



Action Plan for Countermeasures against IPv4 Address Exhaustion ver. 2009.2

**2009.2.17
Task Force on IPv4 Address Exhaustion, Japan**



About this document

This document describes a series of recommended action plans as a reference for industry players examining issues related to IPv4 address exhaustion - estimated to occur as early as the beginning of 2011.

The Task Force on IPv4 Address Exhaustion, Japan anticipates that organizations will consider IPv4 address exhaustion issues on the basis of this reference and create and execute individual action plans accordingly. As a result, we hope the Internet industry as a whole will be able to smoothly address and overcome this problem.



Background to the Creation of the Action Plan

- ✓ The Ministry of Internal Affairs and Communications Report "Study Group on Internet's Smooth Transition to IPv6" (2008.6) sets an early 2011 target date.
 - ✓ The above report predicts the exhaustion date of the IPv4 address pool on the following assumptions:
 - ✓ mid 2010 to early 2012 exhaustion of the international address stock (IANA Pool)
 - ✓ the acquisition of new v4 addresses in Japan will be impossible in the beginning of 2011 to mid 2013, .
Geoff Huston currently estimates:
 - ✓ 1Q to 2Q 2011 as the IANA exhaustion date
 - ✓ 1Q to 3Q 2012 as the APNIC exhaustion date(Data updated daily on the web with calculated exhaustion dates changing daily.)
 - ✓ While the exhaustion date may be delayed by reduced capital investment in the current recessionary environment, it may also accelerate through such factors as the increased speed of wireless broadband deployment, last minute demand etc..
 - ✓ As a result, at present the target date is typically assumed as early 2011.
* "Study Group on Internet's Smooth Transition to IPv6" Report (http://www.soumu.go.jp/s-news/2008/pdf/080617_2_bt1.pdf)
- ✓ As the Action Plan model has a certain amount of built-in time flexibility, individual organizations should plan based on an independent consideration of risk and environment.
- ✓ Even the latest movers should complete countermeasures before JPNIC/APNIC exhaustion.
- ✓ This Action Plan will be updated as necessary based on changing address consumption trends, IPv6 technology issues, etc.



Action Plan: Network Area

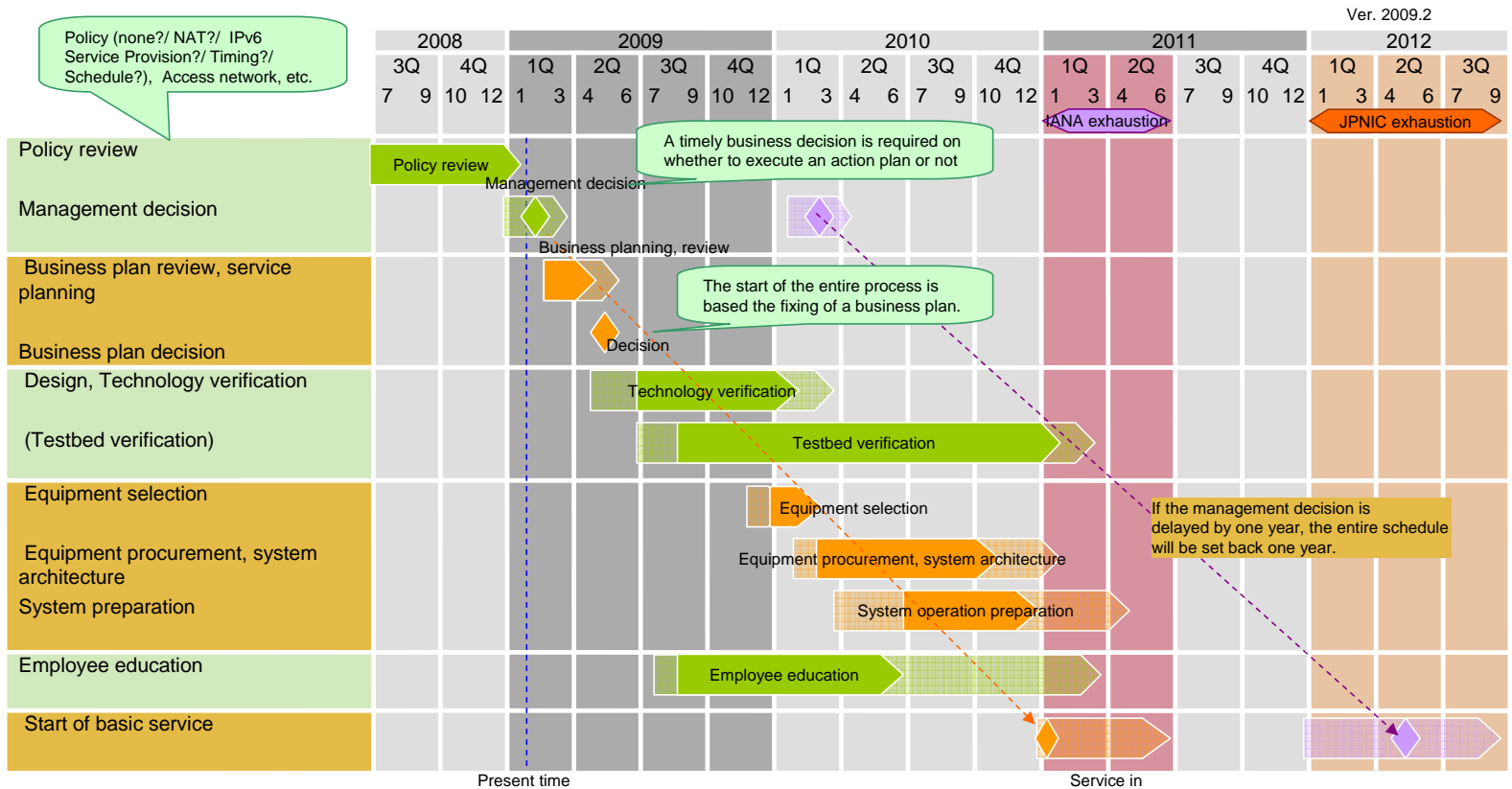
The following represents typical action recommendations for network operators in dealing with IPv4 address exhaustion.

(* Refer to the action items in the diagram on the next page.)

1. Policy, Management Decision Making
 - i. Analyze the impact of the exhaustion problem on your organization.
 - ii. Perform the business judgment for the countermeasure policy.
 - i.e.: need to address the issue?, countermeasure policy (IPv6?, CGN?, etc.), timing?, etc.
2. Business Planning/Review, Service Planning
 - i. Policy analysis and the business plan development.
 - i.e.: service planning (new service?/existing service upgrade?), basic network design, consideration of operating procedures, etc.
3. Design, Technology Verification
4. Equipment Selection, Procurement, System Architecture, System Operation
5. Employee Education
6. Basic Service-in

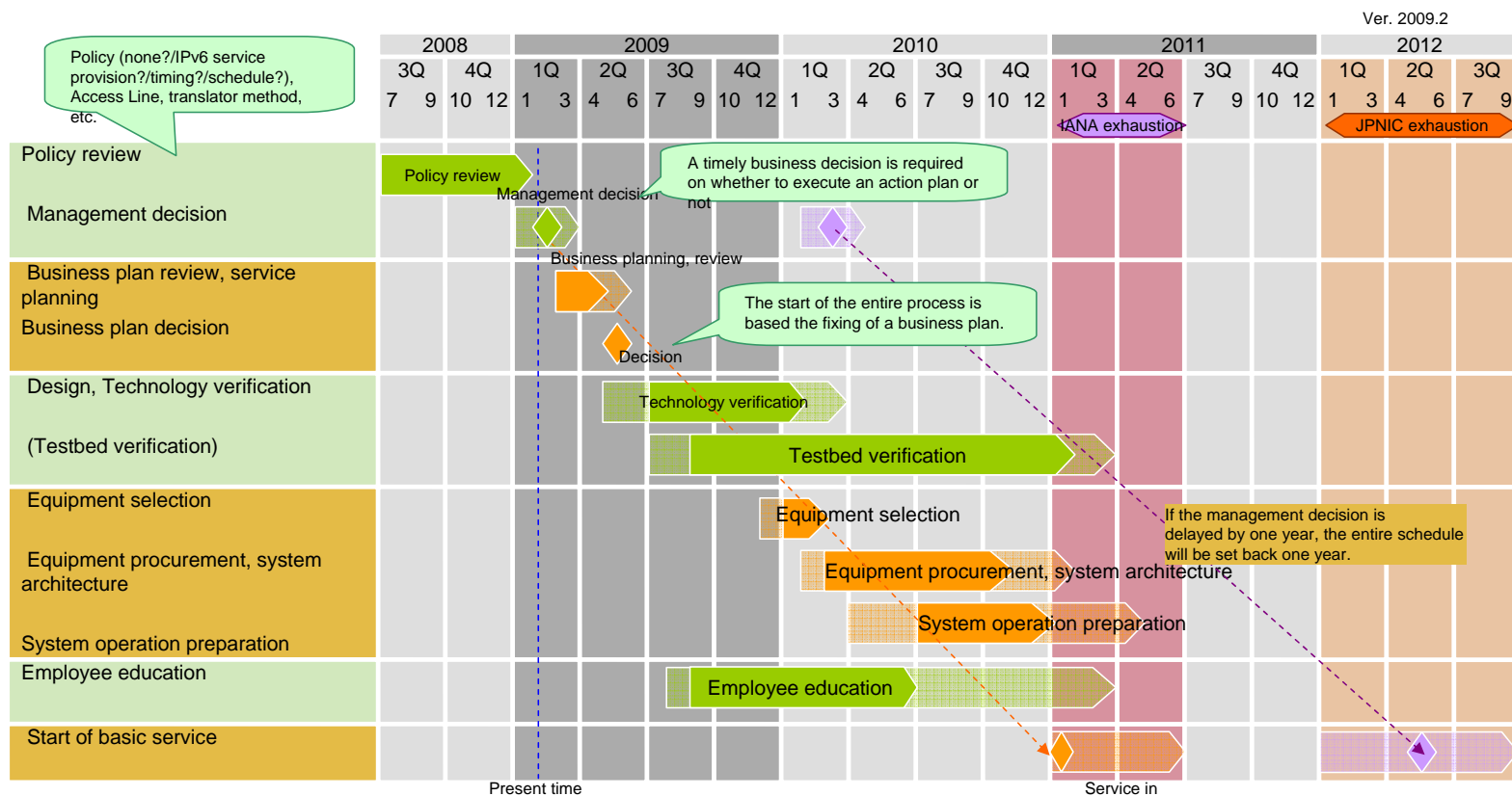
Action Plan: Network Area

Action Plan for Network Players



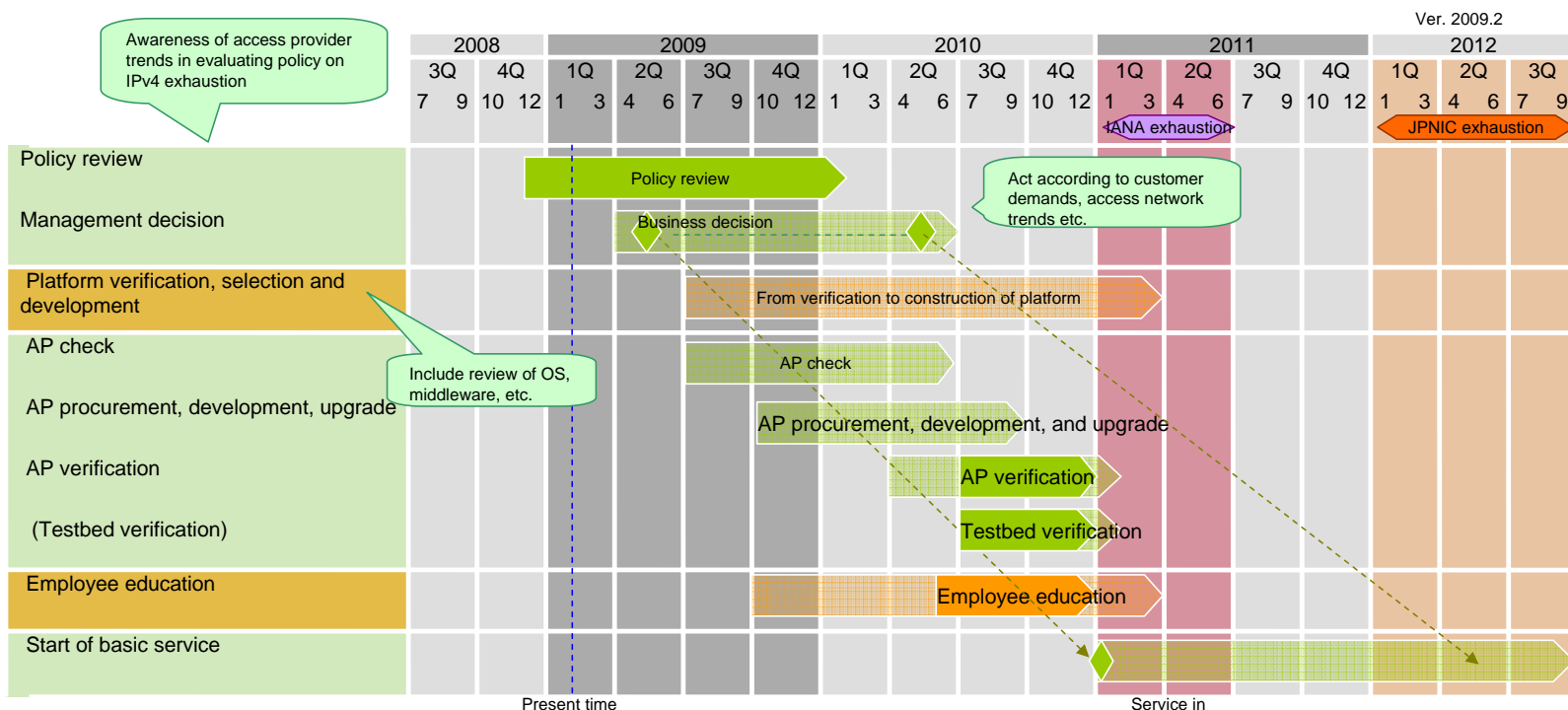
Action Plan: Service (iDC/Hosting) Area

Action Plan for Service (iDC/Hosting) Players



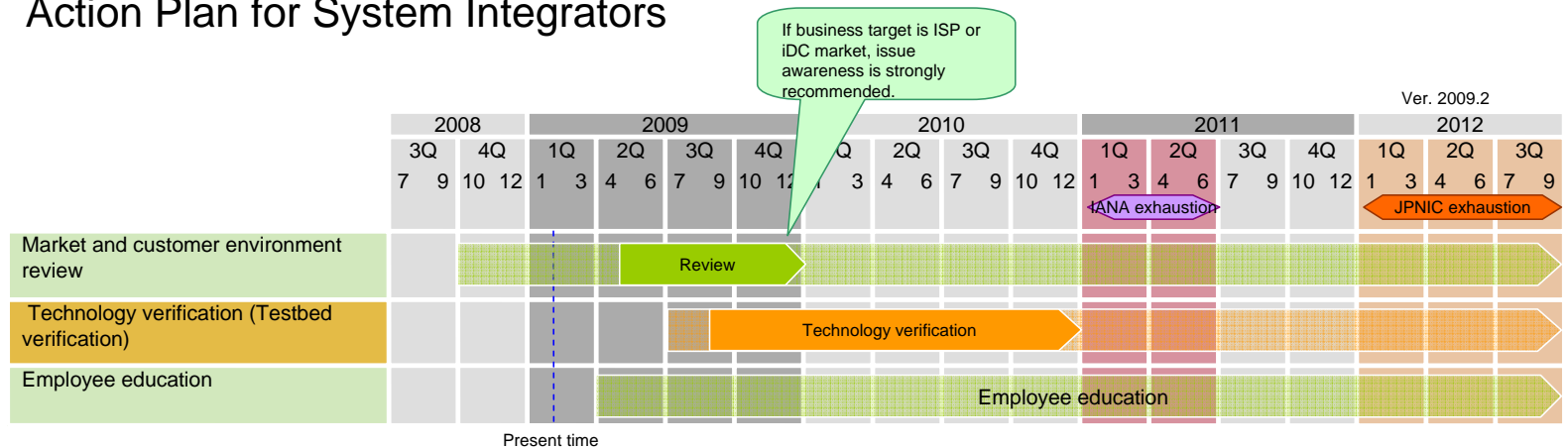
Action Plan: Service(ASP/CSP) Provider Area

Action Plan for Service (ASP/CSP) Providers



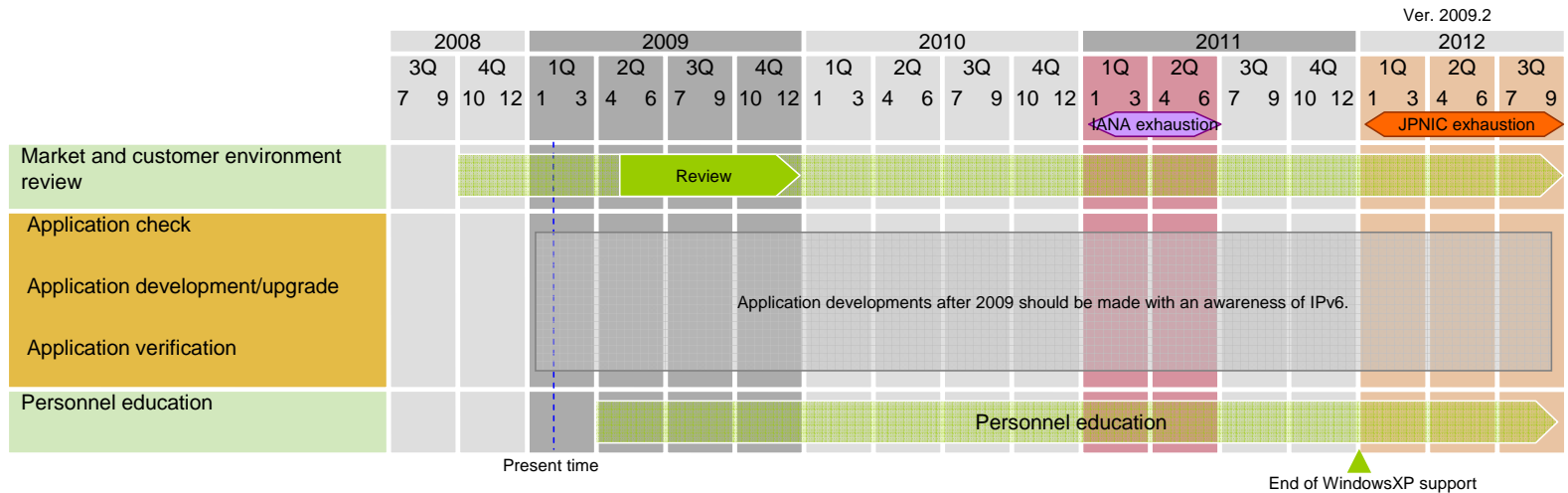
Action Plan: System Integration Area

Action Plan for System Integrators



Action Plan: Application Development Area

Action Plan for Application Development Players





Action Plan: Business User Area

Action Plan for Business Users

