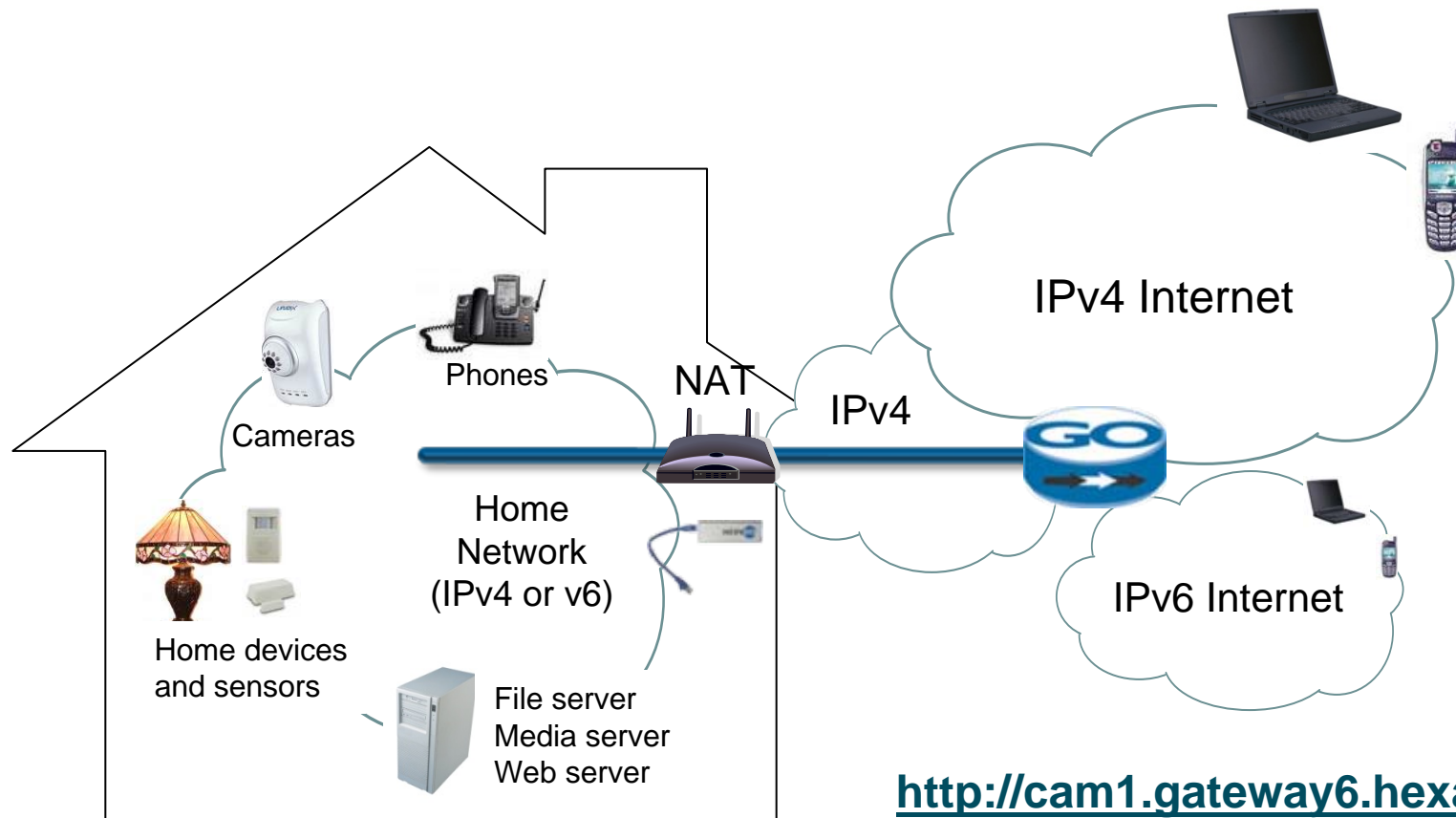
- Access home services with any computer or mobile device using IPv4
- Works with both IPv4 and IPv6 enabled home servers/devices

**Enabled services:**

- P2P Camera
- Home Access
- Home Website
- Big Big Mail
- P2P Filesharing
- P2P Streaming
- Remote Support



# Peer to Peer (P2P6) Services



<http://cam1.gateway6.hexago.com>

User = camuser; Password = secret

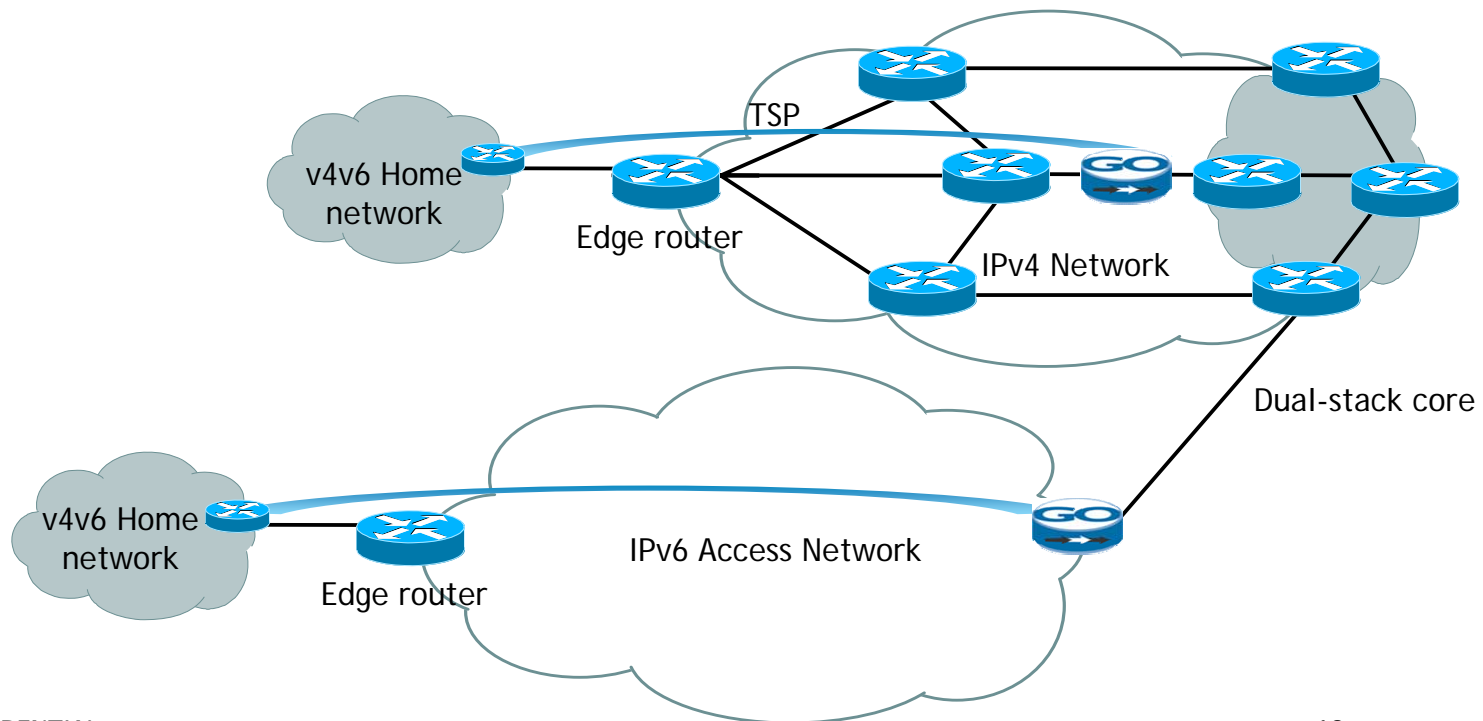
# Gateway6 Applications - Fixed

## IPv6 services platform using tunneling over IPv4

- Start small and add more Gateway6s step by step as traffic grows without requiring any client changes

Provides IPv6 access to users outside of IPv6 network

IPv4 support in an IPv6 only environment through DSTM

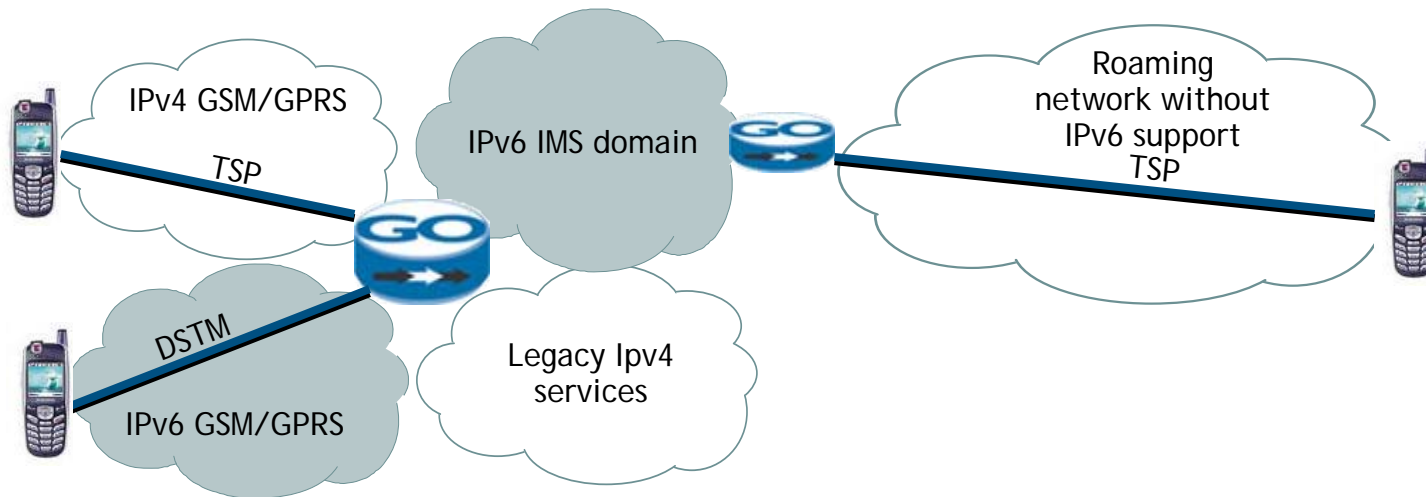


# Gateway6 Applications - Mobile

IPv6 over IPv4 to start IPv6 3G/IMS services today

IPv6 roaming in IPv4 networks

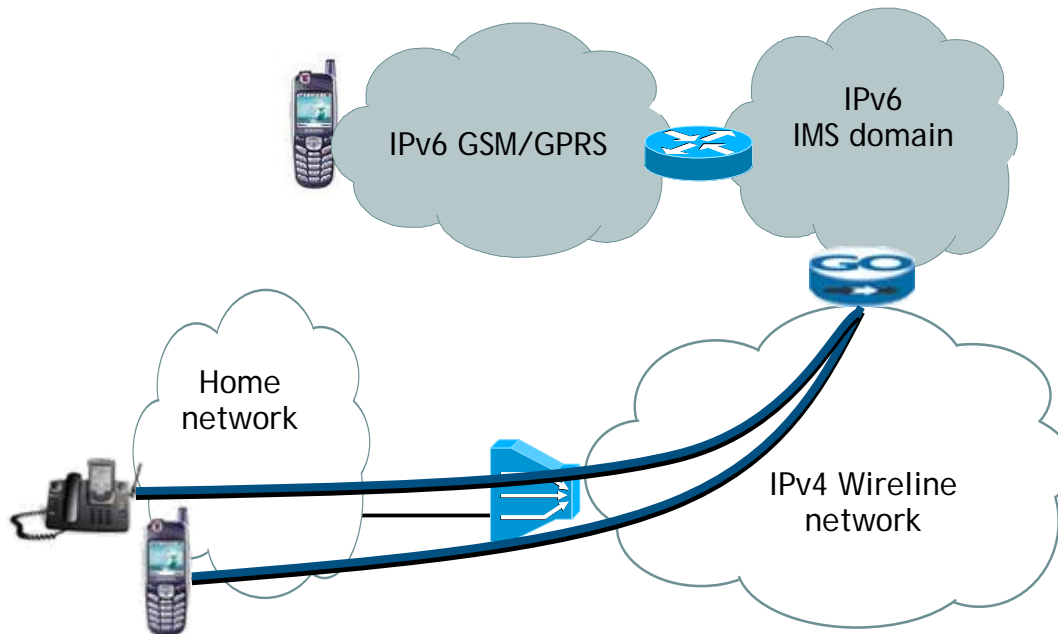
Various solutions to access IPv4 services in IPv6 network



# Gateway6 Applications - FMC

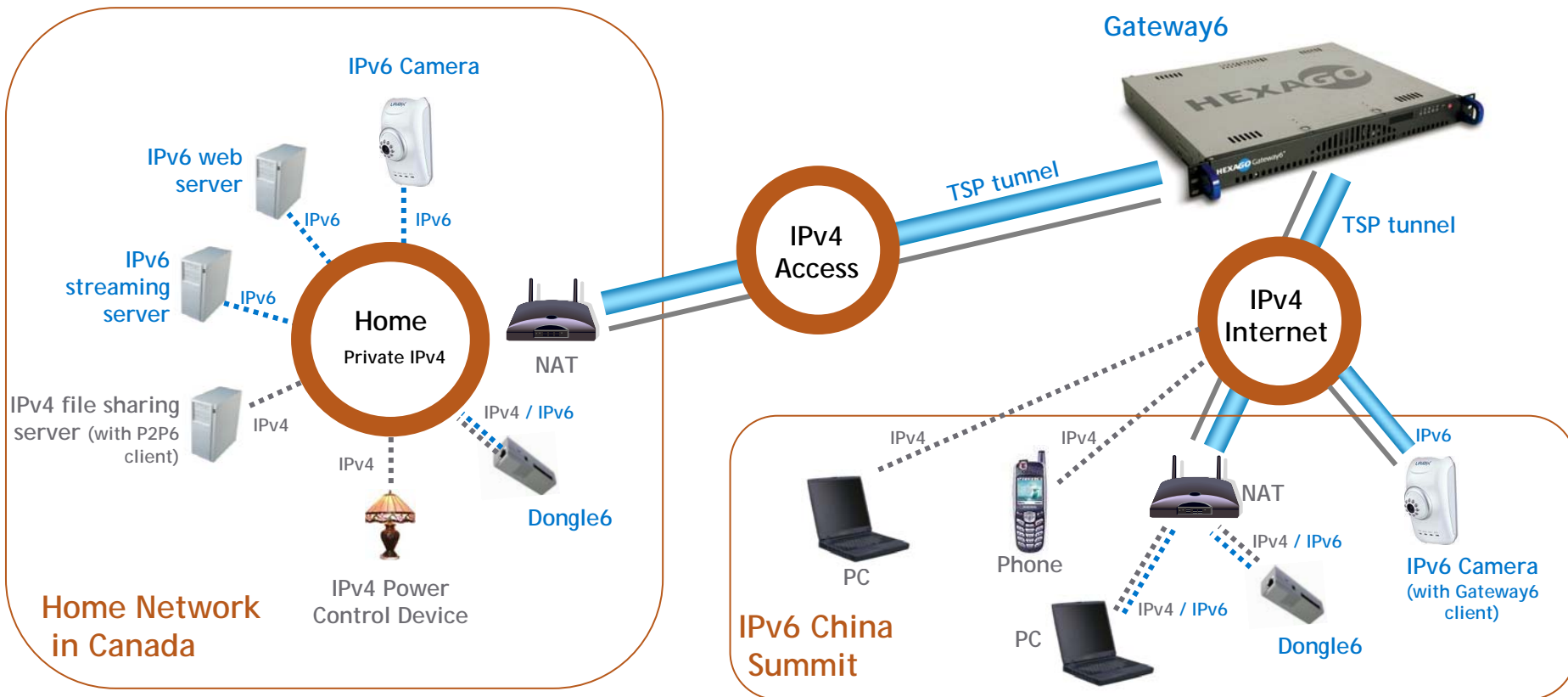
Provide a scalable platform for home access services  
 Accessing IPv6 IMS domain from wireline/wireless networks

IPv4 - IPv6 IMS interoperability - in progress



# Booth Demonstrations

Demonstrating: Gateway6, Dongle6 and P2P6



Thank you.

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A decorative graphic consisting of a network of blue and white lines connecting several circular nodes. Some nodes are solid blue with concentric circles, while others are white with a blue outline. The lines form a series of interconnected paths across the lower half of the slide.

April 2007