

MITRE IPv6 Distributed Testbed

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The logo for the MITRE Technology Program, featuring a stylized graphic of stacked blocks in yellow, orange, and blue to the left of the text.

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The MITRE logo, consisting of the word "MITRE" in a bold, black, sans-serif font.

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Problem

- In a 9 June 2003 memorandum, the Assistant Secretary of Defense for Networks and Information Integration (ASD[NII]) established Department of Defense (DoD) policy for the transition of DoD enterprise-wide networks from Internet Protocol Version 4 (IPv4) to Internet Protocol Version 6 (IPv6).
- The migration of DoD enterprise networks to IPv6 will be a major undertaking.
 - Many systems will require upgrades (or replacements) to support IPv6.

Background

- **The primary motivation for this transition is the inability of IPv4 to meet the long-term needs of the DoD— or the commercial Internet—due to fundamental limitations of the protocols that IPv6 was designed to address.**
- **IPv6 includes improvements in the following areas:**
 - IPv6 uses a 128-bit source and destination address space, providing an essentially unlimited number of addresses.
 - Autoconfiguration
 - Quality of Service Mechanisms
 - Mobility Support
 - Mandatory Security Features

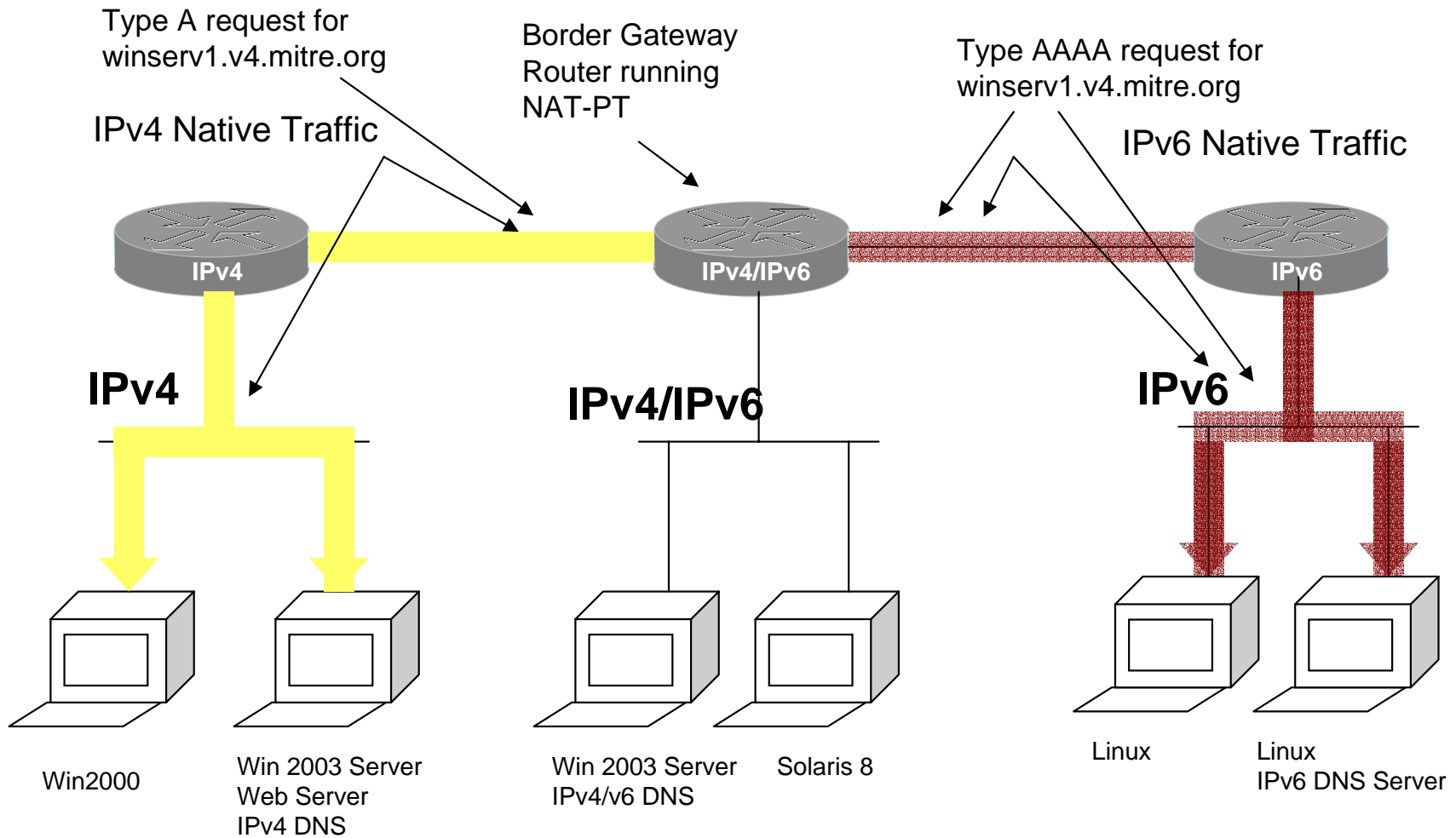
Objectives

- **Support development of Net-Centric Architectures utilizing IPv6**
 - Evaluate new commercial IPv6 products and capabilities
- **Support the DoD strategy process for an aggressive but thoughtful end to end transition**
 - Support testing of multiple transition scenarios and mechanisms
 - Evaluate performance and security impacts
 - Reduce transition risk
- **Provide a capability for supporting sponsors and projects across the corporation**
 - Continue to enhance MITRE IPv6 experience

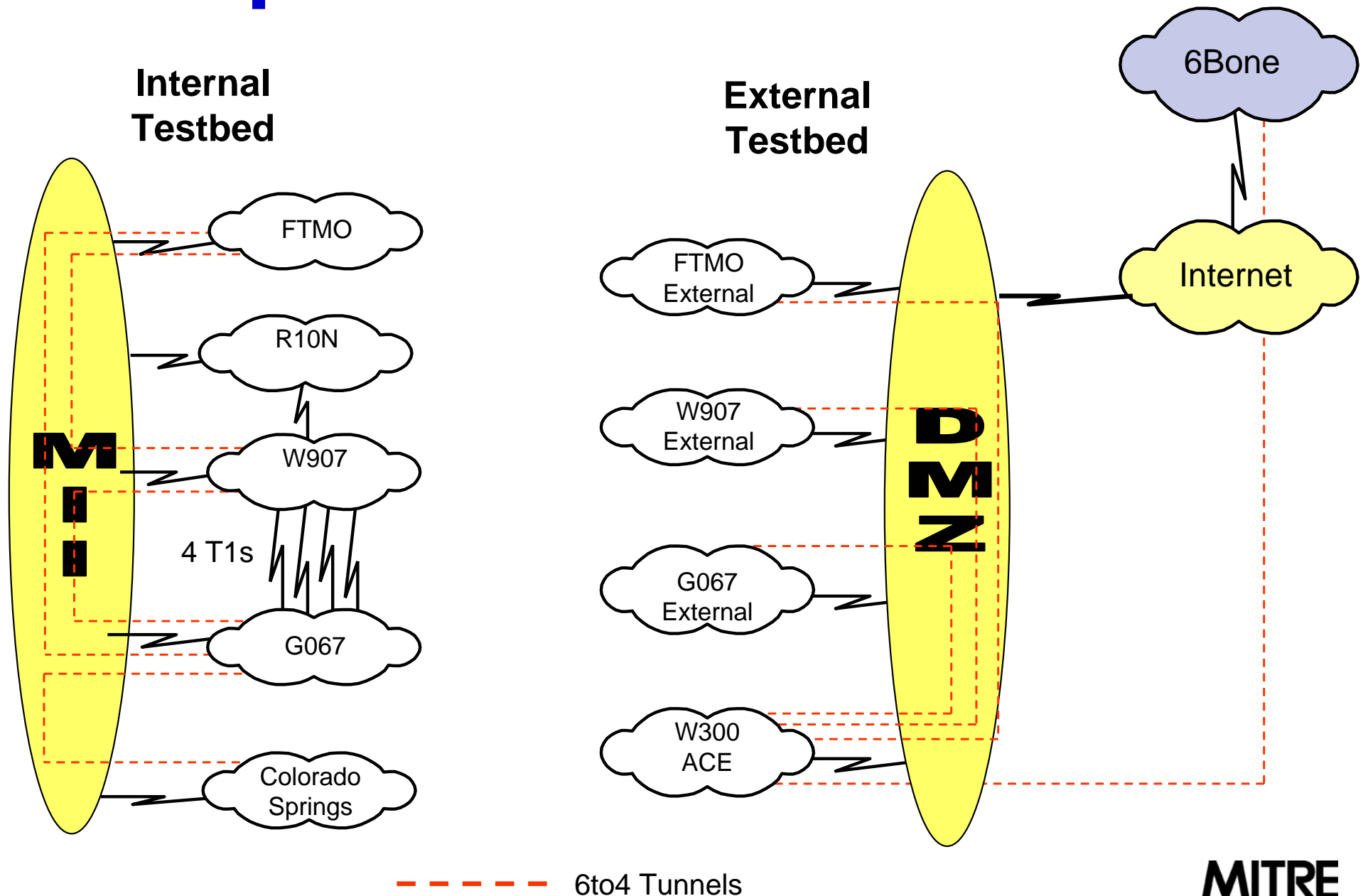
Activities

- **Testbed development**
 - Participating depts. include: **G067, W905, W907, W908, W301, W214, R10N, D660**
- **Evaluate/Demonstrate IPv6 Technologies**
 - **Transition mechanisms**
 - **IPv6/IPv4 Interoperability**
 - **Routing protocol**
 - **IPv6 applications**
- **Evaluate performance and security for IPv6 architectures and applications**

Highlight: HTTP using NAT-PT



Integrated IPv6 Testbed Conceptual View



Demo

