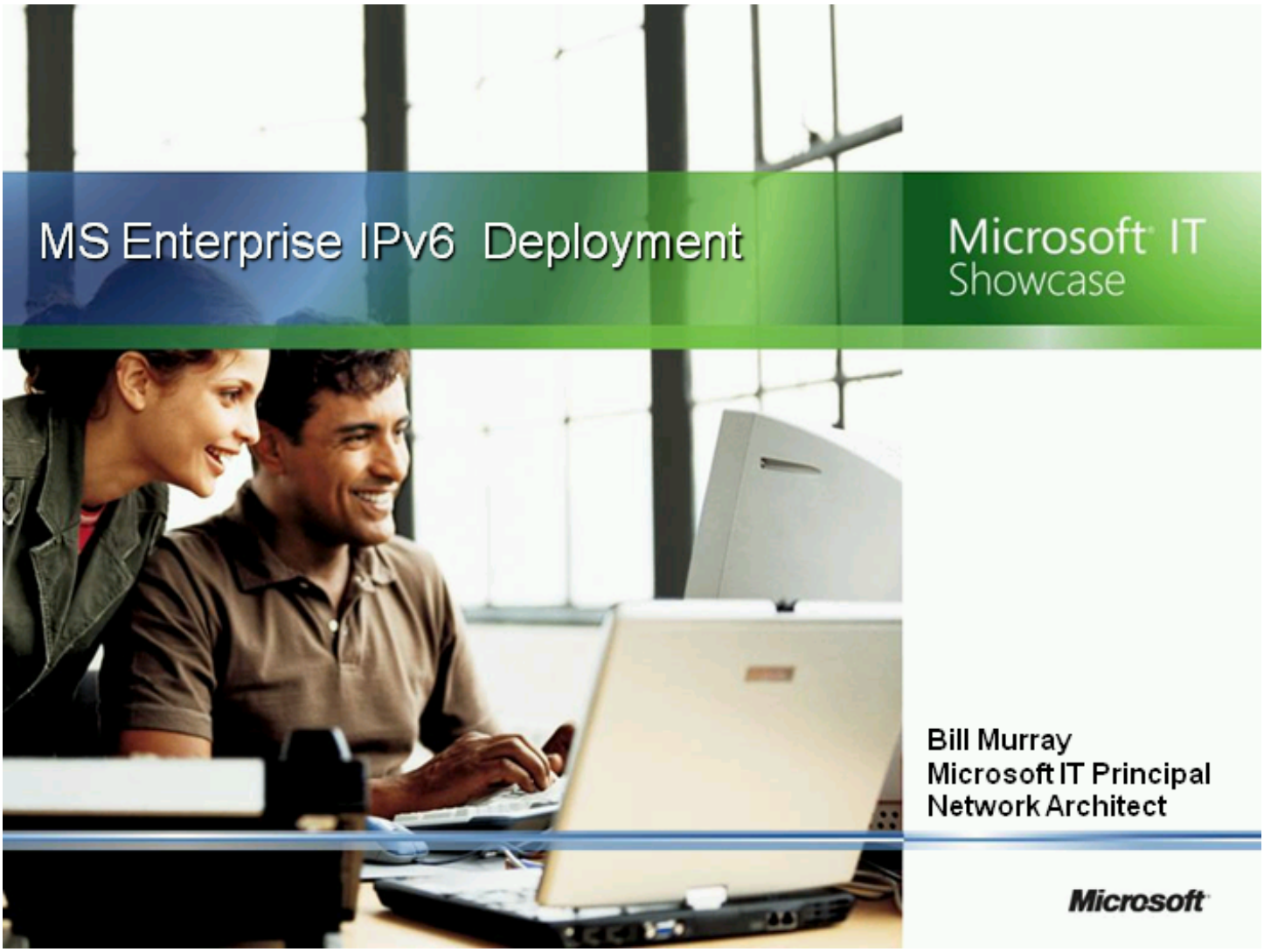
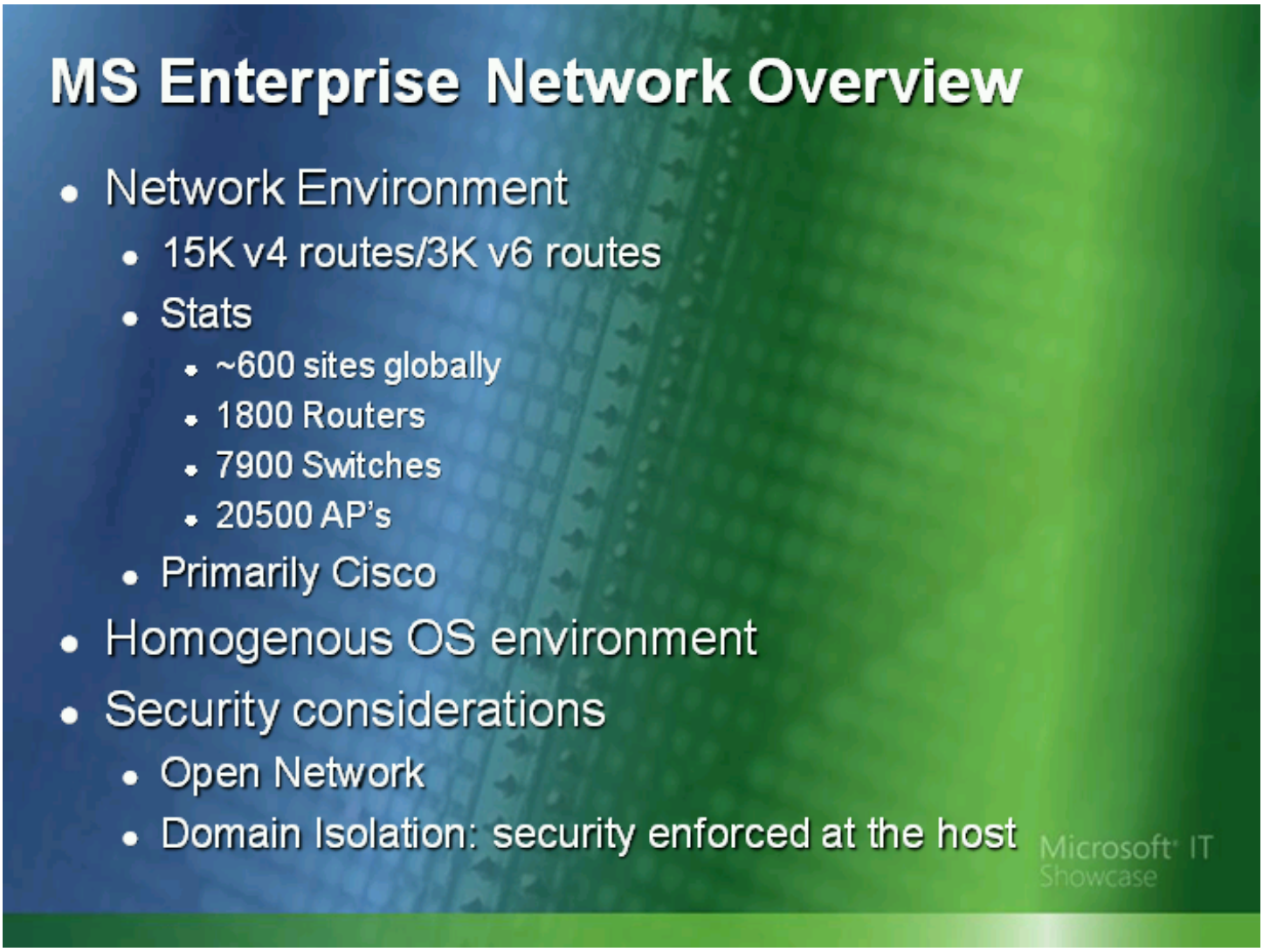


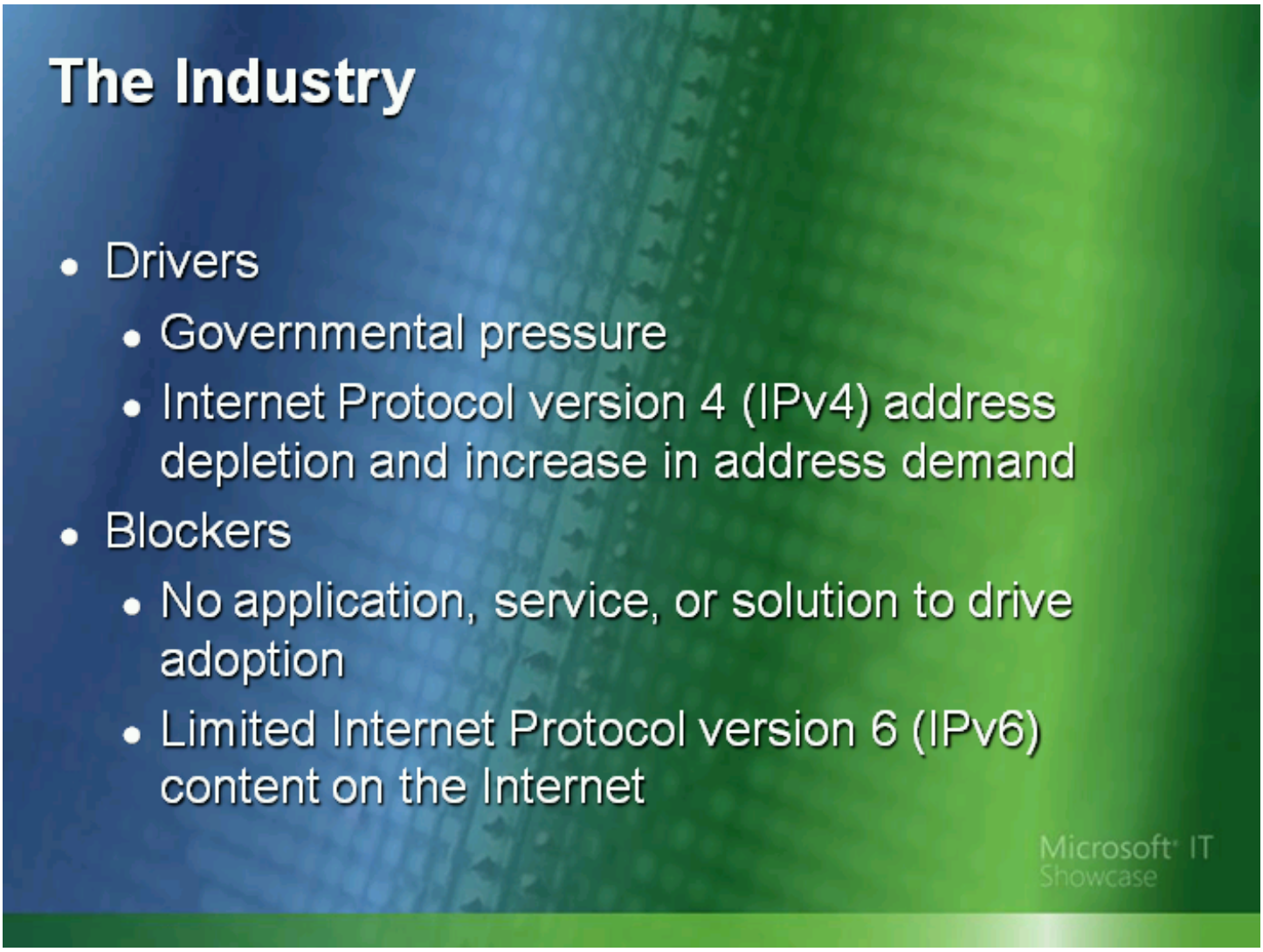
MS Enterprise IPv6 Deployment

Agenda
The Industry
Microsoft drivers
Microsoft Information Technology (MSIT) deployment philosophy and adoption strategy
History and Current state
Lessons learned
Focus areas for planning
Components of infrastructure scorecard
Microsoft IT Showcase

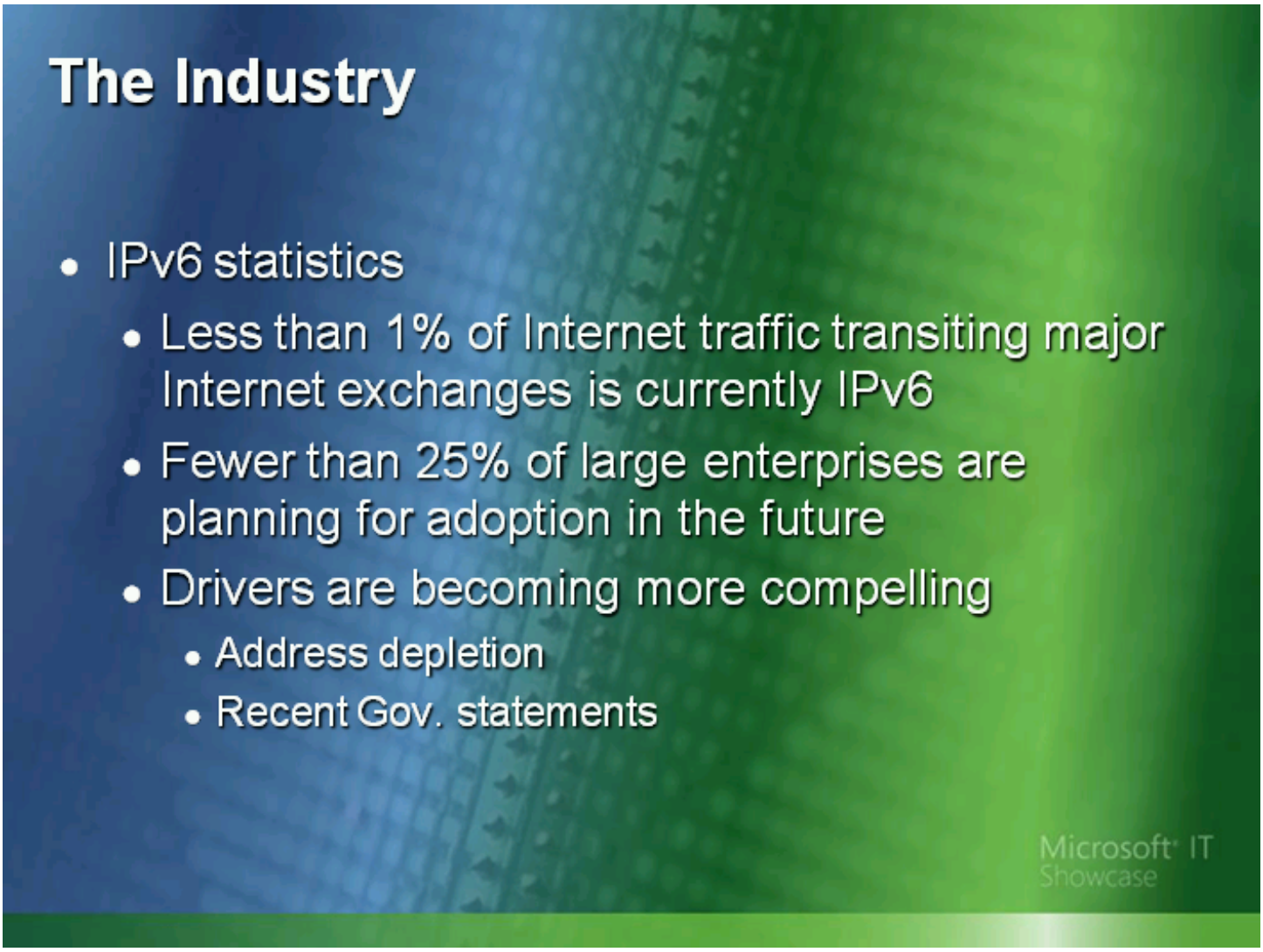
Agenda



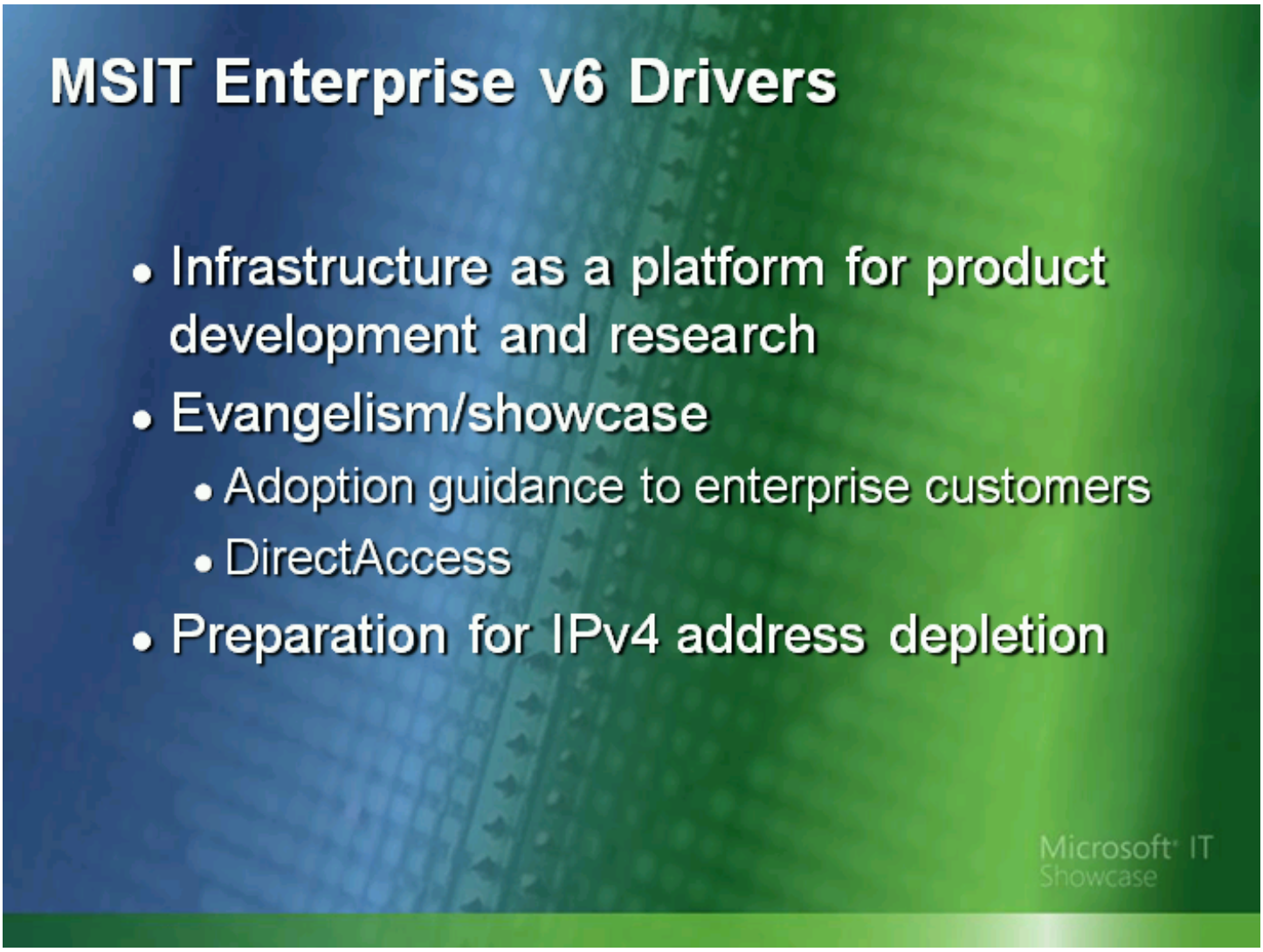
MS Enterprise Network Overview



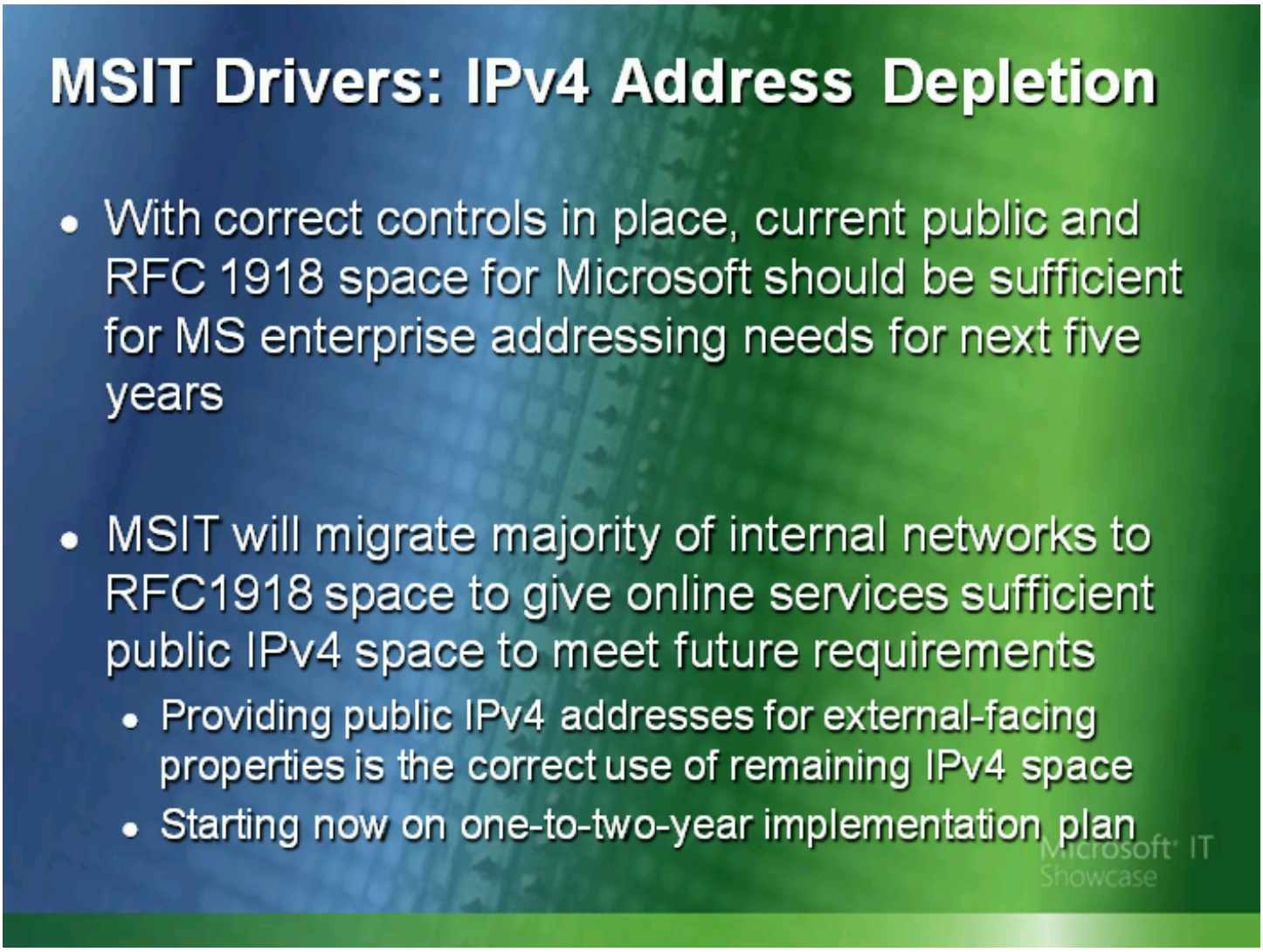
The Industry



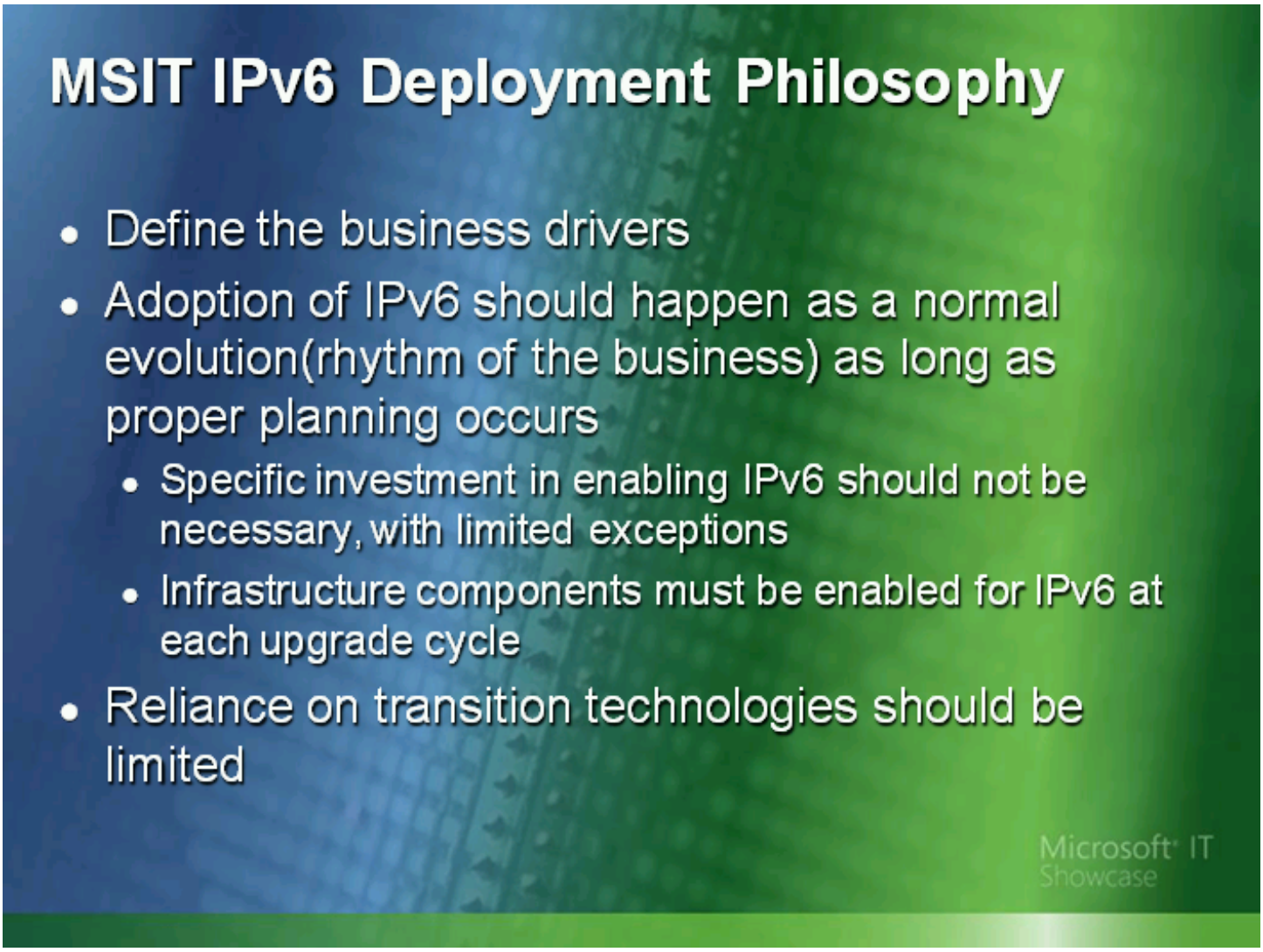
The Industry



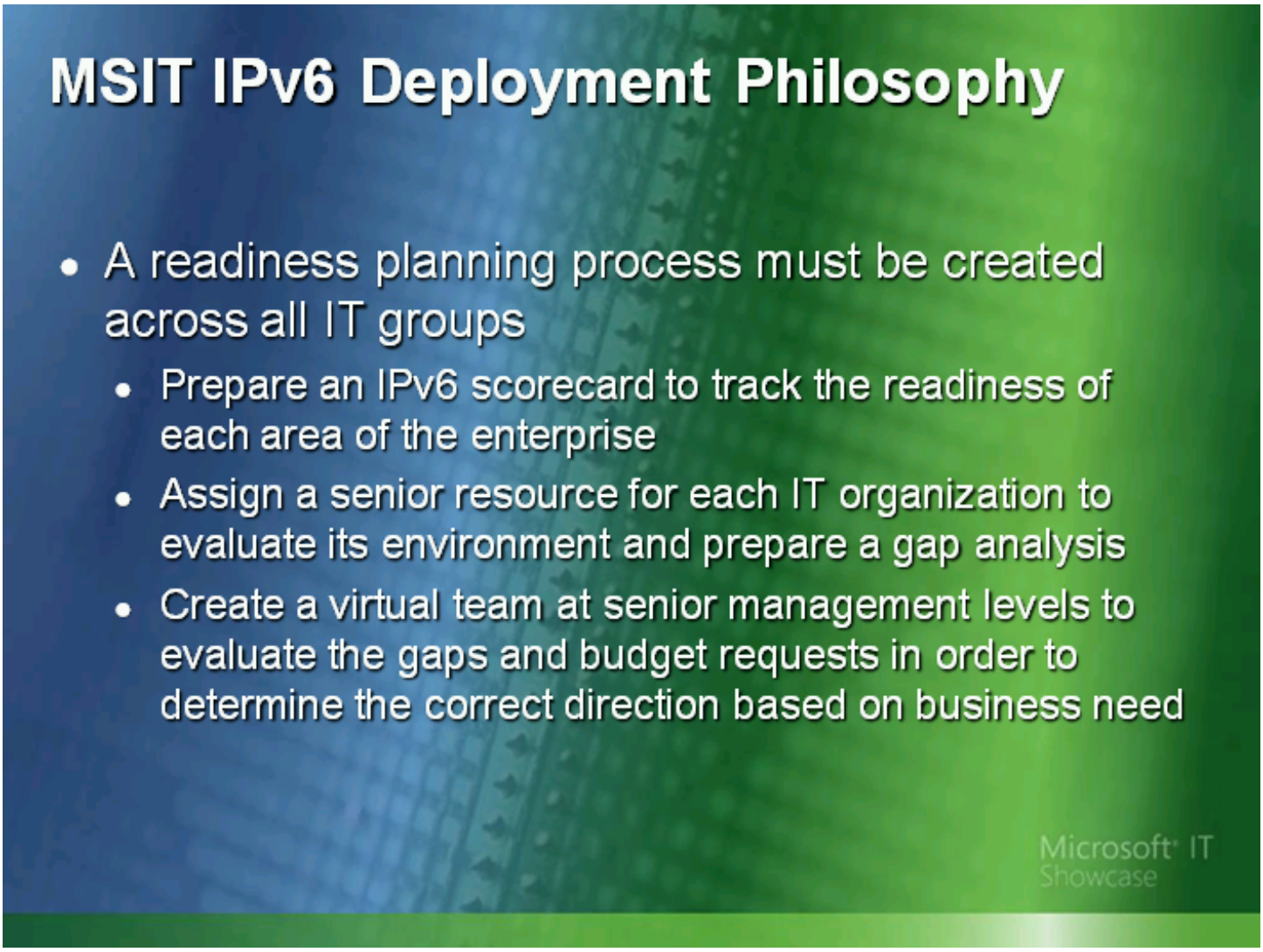
MSIT Enterprise v6 Drivers



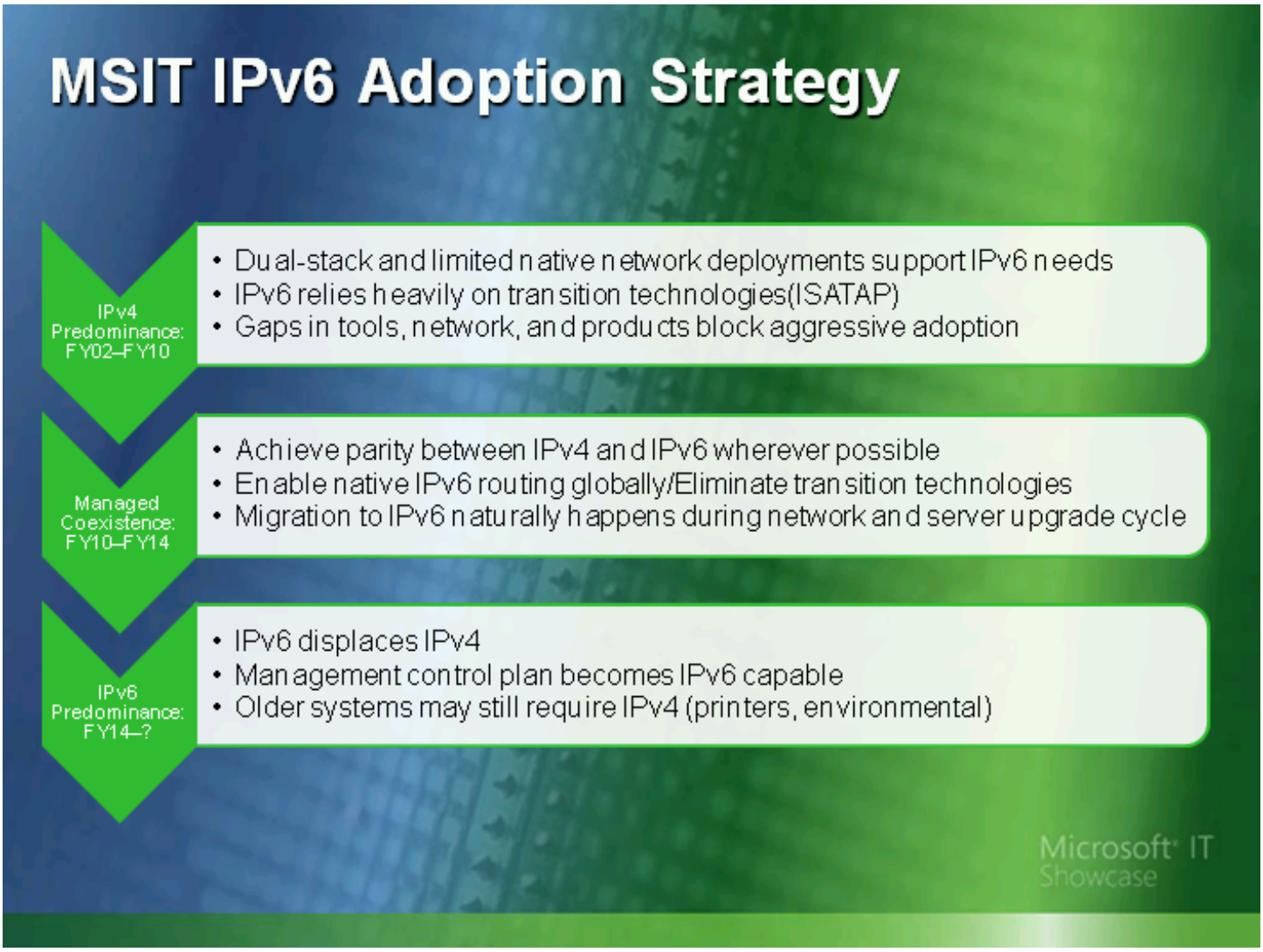
MSIT Drivers: IPv4 Address Depletion



MSIT IPv6 Deployment Philosophy



MSIT IPv6 Deployment Philosophy



MSIT IPv6 Adoption Strategy

MSIT V6 Deployment History

- 2001-2004
  - Deployed using experimental 6bone address space.
  - Native v6 Deployed on dedicated devices due to poor performance on existing routing platforms
  - ISATAP deployed to support connectivity where infrastructure is not capable
- 2004-2008
  - Management issues with connecting native v6 “clouds” drive enabling native v6 routing on enterprise backbone/WAN.
  - Readdress to eliminate reliance on legacy 6Bone address allocations
  - ISATAP scaling issues
- 2009-Current
  - Redesign ISATAP infrastructure
    - Majority of Client and Server OS become dual stack capable causing performance issues with transition technologies
  - Issues with management visibility and feature parity block enterprise wide adoption of native v6

Microsoft IT Showcase

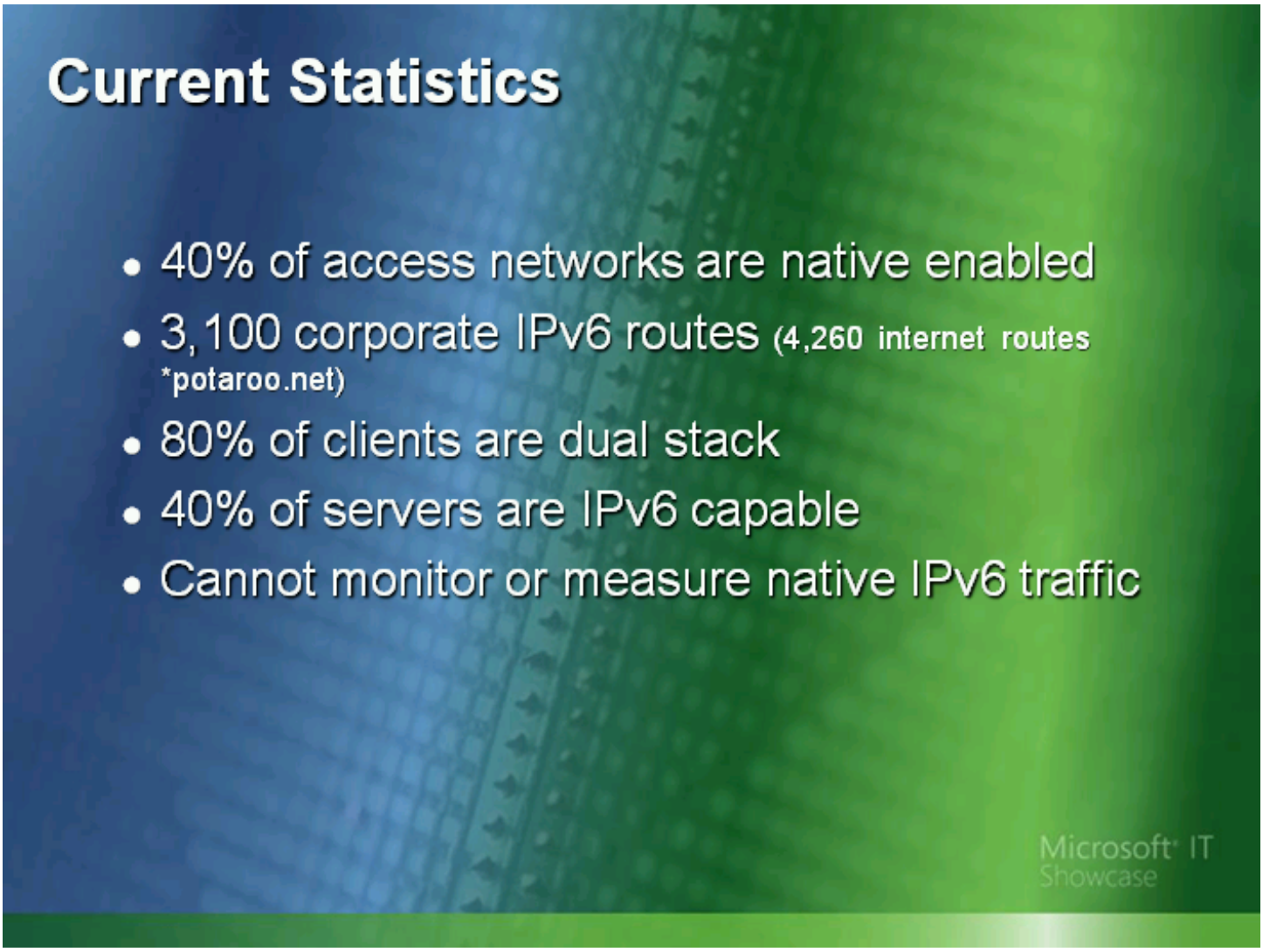
MSIT V6 Deployment History

Current State

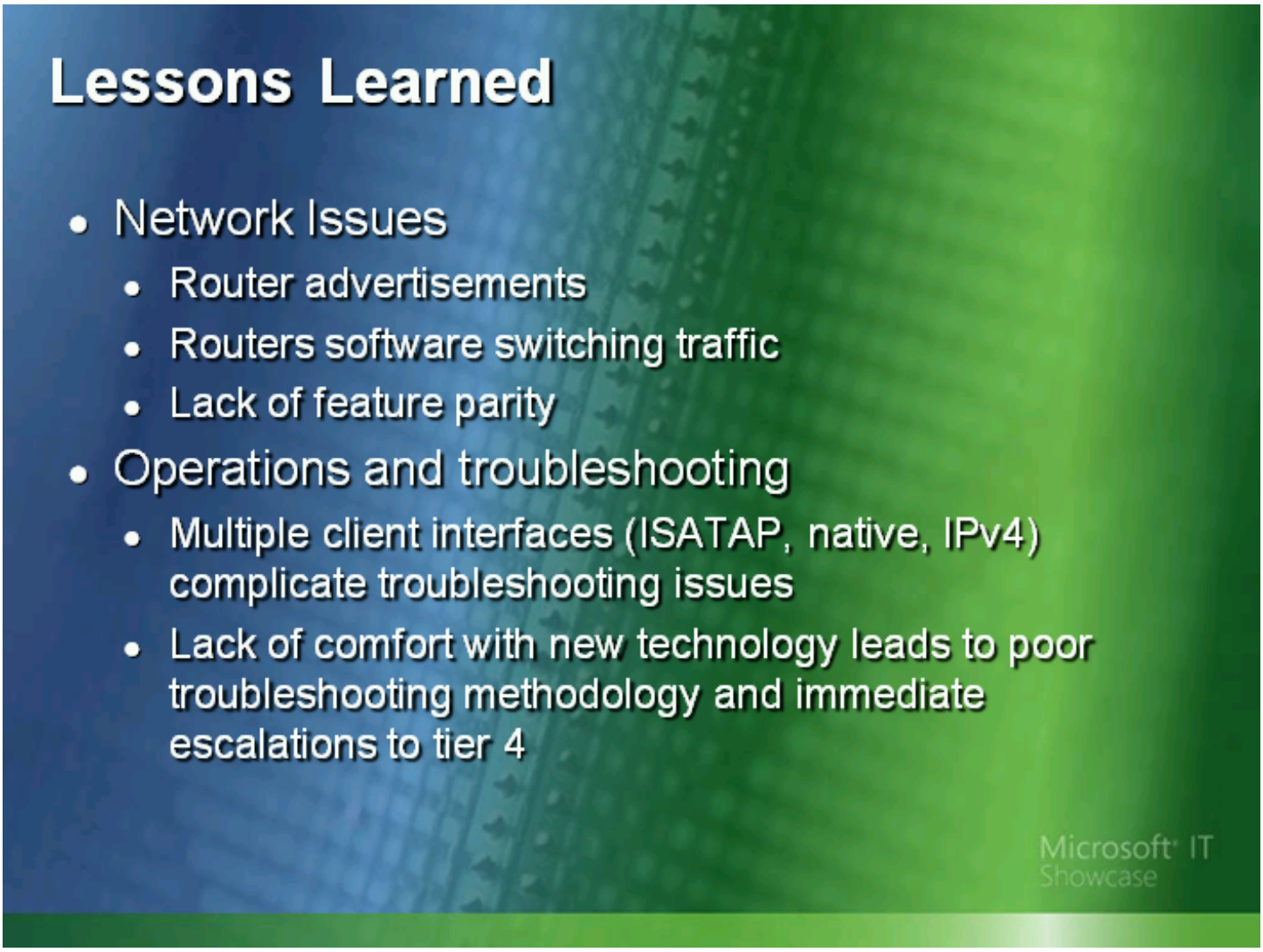
- Native IPv6 has been enabled across the majority of the network backbone for the past five years
  - Native host connectivity is enabled on an as-needed basis
    - Adoption is limited to development, test, and research segments due to lack of features and management visibility
    - Development process is native IPv6
- Still reliant on ISATAP as a transition technology

Microsoft IT Showcase

Current State



Current Statistics



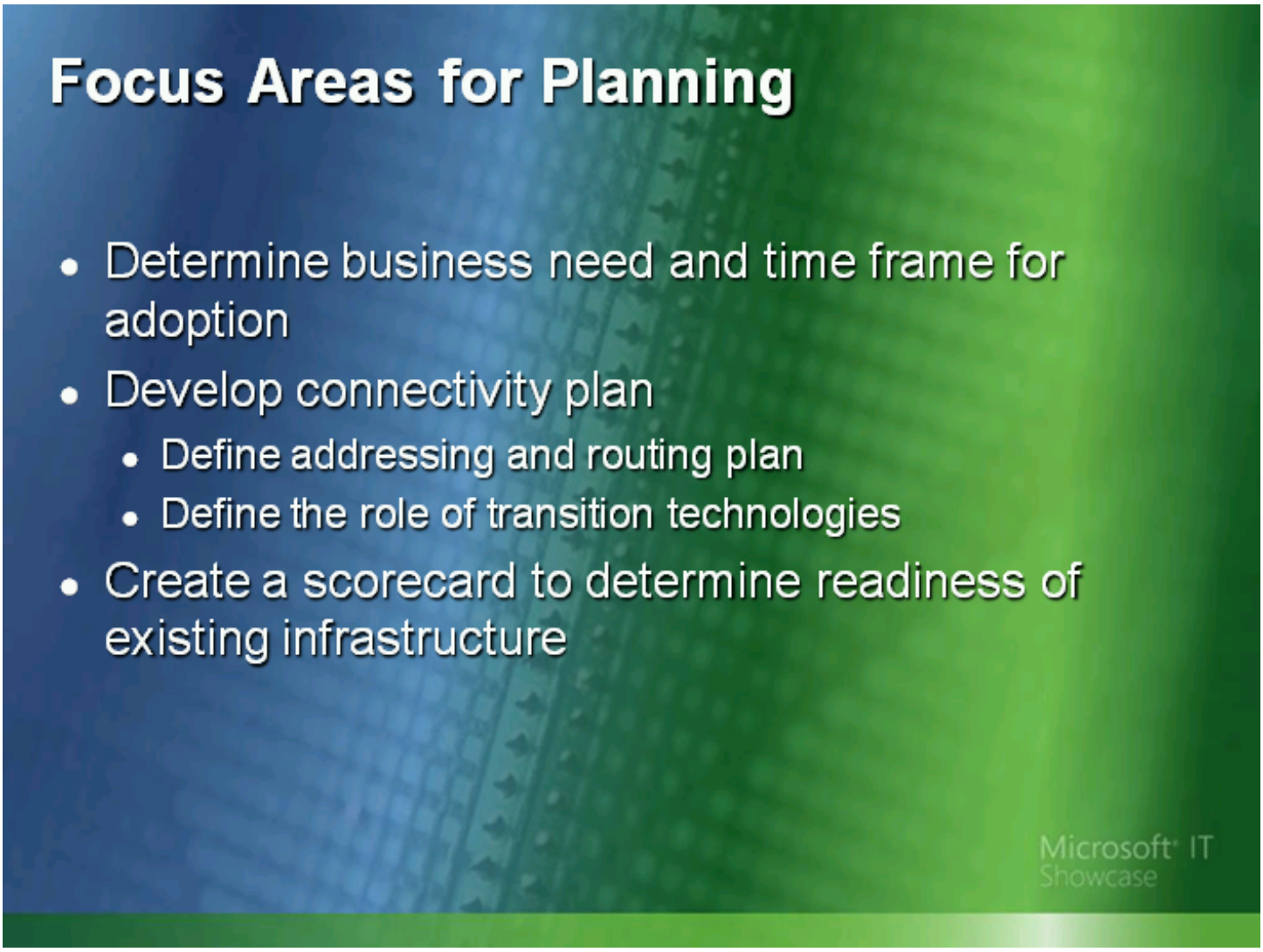
Lessons Learned

Lessons Learned

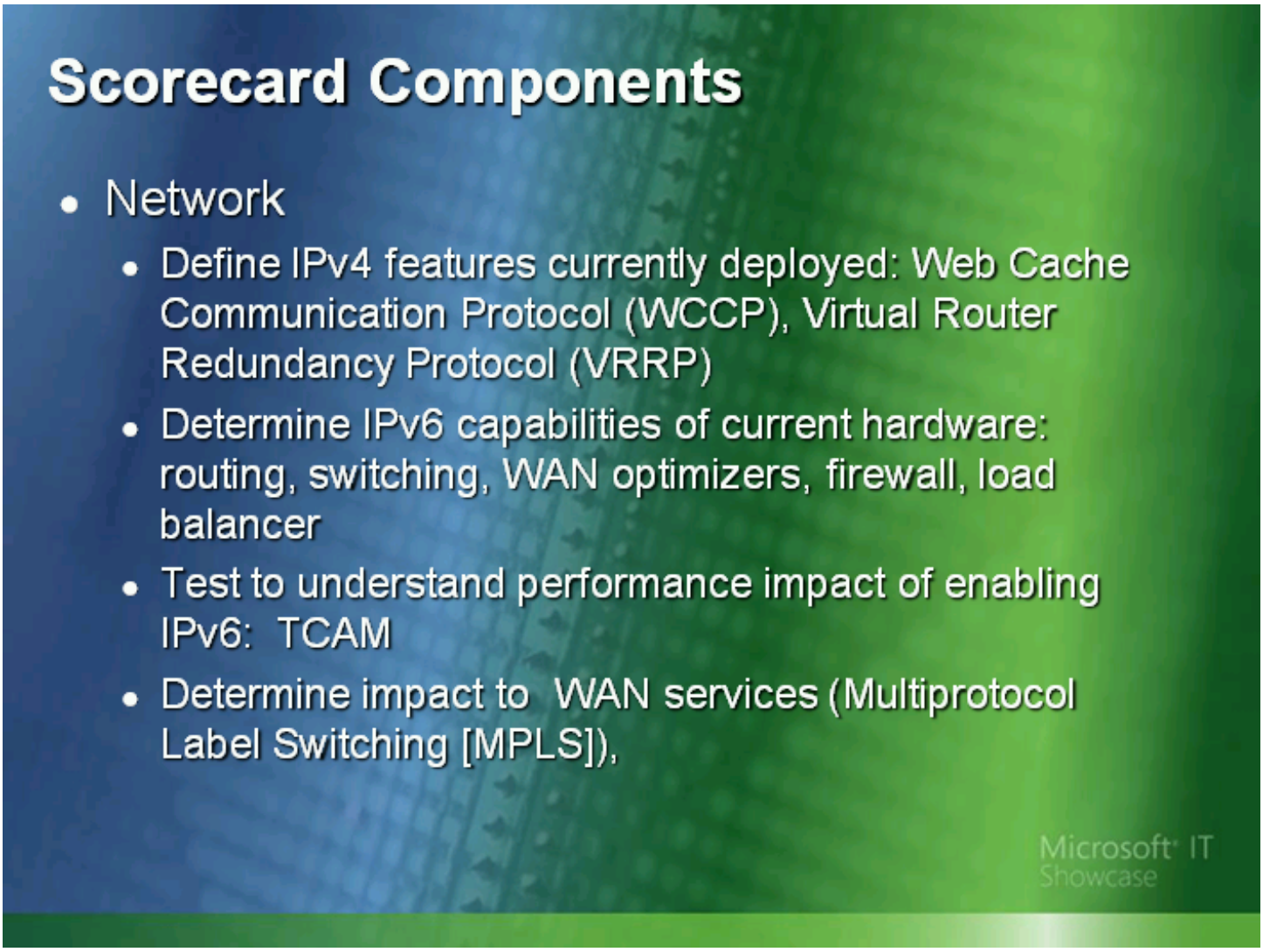
- Transition Technologies
  - Reduce reliance on transition technologies whenever possible
  - Be aware of impact on traffic patterns, map logical network to physical network
  - ISATAP: Take measures to ensure that traffic is not funneled through routers
    - Ensure that all native IPv6 servers are running ISATAP service
    - Deploy a single prefix or static routes

Microsoft IT Showcase

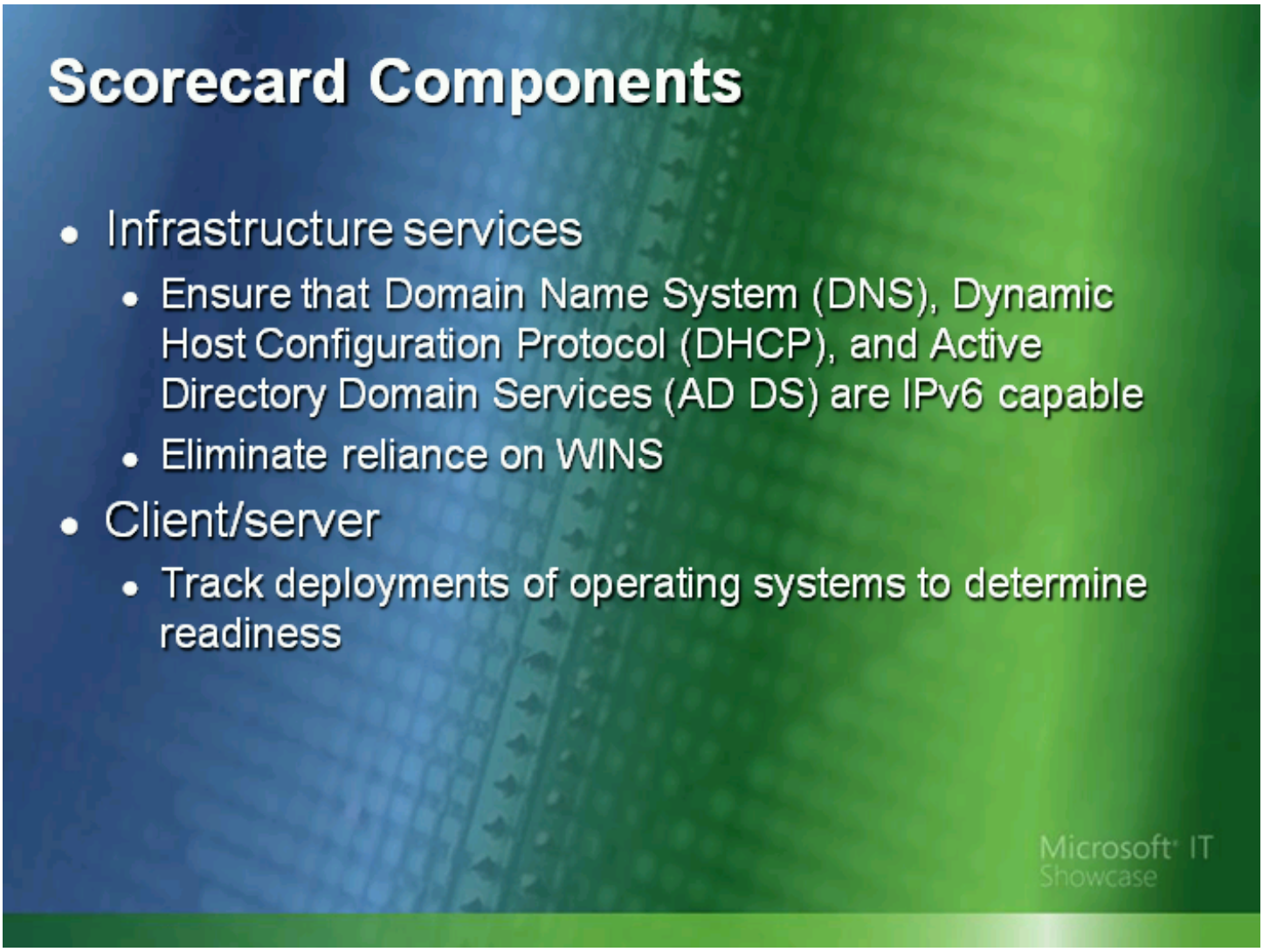
Lessons Learned



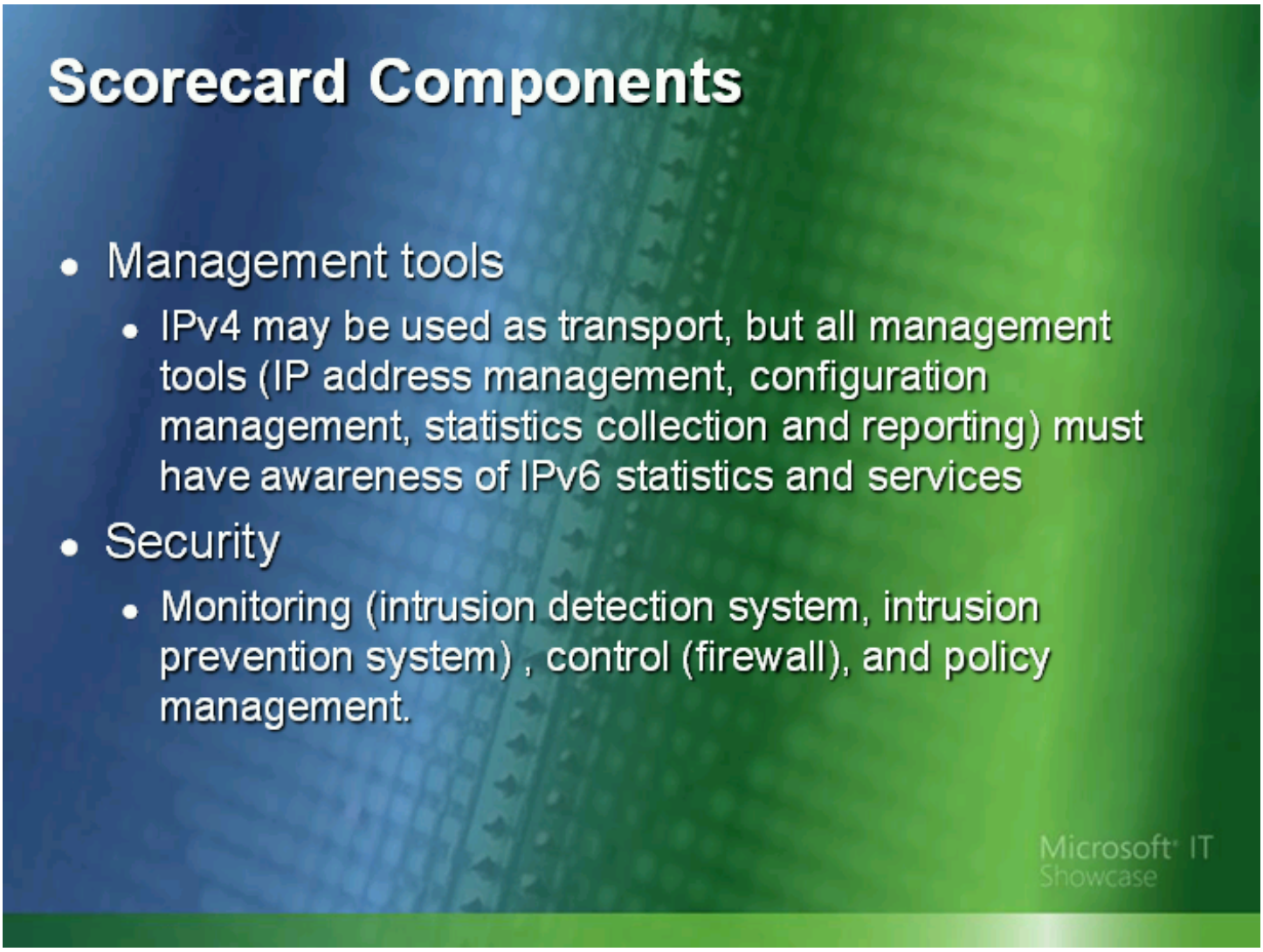
Focus Areas for Planning



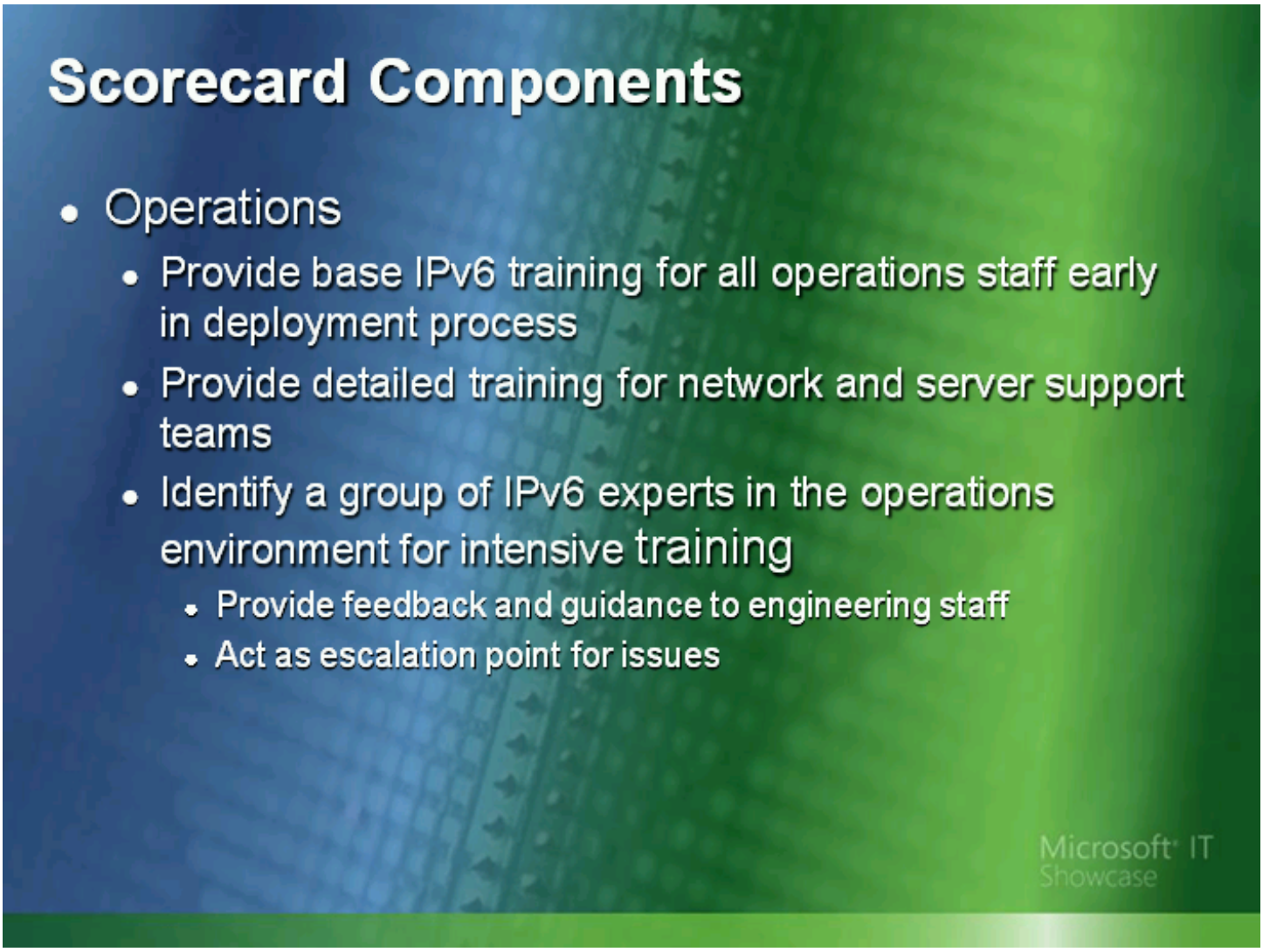
Scorecard Components



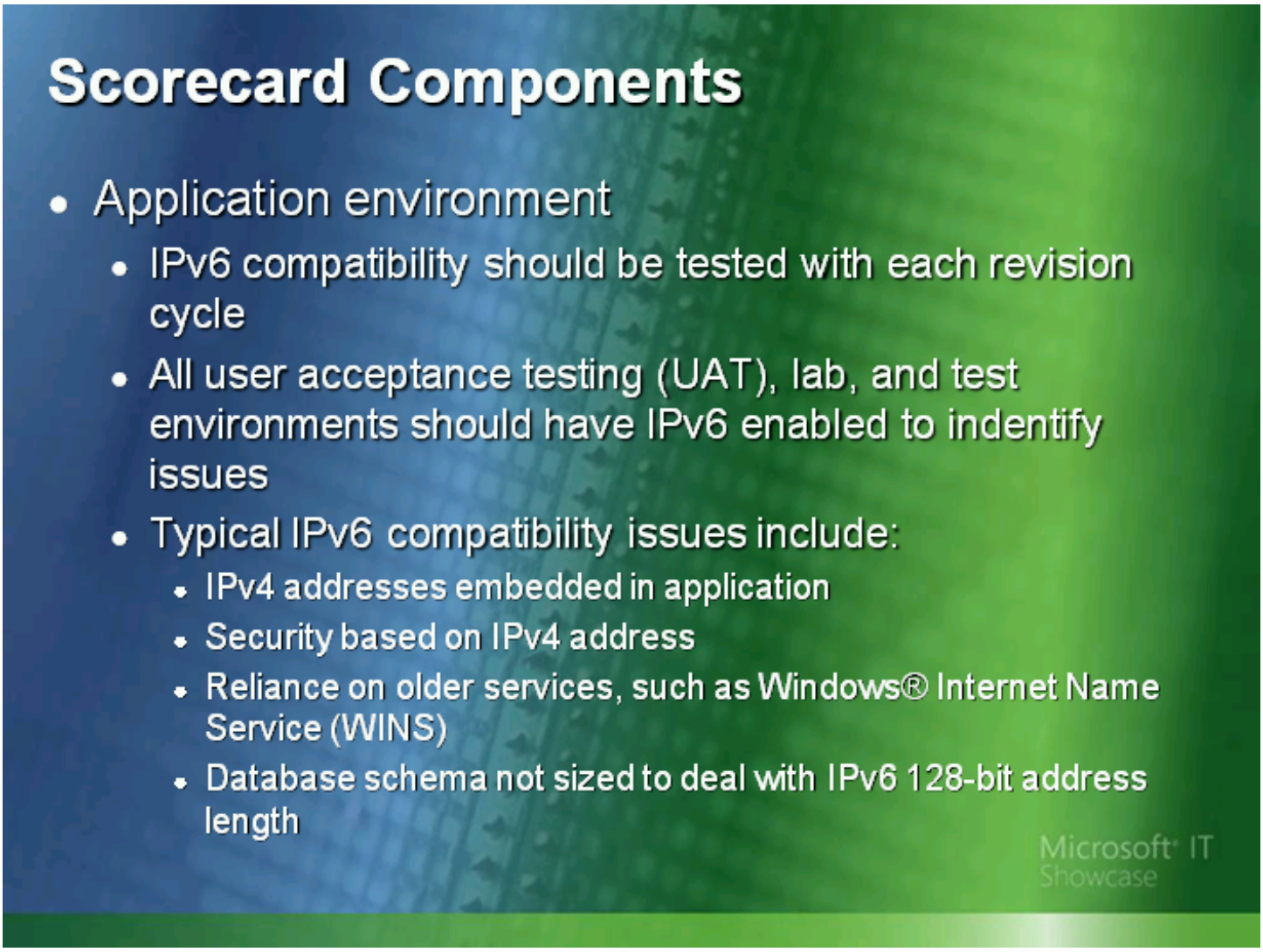
Scorecard Components



Scorecard Components



Scorecard Components



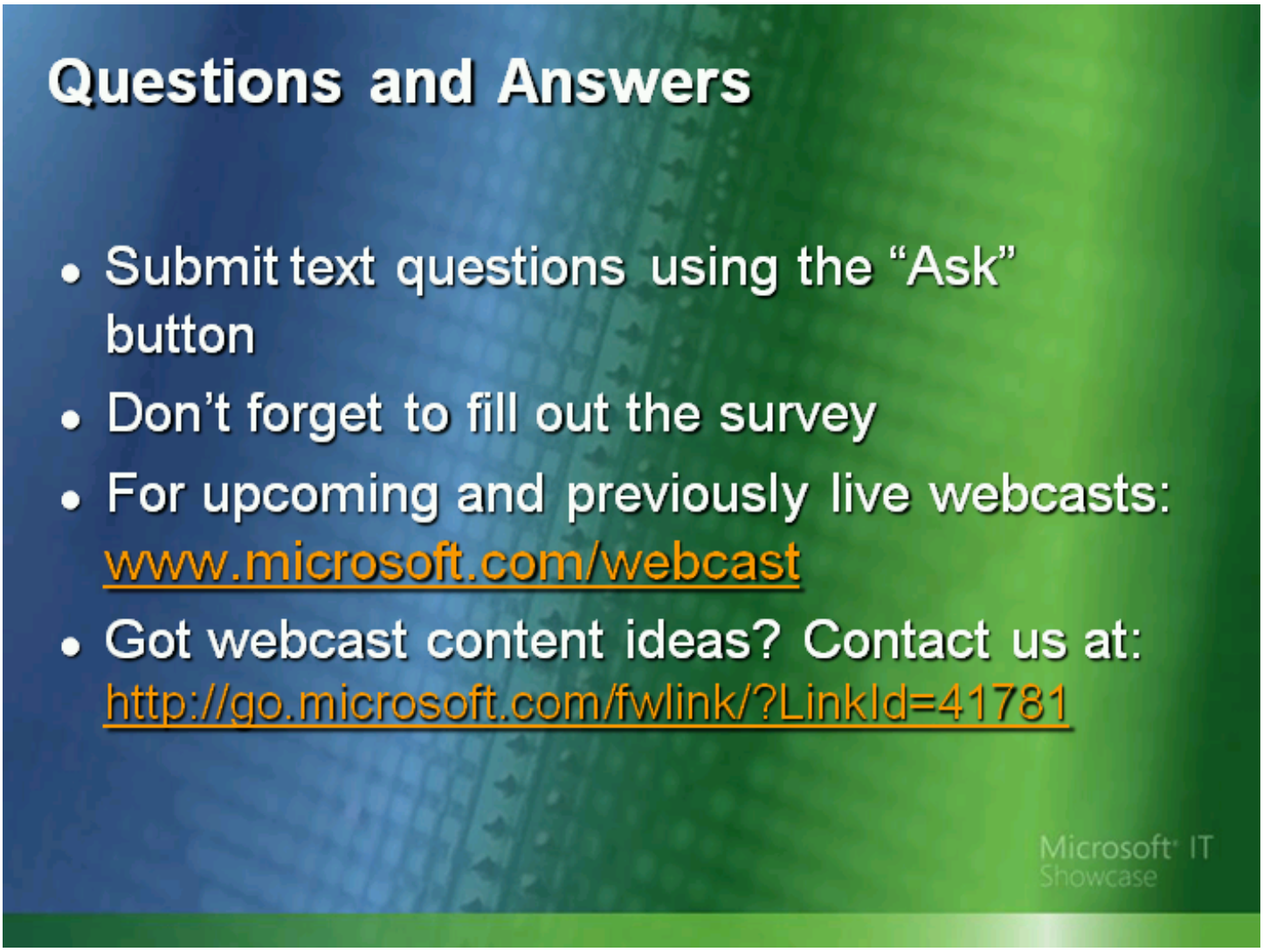
Scorecard Components

IPv6 Resources

- For additional information try the following sites
  - www.ipv6forum.net
  - www.ipv6.net
  - www.potaroo.net
  - www.cisco.com
  - www.arin.net
  - www.nanog.org
  - www.ietf.org
  - www.microsoft.com
  - For More Microsoft IT Showcase Content: http://technet.microsoft.com/en-us/library/bb687780.aspx

Microsoft IT Showcase

IPv6 Resources



Questions and Answers

Microsoft®

Your potential. Our passion.™

This document is provided for informational purposes only.
MICROSOFT MAKES NO WARRANTIES, EXPRESS OR IMPLIED, IN THIS DOCUMENT.

©2010 Microsoft Corporation. All rights reserved.
This presentation is for informational purposes only. MICROSOFT MAKES NO WARRANTIES, EXPRESS OR IMPLIED, IN THIS SUMMARY. Microsoft, Active Directory, Windows, and Windows Server are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries. The names of actual companies and products mentioned herein may be the trademarks of their respective owners.

Microsoft® IT Showcase

Slide 24

https://msevents.microsoft.com/cui/WelcomePage.aspx?EventID=1032472597&culture=en-US

[Web Slide 1]