CIO Summit
Transforming the Workplace for the Next Generation

November 13, 2012
Transforming the Workplace for the Next Generation

- How do you prepare your organization for the consumerization of IT?

- Can you transform the work and support culture to embrace rapid technology change?

- What is the impact of rapid, consumer driven change on legacy support practices and internal cost structures?

- What is the key to attracting and retaining the next generation workforce?
Transforming the Workplace for the Next Generation

Enterprise

Technology change; new work experiences; new results

“Consumer driven” Influence

“Consumer driven”

Experience

Consumer

Employees
Transforming the Workplace for the Next Generation

**Consumerization of IT** – “the growing tendency for new information technology to emerge first in the consumer market and then spread into business and government organizations” (Wikipedia)

“The technology we use in our personal lives-applications, hardware, and even Internet services-has a distinct impact on the technology experience we expect at work.” (Intel)

**Next Gen Workforce** – “over the next ten years roughly 45% of the workforce will prepare to retire”; “rethinking your traditional processes around attraction, engagement, retention, development and communication will be critical for success with your next generation workforce” (Constellation Research Inc.)

*The speed with which organizations adapt their work policies and culture to align with new work expectations will ultimately determine success or failure in attracting the next generation workforce.*
How Much of Your Workforce Falls Into Each Generation?

Baby Boomers
Between 48 & 66

Gen X
Between 35 & 47

Gen Y
Between 14 & 34

Note: Ages provided for generations are fair representation of what is generally reported by various sources.
Transforming the Workplace for the Next Generation

*Trends*

- 80% of the 1 billion new consumers worldwide will come from the Asian markets by 2020 (McKinsey Quarterly)

- Workers in North American and European enterprises show that 44% of workers use three or more devices - such as desktops, laptops, smartphones and tablets - for work each day (Forrsights Workforce Employee Survey, Q2 2012)

- 77% of surveyed firms are prioritizing desktop virtualization programs as a key priority in 2013; 58% of firms say that BYOD pressures are a driving force behind their desktop virtualization projects (Forrester Research, Inc.)

- 58% of respondents identified adopting or expanding the use of telecom and mobile services from the cloud as a top priority in the next 12 months (Forrester Research, Inc.)

*IT will no longer be able to dictate what device an employee can use or where they can work.*
How do you prepare your organization for the consumerization of IT?

- Recognize and accept market forces
- Develop internal feedback mechanisms that promote collaboration and empower employees
- Adjust current operating practices and cost structure to support market driven technology changes
- Adopt more flexible user practices without compromising manageability and security
- Evolve work policies and practices embracing mobility, virtual workplaces & device flexibility; promote work-life balance but an always available attitude
- Invest in core infrastructure that more easily supports rapid technology change; rethink traditional user compute paradigms
Can you transform the work and support culture to embrace rapid technology change?

- The feedback and change loop is occurring much more rapidly than in the past challenging staff to work harder and faster.
- End user support must transition more fully to a self-service model as a trade-off to rapid technology enablement.
- Incumbent workforce must adapt to changing policies around company provided cell phones, workstations, work environment, etc. as cultural shifts occur within organizations.
- Core infrastructure investments must enable rapid technology change and be neutral to existing expense run rates.
- Organizations must realize greater workforce productivity; labor expense is usually single biggest expense representing 50% of opex in service industries.
What is the impact of rapid, consumer driven change on legacy support practices and internal cost structures?

- Expanding IT support responsibilities including a wide variety of mobile devices, operating systems, system management tools, applications and services
- Disjointed support capabilities due to inadequate skills and undocumented support procedures
- Complex compatibility issues
- Higher personnel & hardware/software support expense
- Longer outage times, Help Desk overload
- Staff anxiety & confusion
- Increasing security and data protection risks
- Stimulus for change
What is the key to attracting and retaining the next generation workforce?

- Providing a work experience that is consistent with and complements the technology habits of one’s personal lifestyle
- Implementing core technologies that enable flexibility, mobility and virtual work environments
- Flexible work policies and schedules that focus more on results than rigid schedules
- Social collaboration & networking platforms within the workplace
- Freedom to choose desired computing device/s
- Ability to access public Internet delivered services while at work
# Transforming the Workplace for the Next Generation

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Preferred communication style</strong></td>
<td>Prefer face-to-face with written for administration or due to complexity</td>
<td>Adept with CD and Web-based/email/voice communications</td>
<td>Prefer instant messaging approach Short, sharp no frills Cell for voice</td>
</tr>
<tr>
<td><strong>Work style</strong></td>
<td>Value long hours Value physical presence</td>
<td>Value independence, committed to work but expect reward</td>
<td>Values work/life balance and working virtual</td>
</tr>
<tr>
<td><strong>Cultural adaptability</strong></td>
<td>Adapts to other perspectives but remains true to roots</td>
<td>Open to mix of cultures Well traveled</td>
<td>Global perspective Have diverse friends and contacts internationally</td>
</tr>
<tr>
<td><strong>Learning style</strong></td>
<td>Relearning and re-skilling are vital as legacy systems are retired but can be challenging</td>
<td>Independent learners Self directed Learn experientially</td>
<td>Expect to be taught Video game training helps teach strategy Need problem solving skills</td>
</tr>
<tr>
<td><strong>Workforce planning implications</strong></td>
<td>Invest, retain, and recruit due to high numbers in this category</td>
<td>Provide experiential assignments in team work and leadership</td>
<td>Require coaching in business protocol Design cross-functional career paths for variety in experiences</td>
</tr>
<tr>
<td><strong>Strengths</strong></td>
<td>IT expertise Tenure</td>
<td>Quick to learn. Works well in team environments</td>
<td>Versatility. Agility. Strong desire to learn</td>
</tr>
<tr>
<td><strong>Challenges</strong></td>
<td>Adaptability to constant change in IT and virtual work environment</td>
<td>Getting engaged and involved in finding new ways to get work done</td>
<td>Having long term commitment to the organization</td>
</tr>
</tbody>
</table>
Transforming the Workplace for the Next Generation

Rethink Your Approach

By better aligning employees’ at-work technology experience and their at-home experience, you can:

- Increase productivity and improve employee morale
- Retain your organization’s reputation as a technology innovator—especially when it comes to Bring Your Own Device programs
- Gain greater IT security and control over employee-owned devices
Step 1. Understand the Forces at Work

Traditional IT Requirements
- Standardization
- Compliance
- Manageability
- Security

Emerging End-User Needs
- Freedom
- Flexibility
- Individuality
- DRIVERS
  - Device Innovation
  - Increasing Mobility
  - Cloud Services
  - Increased Data Availability
  - Natural Interaction with Technology
  - Evolution of the User

IT Innovation
IT must balance traditional IT requirements with emerging end-user needs.
Step 2. Rethink User Computing

- Rethink the compute experience to give users the freedom and flexibility they want.
- Maintain the comprehensive security, automated management, compatibility, and compliance that IT requires.
- Use centralized management to securely deliver the right resources.
Next Gen Workforce Expectations

- IT and workplace policies that support mobility and virtual work environments
- High collaboration enablement
- Ability to use preferred personal device (BYOD)
- Virtualized applications & desktops
- Mobile applications
- Cloud services
- Social networking
- Tools to ensure required security is maintained; account control, data encryption, password protection, antivirus, etc.
- Appropriate IT support models designed to support these technologies and geared toward self-help & self-reliance
“A single dedicated desktop device issued and owned by the company will no longer satisfy the performance and accessibility needs of the distributed mobile workforce.”

“The new generation of information workers requires platforms to support always-on, location-agnostic, highly collaborative productivity.”

(Forrester Research, Inc.)
Technology & Policy Considerations

- Formal BYOD policy
- IT Help Desk support for personal devices
- Employee reimbursement for personally owned devices
- Security (device, application, company data)
- Network access controls
- Software licensing
- Desktop & application virtualization
- Virtual access to corporate information & application data
- User experience (form factor, network connectivity, multimedia)
- Cloud based solutions
“Which of the following are driving the need to introduce new workspace strategies in your organisation?”

- Use of multiple corporate-issued and employee-owned devices for work-related activities: 55%
- Increased dependence on cloud-based applications and content services: 53%
- Business agility requiring rapid creation and dispersion of collaborative workgroups: 50%
- Increased device security and compliance risks: 47%
- 24x7 work styles blurring the delineation between personal and work time: 43%
- BYOD trends: 43%
- Increase in work-shifting (working in unconventional work environments): 37%
- Increased dependence on part-time and temporary workers and consultants: 34%
- Highly connected processes requiring formal/informal collaboration inside/outside the organisation: 34%
- Demands of new work styles introduced by Generation Y workers: 32%
- Other: 1%

Base: 325 global senior IT decision-makers
Source: A commissioned study conducted by Forrester Consulting on behalf of Cisco Systems, April 2012
Get started; begin the transformation

Windstream IT evolution

- VDI
- BYOD
- Mobile device management (MDM)
- On-premise/off-premise application delivery
- NAC / security strategy
- Retool IT Help Desk
- New storage, archiving & data access strategies
- Technology planning & collaboration
- Enable support organizations with mobility and workflow automation
- New software agreements
Windstream Business Challenge

- Computing access to the WIN network restricted
- Current workforce desires greater mobility & device flexibility
- Full-function application capabilities away from the office
- Speed to market; fast request turnaround
- Device repair expense was accelerating due to asset age
- Software compatibility and performance issues
- Network & systems integration from M&A taking too long
- M&A integration speed impacted by network compatibility, application architecture, desktop image, software licenses and acquired company assets

Solution: Virtual Desktop Infrastructure (VDI)
Windstream VDI

- Combination VDI & Application Hosting Strategy
  - Decouple OS and application
  - Virtualize critical applications
  - Provide desktop “look and feel”

- Advantages of Hybrid Approach
  - Lower average support & service costs from improved application stability
  - Improved license management & access controls
  - Better data protection
  - Simpler and more timely patch management of either OS or applications
  - Eliminate OS dependency on endpoint devices
Windstream VDI Service Tiers

- VDI Basic / Enhanced
  - Application hosting, virtualize applications
  - Desktop “look & feel”; lowest entry point; minimize $
  - Task workers, defined set of apps

- VDI Advanced
  - True VDI; non-persistent, dynamically allocated
  - Broader list of apps running simultaneously; apps not good candidates for virtualization
  - Office-bound, telecommuters, mobile users

- VDI Premium
  - True VDI; persistent, dedicated storage & customizations
  - Broader list of apps running simultaneously; apps not good candidates for virtualization
  - Power users
**VDI Access Use Cases**

- Traditional remote access model using WIN owned device
- Re-purpose device as VDI thin-client and extend asset life
- Replace broken device with less expensive VDI thin-client
- Enable “any device” “any where” access (e.g. home PCs, personal tablets, mobile devices, etc.)
- WIN owned device restriction removed
- End point security analysis enabled
- All access options require 2-factor authentication when connecting from outside the network
- BYOD flexibility; reduce capex, drive policy & culture change
Transforming the Workplace for the Next Generation

VDI Benefits for Windstream

- Near immediate WIN systems access in a secure & managed virtual environment
- No change or interruption to acquired company heritage systems
- Eliminate network integration from system conversion critical path
- Simplify reimagining campaign for acquired desktops
- Greater flexibility accessing the WIN network and systems; home computers, tablets, thin clients, etc.
- Reduce business continuity complexity and cost
- Delay CapEx to replace old computers due to lack of computing power, disk or memory
- Reduce laptop computer requirements for occasional work from home users
Transforming the Workplace for the Next Generation

VDI Benefits for Windstream (cont’d)

- Device replacement cost is lower, e.g. thin client and lower end mobile devices
- Improve security controls; more granular remote computer access, quicker patch updates and tighter data controls
- Faster device start/boot times
- Field support labor reduction/realignment as virtual desktop adoption rate grows; devices should not require same level of field support
- Desktop high availability; i.e. never down due to hardware
- More efficient software and patch upgrades; leverage parent virtual machine
- Hardware independence; client device does not need to be compatible with underlying operating systems (e.g. Mac may access a virtual Win7 machine and applications)
**Windstream Business Challenge**

- Provide a reliable means for mobile workers to access corporate information (e.g. email, calendars, etc.) and applications
- Minimize capital and operational expense
- Establish effective security of both its data and its corporate network
- Enumerate and administer mobile devices, whether corporately or personally owned
- Internal data encryption
- Integration with BMC Asset Management
- Allow employees to choose their device
- “Native Platform” end-user experience

**Solution: Mobile Device Management (MDM)**
Windstream MDM

- Activesync & Matrix42 (Airwatch)
- 70% reduction in annual opex
- Solid mobile device security including strong password requirements and remote device wipe
- Tight integration to asset management and helpdesk systems
- Optional Data Loss Protection capabilities for sensitive documents
- Programmatic jailbroken/rooted device detection and network lock-out ability
- Internal data encryption
- Improved user experience with “native” applications and increased startup and synchronization performance
- Ability to distribute custom software and Win created profiles to mobile devices
Windstream Business Challenge

- Maintaining a viable technology roadmap
- Determining meaningful capex strategy year over year
- Being prepared for new project requirements
- Channeling employee ideas into the overall technology strategy
- Fostering workplace collaboration and real-time feedback on technology and application topics

Solution: Technology Planning Process
Technology Planning Process

- Implement a quarterly technology planning process to facilitate planning and selection
- Define and document an IT Roadmap to help guide IT decision making and investment
  - Document and determine current state, tactical (6-24 mos.) & strategic (24-60 mos.) vision
  - Align roadmap to overall business requirements/strategies
  - Validate decisions against industry trends and Gartner research/guidance
- Improve IT strategy awareness and provide online reference repository
  - Utilize Wiki for easy information access
  - Evergreen roadmap to maintain relevance/applicability
  - Grow awareness and adherence to roadmap & standards
Technology Planning Process

- IT Strategy Committee
  - 10 people and 14 strategy segments
  - Sub-committee structure & approach for technical evaluations and discussion forums
  - Cyclical process with quarterly objectives

- Research Partner
  - Gartner also Marketing & Procurement partner
  - Provide independent view of vendors, trends, and solutions

- Information Sharing
  - Annual Technology Executive Briefing
  - Wiki for IT Roadmap and Standards
  - Ongoing updates and RFCs
### IT Roadmap – Current Strategies

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>User Access and App Delivery</td>
<td>Desktop, Laptop, Tablet, Smartphone, Citrix, SW Distribution</td>
</tr>
<tr>
<td>Networking and Telephony</td>
<td>LAN, WAN, Firewall, WiFi, VoIP</td>
</tr>
<tr>
<td>Servers and Operating Systems</td>
<td>Physical/Virtual servers, Windows, UNIX/Linux, Midrange, Mainframe</td>
</tr>
<tr>
<td>Cloud Computing</td>
<td>Public, Hybrid, and Private IaaS, PaaS, SaaS</td>
</tr>
<tr>
<td>Business Resiliency</td>
<td>Disaster Recovery and Business Continuance</td>
</tr>
<tr>
<td>Web Servers</td>
<td>Web App Servers (Apache, etc.) and Web Multimedia (Flash, etc.)</td>
</tr>
<tr>
<td>Application Development</td>
<td>Environments (.NET, Java, etc.), Code Repository, Tools, DB APIs</td>
</tr>
<tr>
<td>Security</td>
<td>Remote Access, Anti-virus, Anti-spyware, web filtering, PCI/SOX</td>
</tr>
<tr>
<td>Data Storage and Protection</td>
<td>Enterprise Storage, SAN, Enterprise Backup</td>
</tr>
<tr>
<td>Organized Data</td>
<td>Databases, Data Warehouses, Business Intelligence, ETL Tools</td>
</tr>
<tr>
<td>Middleware</td>
<td>BPM, EAI, Workflow Mgmt</td>
</tr>
<tr>
<td>Messaging and Directory Services</td>
<td>Email, IM, Anti-spam, AD, NDS, User auth, App auth</td>
</tr>
<tr>
<td>Information Sharing and Collaboration</td>
<td>File sharing, SharePoint, CMDB, ITIL, Data classification</td>
</tr>
<tr>
<td>Monitoring and Systems Mgmt</td>
<td>System/App monitoring, CPM, Code Promotion, Asset Mgmt</td>
</tr>
</tbody>
</table>
Technology Planning Process

- Proactive technology planning must be a part of the IT culture
- Technology vision will ground employees pursuing technology solutions to business problems
- Project driven decisions must align with a broader technology framework to ensure the following outcomes
  - Ensures the plan is strategically aligned
  - Better & more targeted investment decisions
  - Greater negotiating leverage/purchasing power via standards driven approach
  - More consistent & lower cost employee training
  - Increased employee awareness on technology direction
  - Broader employee input & involvement in technology decisions
  - Improved employee satisfaction & retention
  - Confidence in technology decision making
  - Corporate wide access to technology roadmap & standards
Closing Comments

- Adapt the work experience & culture to attract the next generation workforce
- Change the user compute paradigm to support technology consumerization
- End-user freedom, flexibility & individuality yields increased worker productivity, responsiveness, collaboration & agility
- Refine on-premise / off-premise support model
- Determine security strategy for an unrestricted world
- Address legacy work policies
Questions?