



Hummingbird®

The Open Text Connectivity
Solutions Group

■ **Exceed Freedom™**
Pushing the Limits

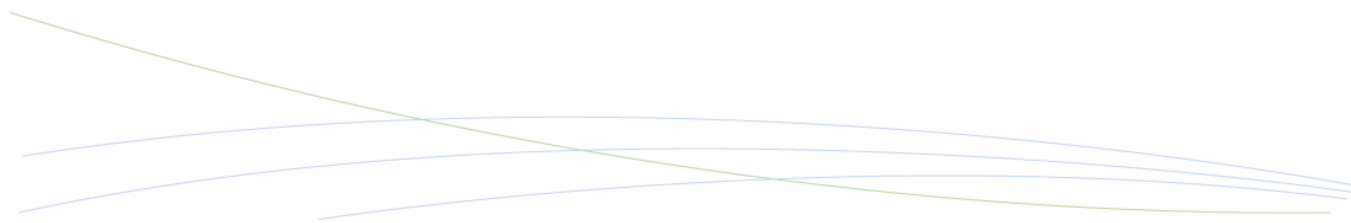
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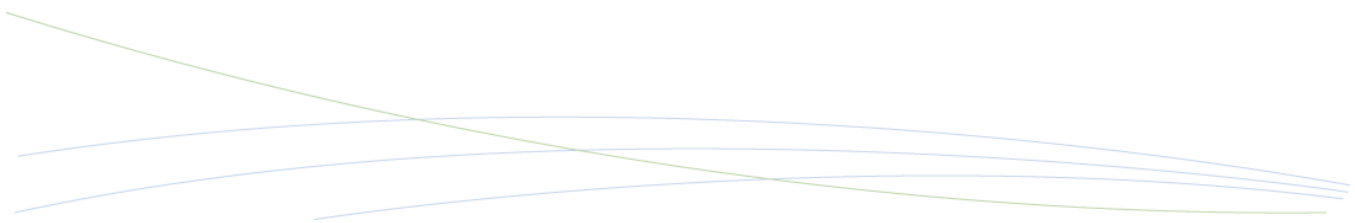
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Overview

The prowess and stability of the UNIX operating system was recognized in the 1970's and 1980's by both academic and commercial organizations alike. As a result, there was a large-scale adoption of UNIX by enterprises and many companies began leveraging UNIX to drive their mission-critical line of business applications.

The IT landscape changed dramatically during the late 1980's with the rise of Microsoft and its line of operating systems. UNIX was no longer regarded as the standard operating system for personal computers as some believed at the pinnacle of its adoption trend. The growing popularity of Microsoft Windows prompted some application vendors to abandon their UNIX lineage and ported their applications to Windows. However, high-end applications such as Electronic Design Automation tools, medical imagery, trade and risk management solutions, and geophysics and seismic analysis applications were steadfastly UNIX-bound due to the sheer complexity and the high demand for performance and stability which could only be satisfied by enterprise-class UNIX hardware and operating system.

Hummingbird®, the Open Text Connectivity Solutions Group, is the industry and technology leader in PC X Window emulation market. We have been providing UNIX application access solutions to enterprises since the time when Microsoft was just beginning to establish their dominance in the business desktop market with their MS-DOS operating systems.

Today, the business world is riding another wave of change; one that was triggered by the evolution in communication technologies and a renewed business focus on reducing operational costs. The theme of business mobility and cost reduction echoes throughout many corporate strategies. Hummingbird is proud to position itself once again as the leader by providing innovations in mobility, productivity and collaboration for UNIX users.

This whitepaper provides an introduction to Exceed Freedom™, its key business drivers, key capabilities and benefits.

For more information, please visit www.hummingbird.com

Business Trends and Challenges

There are many business and technology trends that are transforming the current global economy and changing the face of business. Some of these trends are cross-industry phenomena that impact every market sector, such as the demand for real-time collaboration for global business users, resource consolidation for operational costs streamlining, or offering productivity to mobile workforce. Only by identifying them and understanding the associated challenges can companies thrive in the competitive global market and improve the profitability of their operations.

Reducing Downtime: A Strategic Imperative

All companies have experienced downtime, which can be triggered by many events, such as a power outage, network failure, program error, hardware malfunction, or disaster. Regardless of the cause, downtime almost always results in lost revenue. The five minutes it takes to reboot a trader's PC is time that they can't carry out client transactions. The engineer's PC that crashed in the middle of the night may represent the loss of four days worth of design and test data. 14 percent of enterprise businesses that were interviewed by Enterprise Strategy Group in a June 2007 study, titled "HP's Disaster Proof Solutions: Ensuring Application Availability," said they cannot tolerate **any** amount of application downtime. The reason is painfully obvious - downtime is as costly as it is unpredictable. "Challenges and Priorities of Fortune 1000 Companies" is a survey conducted by mValent in March 2007. The study found that each hour of application downtime cost the companies surveyed in excess of \$300,000. 92 percent of the respondents of the survey agreed that ensuring the availability of core business applications and services was their top priority.

In short, reducing critical system downtime is a leading strategic imperative among enterprises today.

Capitalize on the Benefits of Business Mobility without the Hidden Costs

According to a recent industry research, there was an estimation of 650 million mobile and remote workers in 2004. By 2009 that number is expected to increase to 850 million, or about one in four of the total global work force. Business mobility allows users to access business applications and data thousands of miles away at any hour of the day. It also allows companies to respond to business needs quicker, and swiftly react to emergencies.

Despite the benefits, the costs associated with business mobility can be high. The investment in required equipment and new applications for users or revamping existing business processes and IT infrastructure can quickly erode the potential

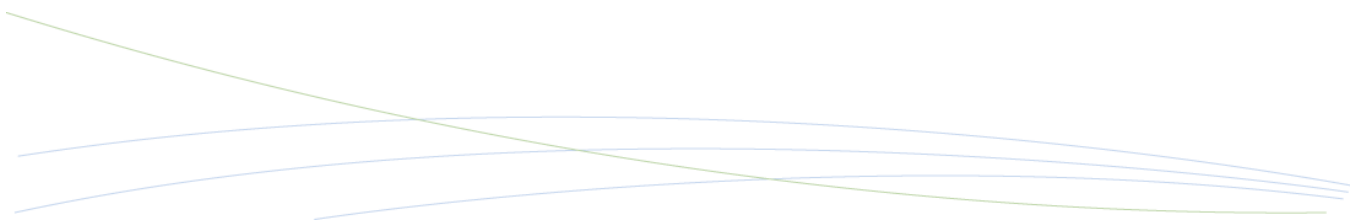
gains and opportunities of business mobility. The challenge is to skillfully balance the cost and return.

Globalized Market, Centralized Resources

Many companies improve their competitiveness by developing and selling their products by global teams. In order to increase the effectiveness of this tactic they tap into the immense resources and opportunities generated by the globalization labor force. Outsourcing and worldwide collaboration between operational centers that span multiple continents has become the norm. The past 20 years have seen organizations establish decentralized infrastructure models, resulting in the multiplication of IT systems across each and every corporate location or department. The cost of setting up and supporting business systems in remote offices is high. In the current economic climate that emphasizes on maximizing ROI, IT is mandated to plug unnecessary resource drains and consolidate over-distributed and under-utilized servers to centralized application centers. The challenge is to execute this initiative effectively and securely with bandwidth intensive mission-critical UNIX applications without significantly degrading the end-user experience.

Compliance with Security Mandates

The 12th Annual Computer Crime and Security Survey, conducted by Computer Security Institute in September 2007, showed that over 53 percent of the participated companies invested between 3 to over 10 percent of their IT budget on security related initiatives in 2007, which represented an increase of 13 percent from the previous year. The growing trend of business mobility has resulted in a sharp increase in the volume of sensitive data that is travelling on public networks. Protecting that information is vital, hence over 66 percent of the responding companies invested IT money on security solutions to encrypt data while it is “in transit.” The sizable spending on security solutions is also a direct result of government regulations and industry compliance mandates.



Introducing Exceed Freedom™

Exceed Freedom - is a solution designed to increase the productivity of X Window application users and allow organizations to streamline UNIX infrastructure. As an add-on to Exceed® and Exceed PowerSuite™, the world-leading PC X11 solution, Exceed Freedom reduces user downtime, lowers bandwidth costs, and enables global access to UNIX applications.

Exceed - Exceed, the award-winning PC X server, continues the tradition of providing the best of breed connectivity solution for enterprise users. Exceed is a Microsoft Windows Vista certified product that extends the reach of Windows PCs to UNIX systems. Unsurpassable performance and stability, unparalleled manageability and a complete set of security offerings to protect your environment have always been the trademarks of Exceed. Exceed also supports host access for TN3270E, TN5250E, VT420 and Telnet applications.

Exceed PowerSuite - Exceed PowerSuite combines the power of Exceed, with advanced OpenGL API support that comes from Exceed 3D™, and NFS Maestro Solo™, the fastest and more reliable network file system solution in the market. Exceed PowerSuite delivers seamless X window, 3D support, network file system and host access from Windows desktops to the many types of computing platforms in an enterprise, including UNIX, Linux, VMS, X Window System, IBM Mainframes and Midrange computers. As a Microsoft Windows Vista certified solution, it is proven to be a reliable Microsoft Window software solution.

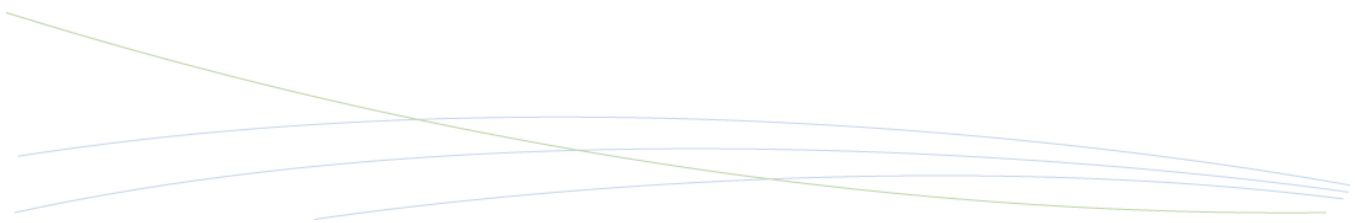
With Exceed Freedom, enterprises can quickly and accurately align their business models to anticipate the aforementioned industry trends.

Enhance Freedom of Movement

Exceed Freedom has been specifically created to extend the reach of graphical UNIX applications to Exceed users at home or on the road. It gives UNIX users a new freedom of movement by liberating them from the confinement of their cubicles while allowing them to interact with business systems as if sitting in the office. This accomplishment is attributed to the high performance architecture that is embedded to the core of Exceed Freedom. In addition to offering high performance to remote or local users, Exceed Freedom further pushes the limit of mobility and productivity by allowing users to suspend and resume their applications at any time from any place on any computer.

Reduce Infrastructure Cost

Armed with unsurpassed performance over any connection and seamless integration with any security framework, Exceed Freedom facilitates UNIX resource



consolidation without diminishing user's ability to access business information even from thousands of miles away. Exceed Freedom empowers companies that are expanding or outsourcing to accelerate the readiness of branch offices or 3rd party service providers by eliminating the need to set up additional IT infrastructures. Combined with an ultra low bandwidth requirement Exceed Freedom helps organizations exploit any unrealized value of their existing network infrastructure and lower the cost of access.

Strengthen Security

Security is a top of mind issue for many IT administrators. Thanks to the “suspend and resume” feature in Exceed Freedom, Exceed users can suspend active X Window sessions and shutdown their computers before they leave the office. Also, the IT security group can frequently update desktops with the latest patches and reboot machines without worrying about session continuity and lost work product. The support for Secured Sockets Layer (SSL), Secure Shell (SSH) and Kerberos protocols ensures the tightest integration with existing security frameworks. Single-Sign-On (SSO) is also made possible as a result of a higher level of integration with Microsoft Active Directory. With Exceed Freedom, organizations can rest assured that PC-to-UNIX communication is encrypted and protected from end-to-end.

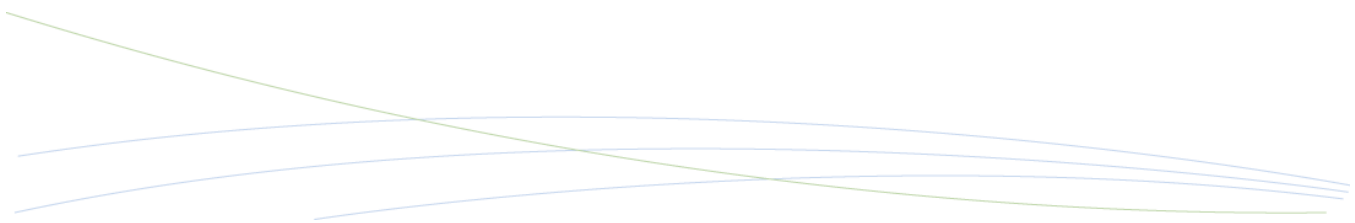
Add Collaboration, Improve Productivity

Exceed Freedom can instantly add collaborative capabilities to any UNIX application without modification. Through the desktop sharing feature, Exceed Freedom users from different development centers can share Exceed sessions and design ideas in real-time and IT staff can visualize and troubleshoot user problems on-the-fly. Exceed Freedom helps organizations answer the call of worldwide collaboration, improve the efficiency of the support organization, and bring IT costs under control.

With the Crash and Resume feature, Exceed Freedom can even preserve users' work and keep valuable data alive in a middle-tier server in the event of a sudden loss of power or network connection on their workstation, relieving them from frustration due to lost time and data caused by accidental disconnections.

Mitigate Risks

Exceed Freedom is designed for Exceed so it works right out-of-the-box. Installation is driven by industry standard Windows Installer technology. There are little post-deployment configuration requirements because Exceed Freedom reuses existing Exceed configuration files, which are the culmination of many hours of customer support and “tweaking.” Users do not have to be retrained and the IT support group will not be flooded with an increased volume of support incidents, as it would likely be



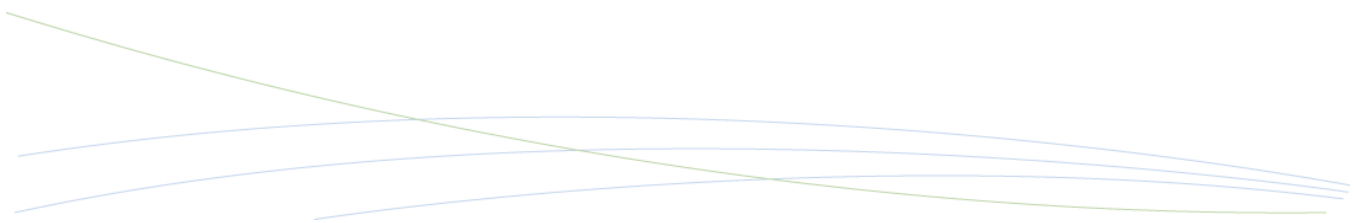
with any other new software roll-out. There is no break-in period and no downtime. Exceed Freedom is a no-risk choice for improving productivity and security, and reducing downtime.

Extend and Enhance Investments in Hardware and Software

Exceed Freedom uncovers hidden value in existing investments in hardware and software. For the same amount of network bandwidth that was established between offices, with Exceed Freedom it can support more users and more application thanks to the reduced network resource consumption. In effect the per user bandwidth cost will be reduced and the efficiency of the network infrastructure will be improved. Also, the seamless integration of Exceed Freedom with Exceed translates to lower deployment, training, and ongoing support costs.

Exceed Family: “The Gold Standard”

As the leader in the market of UNIX access solutions with products reaching over 90% of the Global 2000 companies, our mission is to provide software solutions that would increase their competitiveness regardless of which market they are in. Backed by over 10 years of experience in providing mobile UNIX solutions to Fortune 100 and Global 100 companies, Hummingbird has vested the accumulated knowledge and expertise into Exceed Freedom. It brings measureable business benefits to enterprises that currently use UNIX for their mission critical line of business applications. Along with an outstanding reputation for excellence and industry-recognized customer support and services, organizations can continue to reap the rewards of their relationship with Hummingbird and their investment in Exceed.



Summary

A first in the UNIX Connectivity market, the revolutionary design of Exceed Freedom 2008 makes it a perfect solution to many aforementioned business challenges. Exceed Freedom empowers users and organizations to

- securely collaborate on projects in real-time
- suspend and resume their UNIX application environments
- preserve their work in progress and keeps valuable data alive in the event of a sudden loss of power or network connection
- consolidate over-distributed and under-utilized UNIX servers to centralized application centers
- be compliant to security mandates, and
- leverage existing network infrastructure and business processes to reduce operational costs

As the leader in the market for UNIX access solutions with over 20 years of innovation and products reaching over ninety percent of the Global 2000 companies, Hummingbird's mission is to provide software solutions that help increase their competitiveness regardless of any market they are in. With the traditional quality and integrity that customers have come to expect, Exceed Freedom illustrates Hummingbird's ongoing commitment to deliver innovative enterprise-focused solutions to the market.



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