Group Written Discussion Project

The Rapid Implementation of IPv6 at GIAC Enterprises

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Objective

- Enable GIAC Enterprises’ IPv4 network to communicate with our Chinese plants running IPv6

- Ensure GIAC Enterprises has a solution that will allow for rapid implementation of IPv6
Assumptions

- Enough money to implement hot swap option for routers
- IT Support team successfully implemented IPv4 roll-back for short-term remediation
- Successful testing will negate the requirement for roll-back
- Chinese ISP will not issue any IPv4 addresses to our plants
- Required personnel available for roll-out
**Interoperability Options**

- **Dual Stack**
  - Allows IPv4 and IPv6 to co-exist in same devices
  - Requires one network address for each protocol version
  - IPv4 and IPv6 forwarding is enabled on all routers
  - Network software update is required to maintain both protocols
  - All routing tables would be kept for both protocols impacting router performance

- **Tunneling**
  - Allows the transport of IPv6 over existing IPv4 infrastructure
  - Can be used to deploy IPv6 in place with IPv4 infrastructure
  - IPv6 traffic can be carried over IPv4 routing infrastructure
  - Quicker implementation and transparently
  - No change in router configuration
High-level project plan

Day 1
- Negotiate change window with business units
- Execute communication plan (IT Business Relationship Manager)
- Verify survey of assets findings (Network / System Engineer)
- Submit Request for Change (Network / System Engineer)

Day 2
- Build out Test environment for testing the proposed change (Network / Systems Engineer)
High-level project plan (cont'd)

- **Day 3**
  - Successfully test proposed changes in our Test Environment (Network / Systems Engineer)

- **Day 4**
  - Implement tunneling solution changes in production (Network / Systems Engineer)
  - Systems testing (Network / Systems Engineer)
  - Successful business validation testing (Business Analyst)