

动态数据中心基础设施规划

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主要内容

- ◆ 动态数据中心概览
- ◆ 规划服务器硬件平台
- ◆ 存储规划
- ◆ 网络规划
- ◆ 虚拟化评估
- ◆ 问答

从传统数据中心到云计算IaaS(基础设施及服务)

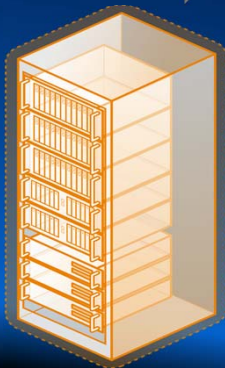
传统的 数据中心

- 广为人知，安全可靠
- 利用率 <15%



虚拟化的 数据中心

- 利用率可提升到>50%
- 管理成本降低



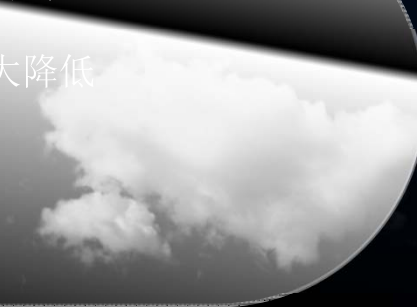
公用云 IaaS

- 按需提供
- 全球可用



私有云 IaaS

- 管理成本极大降低
- IT即服务

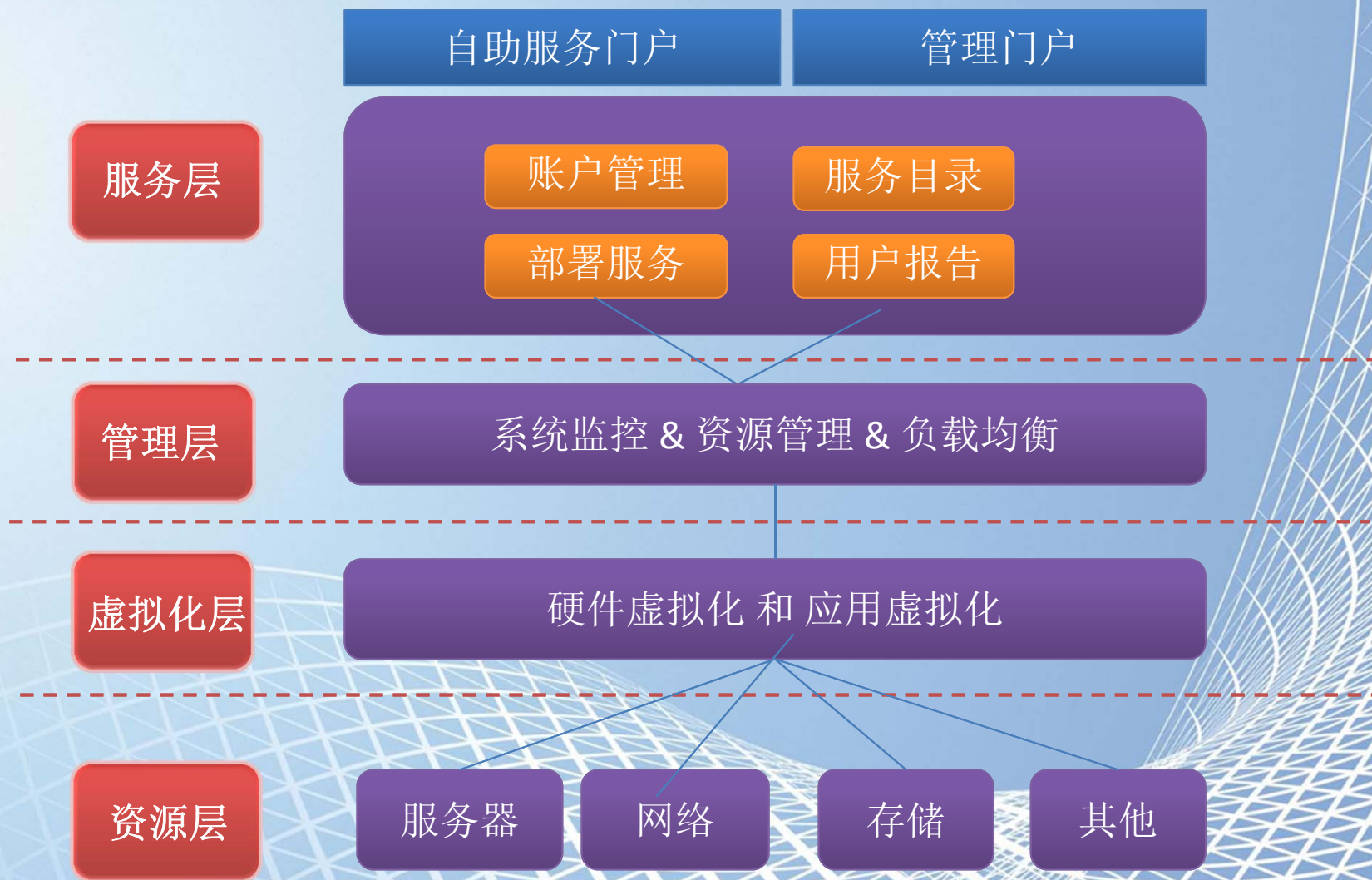


微软私有云的基础设施即服务IaaS

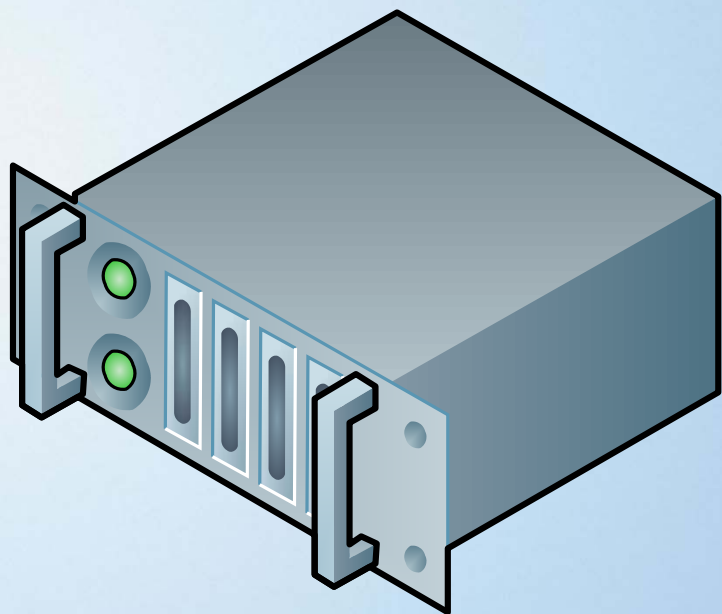
Dynamic Data Center 动态数据中心



动态数据中心 - 平台逻辑层次实现



选择虚拟化服务器硬件平台



◆ 选择多核心处理器

- AMD-V / Intel VT X64
- WS08R2 支持 64 个逻辑处理器
- *尽可能使用相同的服务器型号

◆ 内存

- 每核最低配置2 GB
- 每核建议配置4 GB
- WS08R2 支持 1TB 的物理内存

◆ 网络

- 最少两块 1GE 网络接口
- 建议四块 1GE 网络接口



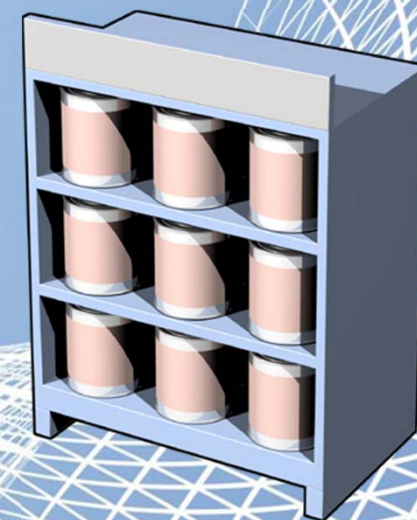
存储规划

◆ 存储是基础架构规划中一个非常重要的方面

- 存储设备是虚拟化高级特性的基础
 - 高可用性
 - 实时迁移
 - 统一备份
 - ...
- 存储结构将影响基础架构备份与灾难恢复方案

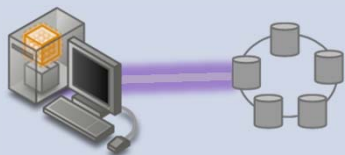

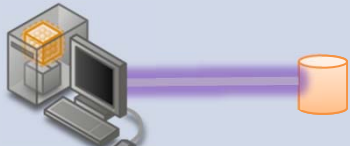
◆ 集中的存储

- 避免存储空间的浪费，降低成本
- 灵活可扩展的数据存储架构



存储基础结构模型和考虑事项

为了充分利用和发挥虚拟化的价值，在基于 SAN 的存储系统中，可以使用 DAS 和 NAS 不具备的多种选项和功能。

	特性	考虑事项
SAN 	<ul style="list-style-type: none">• 更高的存储利用率• 区块存储• 快速/动态迁移• 成本往往高于 NAS 或 DAS	<ul style="list-style-type: none">• 为高级应用场景支持高性能可用性和快速/动态迁移：<ul style="list-style-type: none">○ 合并○ 站点内部和站点之间的灾难恢复
NAS 	<ul style="list-style-type: none">• 成本可能低于 SAN 方式• 支持文件级协议	<ul style="list-style-type: none">• 不对高级 Microsoft 虚拟化应用场景（例如快速/动态迁移）提供支持
DAS 	<ul style="list-style-type: none">• 本地化控制• 使用和资源不灵活• 磁盘访问速度更快• 在一些应用场景中可以消除单点故障	<ul style="list-style-type: none">• 为不要求高级应用场景（例如快速/动态迁移）的客户，提供 Windows Server® 2008 Hyper-V™ 支持

存储合作伙伴解决方案

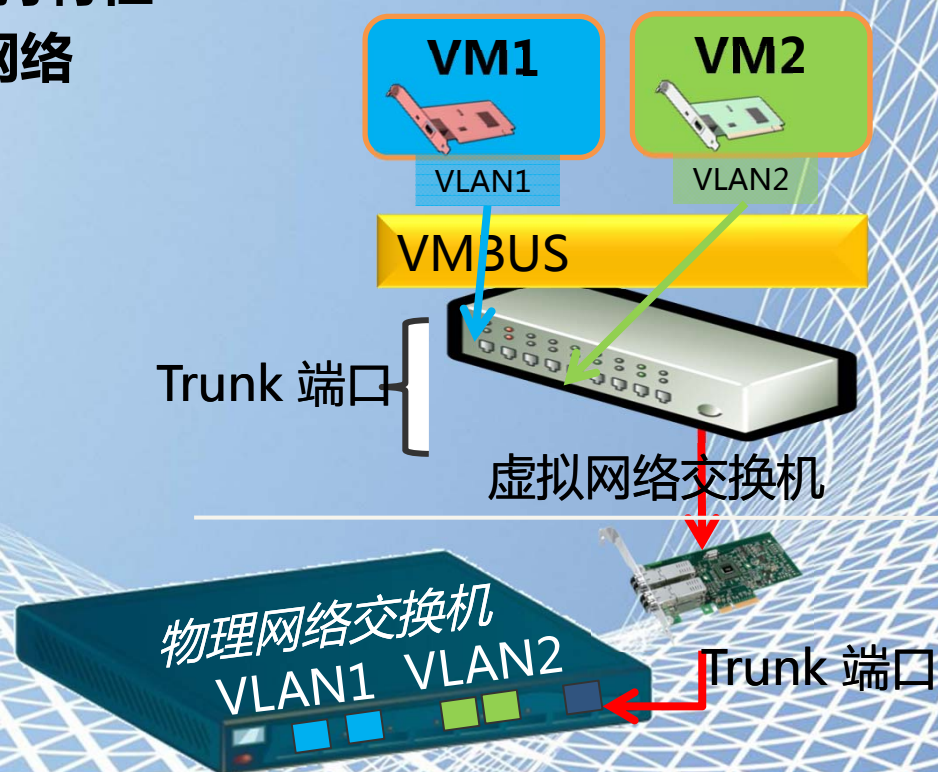
- Windows Server® 2008 为存储平台提供无可比拟的支持，包括对光纤通道、iSCSI 以及 MPIO 之类高级功能的支持
- 通过 “better together”（强强联合）合作伙伴解决方案，存储解决方案帮助企业在虚拟化环境中合并存储和提高存储利用率，达到节省开支的目的

组件/能力	说明	代表性合作伙伴
存储基础结构	硬件存储阵列和控制器	Compellent、Dell® (EqualLogic)、EMC®、HP (LeftHand)、HDS®、NetApp®
存储虚拟化	物理基础结构之上用于集成管理的抽象层	FalconStor®、EMC® Invista®、HDS® Tagmastore® Controller
群集文件系统	对群集中的所有服务器同时进行读/写访问	Sanbolic®
消除重复	消除对重复映像的需要	NetApp®、Compellent、Data Domain®
精简设置	消除预先分配存储的需要	NetApp®、FlexVol®、3PAR®
复制	用于灾难恢复应用程序的跨站点复制	NetApp® SnapMirror®、Double-Take® GeoCluster®、HDS®

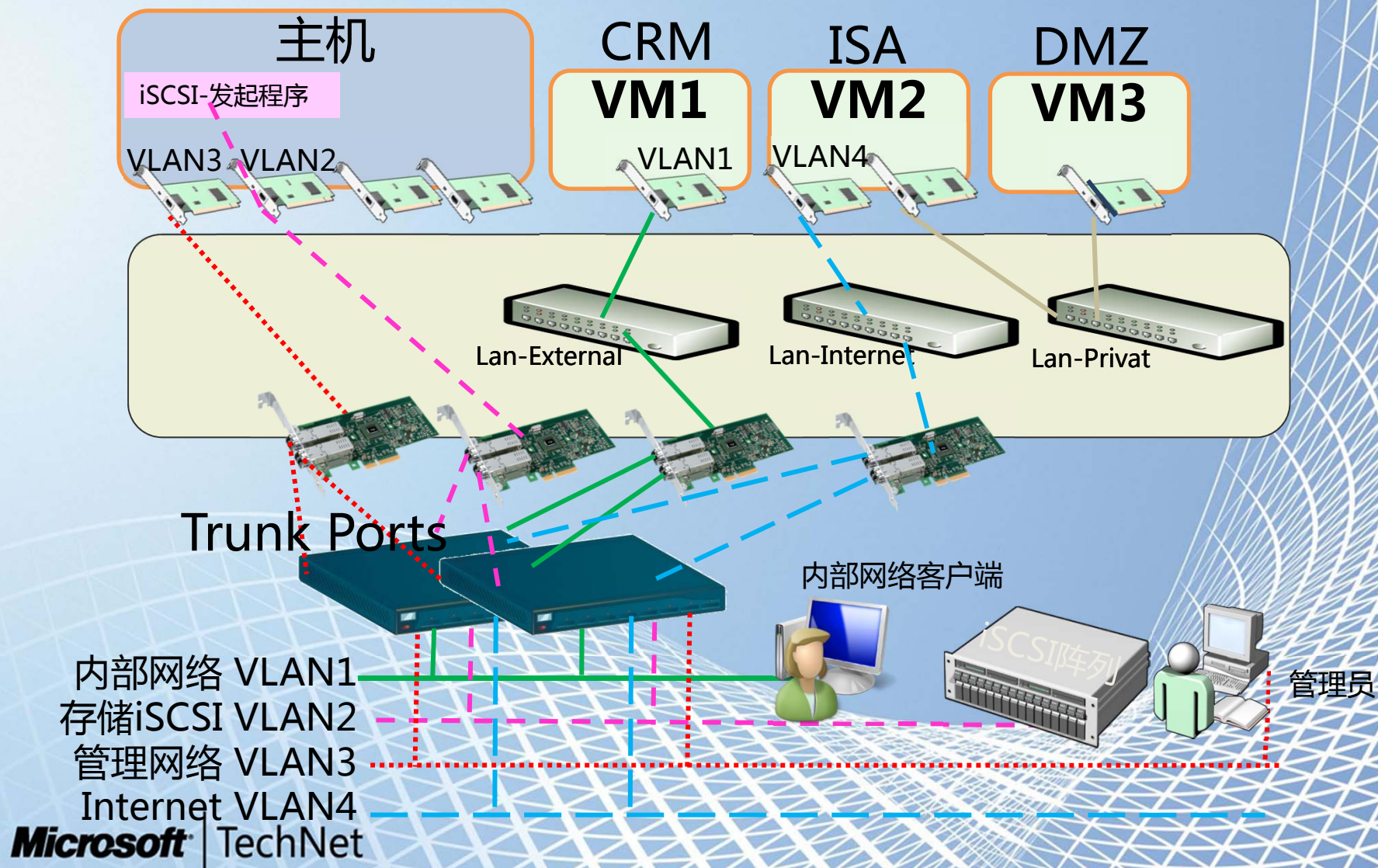
网络规划

◆ 统一规划虚拟网络与物理网络

- 虚拟服务器的网络将会对现有网络布局产生影响
- 利用虚拟机的 VLAN 支持特性
- 专用的虚拟服务器管理网络



示例



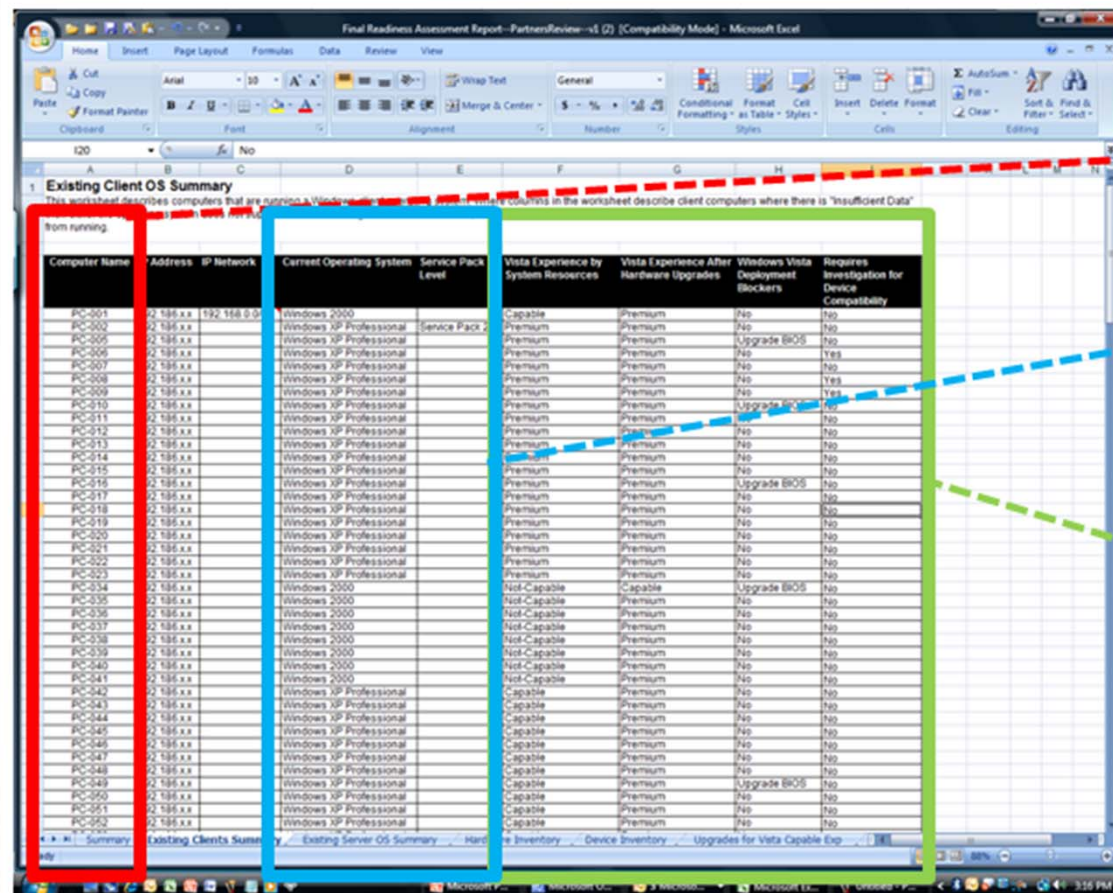
DEMO

虚拟网络设置

虚拟化评估： MAP评估现有物理环境



MAP评估报告



Existing Client OS Summary

This worksheet describes computers that are running a Windows operating system. The columns in the worksheet describe client computers where there is "Insufficient Data" from running.

Computer Name	Address	IP Network	Current Operating System	Service Pack Level	Vista Experience by System Resources	Vista Experience After Hardware Upgrades	Windows Vista Deployment Readiness	Requires Investigation for Device Compatibility
PC-001	12.186.x.x	192.168.0.0	Windows 2000		Capable	Premium	No	No
PC-002	12.186.x.x		Windows XP Professional	Service Pack 2	Premium	Premium	No	No
PC-005	12.186.x.x		Windows XP Professional		Premium	Premium	Upgrade BIOS	No
PC-006	12.186.x.x		Windows XP Professional		Premium	Premium	No	Yes
PC-007	12.186.x.x		Windows XP Professional		Premium	Premium	No	No
PC-008	12.186.x.x		Windows XP Professional		Premium	Premium	No	Yes
PC-009	12.186.x.x		Windows XP Professional		Premium	Premium	No	Yes
PC-010	12.186.x.x		Windows XP Professional		Premium	Premium	Upgrade BIOS	No
PC-011	12.186.x.x		Windows XP Professional		Premium	Premium	No	No
PC-012	12.186.x.x		Windows XP Professional		Premium	Premium	No	No
PC-013	12.186.x.x		Windows XP Professional		Premium	Premium	No	No
PC-014	12.186.x.x		Windows XP Professional		Premium	Premium	No	No
PC-015	12.186.x.x		Windows XP Professional		Premium	Premium	No	No
PC-016	12.186.x.x		Windows XP Professional		Premium	Premium	Upgrade BIOS	No
PC-017	12.186.x.x		Windows XP Professional		Premium	Premium	No	No
PC-018	12.186.x.x		Windows XP Professional		Premium	Premium	No	No
PC-019	12.186.x.x		Windows XP Professional		Premium	Premium	No	No
PC-020	12.186.x.x		Windows XP Professional		Premium	Premium	No	No
PC-021	12.186.x.x		Windows XP Professional		Premium	Premium	No	No
PC-022	12.186.x.x		Windows XP Professional		Premium	Premium	No	No
PC-023	12.186.x.x		Windows XP Professional		Premium	Premium	No	No
PC-024	12.186.x.x		Windows 2000		Not-Capable	Capable	Upgrade BIOS	No
PC-025	12.186.x.x		Windows 2000		Not-Capable	Premium	No	No
PC-026	12.186.x.x		Windows 2000		Not-Capable	Premium	No	No
PC-027	12.186.x.x		Windows 2000		Not-Capable	Premium	No	No
PC-028	12.186.x.x		Windows 2000		Not-Capable	Premium	No	No
PC-029	12.186.x.x		Windows 2000		Not-Capable	Premium	No	No
PC-030	12.186.x.x		Windows 2000		Not-Capable	Premium	No	No
PC-031	12.186.x.x		Windows 2000		Not-Capable	Premium	No	No
PC-032	12.186.x.x		Windows XP Professional		Capable	Premium	No	No
PC-033	12.186.x.x		Windows XP Professional		Capable	Premium	No	No
PC-034	12.186.x.x		Windows XP Professional		Capable	Premium	No	No
PC-035	12.186.x.x		Windows XP Professional		Capable	Premium	No	No
PC-036	12.186.x.x		Windows XP Professional		Capable	Premium	No	No
PC-037	12.186.x.x		Windows XP Professional		Capable	Premium	No	No
PC-038	12.186.x.x		Windows XP Professional		Capable	Premium	Upgrade BIOS	No
PC-039	12.186.x.x		Windows XP Professional		Capable	Premium	No	No
PC-040	12.186.x.x		Windows XP Professional		Capable	Premium	No	No
PC-041	12.186.x.x		Windows XP Professional		Capable	Premium	No	No
PC-042	12.186.x.x		Windows XP Professional		Capable	Premium	No	No
PC-043	12.186.x.x		Windows XP Professional		Capable	Premium	No	No
PC-044	12.186.x.x		Windows XP Professional		Capable	Premium	No	No
PC-045	12.186.x.x		Windows XP Professional		Capable	Premium	No	No
PC-046	12.186.x.x		Windows XP Professional		Capable	Premium	No	No
PC-047	12.186.x.x		Windows XP Professional		Capable	Premium	No	No
PC-048	12.186.x.x		Windows XP Professional		Capable	Premium	No	No
PC-049	12.186.x.x		Windows XP Professional		Capable	Premium	Upgrade BIOS	No
PC-050	12.186.x.x		Windows XP Professional		Capable	Premium	No	No
PC-051	12.186.x.x		Windows XP Professional		Capable	Premium	No	No
PC-052	12.186.x.x		Windows XP Professional		Capable	Premium	No	No

逐个 PC 级别的详细报告

当前操作的系统

硬件设备评估结果

- 系统资源
- 升级后的体验
- 部署的阻碍
- 设备的兼容性

DEMO

虚拟化评估

Microsoft | TechNet

The image features a solid light blue background. A white wireframe grid, composed of numerous intersecting lines, curves upwards from the bottom left and bottom right corners, meeting towards the center. The grid lines are more densely packed on the right side, creating a sense of depth and movement. In the center of the image, the word "Microsoft" is written in a bold, black, sans-serif font. Below it, the tagline "Be what's next." is written in a smaller, black, sans-serif font.

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