



IBM Linux Client Update June 23, 2004

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IBM Corporate Linux

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IBM Workplace Team
Lotus Software



Overview

- The Linux Client Market
- The IBM Client Strategy
- What do we have to offer?
- IBM Workplace Steve Halling
- Summary





IDC Forecast: Linux Desktop - May 2004

- The Linux client operating environment new license shipments
 - Projected Growth 2002 2007 (Worldwide)

*CAGR of 25.4 %

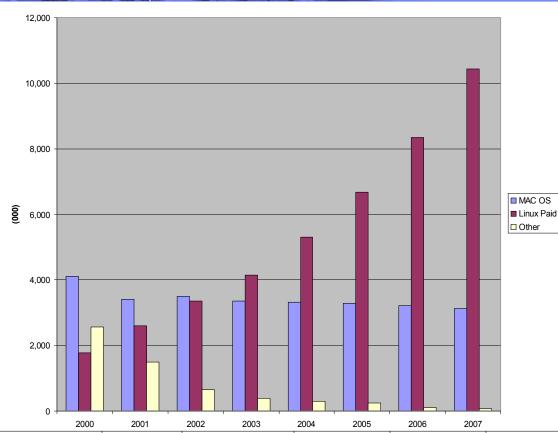
Linux is 2.7% of the existing desktop share

Microsoft has 94.5% of the existing desktop share

Linux on the desktop is projected to attain 6% of the client Operating System market share by 2007

The growth of non-Windows desktops





Linux Client Growing at a CAGR of 25.4%

Clients - Linux has the highest growth and took over as # 2 ahead of the MacOS in 2003

The Linux client install base will triple from 2003 to 2007

2000	2001	2002 2003	2004 2003	2000 2007					
	2000	2001	2002	2003	2004	2005	2006	2007	2002-2007 CGR (%)
Windows	96,205	103,200	113,800	121,197	130,287	140,840	150,699	160,494	7.1%
MAC OS	4,109	3,408	3,491	3,352	3,318	3,285	3,219	3,123	-2.2%
Linux Paid	1,782	2,595	3,363	4,150	5,309	6,671	8,345	10,431	25.4%
Other	2,560	1,490	655	385	307	251	100	75	-35.2%
Total	104,656	110,693	121,309	129,084	139,221	151,047	162,363	174,123	7.5%

^{*} Source IDC, August 2003 #30159



Why an IBM Client Strategy is the lead message

- IBM's client strategy has been and will continue to be a customer driven strategy and not a technology driven strategy
- A heterogeneous platform story that is all about flexibility and choice
- Windows, Linux, MAC, and pervasive (hand held & headless devices)
 - More internet connected devices are non-PC than PC
- Linux is simply now a part of the larger strategy



Role Based Client Segmentation: One size does not fit all

Fixed Function	Technical Workstation	Transactional Workstation	Basic Office	Advanced Office	
Limited use of bus	siness applications	Applications which o	Irive business proce	esses	
Limited office productivity	Simple office prod	ductivity		Advanced office productivity	
No e-mail	Simple e-mail			Advanced e-mail	
No instant messaging	No instant messaging			Instant Messaging	
Simple browser access to Intranet, portals Advanced browser access to Internet					
File/Print systems management, network access, host emulation					

Examples:

Fixed function: ATMs, airline boarding pass kiosk, point-of-sale terminals

Technical: Engineers using CAD/CAM, movie animation studios

Transactional: Travel agents, bank admin personnel, front office staff □**Knowledge:** Heavy MS Office™ use, productivity apps, "hi-fi" exchanges

General: Advanced office, multiple applications, custom apps



Linux may be right for the business fundamentals of today

Fix d Function	Technical Workstation	Transactional Workstation	Basic Office	Advanced Office		
Limited use of business applications		Applications which of	rive business proce	estes		
Limited office productivity	Simple office pro	ductivity		Advanced office productivity		
No e-mail	Simple e-mail			Advanced e-mail		
No instant messaging						
Simple browser access to Intranet, portals Advanced browser access to Internet						
File/Print systems management, network access, host emulation						



Current Customer Desktop Pain Points

- The cost of adding a Windows desktop in not justifiable for all user types Many end users simply do not require a full MS Windows desktop.
- Current licensing practices are major expense and source of dissatisfaction for many
- Frequent security patches and virus alerts increase administrative costs
- End user productivity losses due to viruses and worms
- Added complexity requires more administration
- Required upgrades that carry more function than needed by users

Bottom line: customers want to reduce desktop TCO



On-Demand Client: TCO Comparison – Linux and Windows

- Linux and Windows "fat" clients have the same TCO characteristics
- Operations and support costs dwarf software costs
- "Locked down" and "managed" clients offer better TCO

	Win95 MS Office	WinXP MS Office	WinXP StarOffice	Linux StarOffice	Locked- Down	Typically- Managed	Well- Managed
HW & SW	\$1,423	\$1,423	\$1,348	\$1,311			
Support	\$1,050	\$1,014	\$1,016	\$1,015	\$929	\$921	\$724
Indirect	\$3,577	\$2,848	\$3,038	\$3,121	\$2,296	\$2,550	\$1,375
Total	\$6,050	\$5,285	\$5,403	\$5,447	~\$850 less	~\$900 less	~\$1,375 less

^{*}Annual "Managed" 2, applications of the record of the rec



OPEN CLIENT ARCHITECTURE

IBM User Interface & Portal Technology

Industry Based Solutions (from IBM & Partners)

Specific Industry Based Solution Offerings and Functionality (e.g. Branch Banking, Government Solutions, Retail Solutions

Additional Open Source Components (NOT supported by IBM)



Applications based on **Templates**

Collaborative Application Services

Portal Services

Learning Doc mat Team Messaging

Collaborative Process **Team Documents**

Inbox

Calendar

Security - rich client

Administration Search Authentication/SSO

Editor

Customer Applications ISV Applications



Open Office Productivity Suite (supported by IBM's **Distribution Partners**)







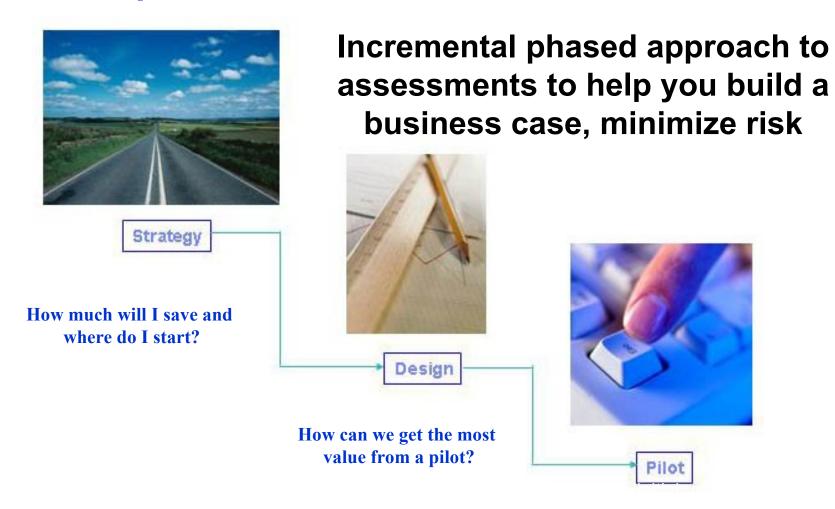


Base Client Environment (supported by IBM / Partners)





IGS - Open Client Assessment



How can we deploy across the organization with confidence?



What about IBM PCs and Linux

- Linux on the desktop is getting a lot of press based on announcements by PC vendors
- None of the major PC vendors are preloading Linux on Laptops today!



- IBM PC current position on Linux:
 Testing ~80% of machines on Linux
- All ThinkCentre & ThinkPads except the ThinkPad X models will be certified by year end 2004
- In India and China shipping PC-DOS machines with Linux CD-in-a-box
- Working with the PCD team you can help special bid your customers Linux order

×



∠On Demand Work... ∠IBM BluePages | ... ∠Hotel Monaco - M...

IBM Personal co...

Warranty

Automated solutions

Troubleshooting

Submit a request

Support phone list

Site feedback

Site help

Search PC support

Related links:

Accessories & upgrades

Business Partner

IBM PC Institute

IBM Publications Center Find a Business Partner

IBM Supports Microsoft Service Packs

♣ Applicable countries and regions



Overview

IBM is committed to providing our customers with information to assist you in utilizing the Linux operating system on various IBM PCD systems.

IBM Products Certified for use with Linux

EWS = Enterprise Workstation

		Linux Distribution	Distribution		
BM System	Red Hat	SuSe	Turbolinux		
ThinkPad A30	<u>7.1, 7.2</u>	7.2	<u>6.1</u>		
ThinkPad A31p	7.2, 7.3	8.0			
ThinkPad R40		<u>8.2, 9.0</u>			
ThinkPad R40e		9.0	<u>10</u>		
ThinkPad R50	9.0, EWS 3	Desktop 1.0			
ThinkPad R50p	9.0, EWS 3	Desktop 1.0			
ThinkPad T30	7.3, 8.0	<u>8.0, 8.1</u>			
ThinkPad T40	EWS 2.1	Desktop 1.0			
ThinkPad T40p	EWS 2.1	Desktop 1.0			
ThinkPad T41p	9.0 EWS 3	Desktop 1.0			
NetVista M42	8.0	<u>8.1</u>			
ThinkCentre A30			<u>8</u>		
ThinkCentre A50p		<u>8.2</u>	<u>10</u>		
ThinkCentre M50	9.0 EWS 2.1 EWS 3	Desktop 1.0			
ThinkCentre S50		8.2			

Miscellaneous Linux certifications

Nawar IAM producte

Getting to IBM PCs Certified on Linux

GO TO: www.ibm.com/linux

Select:

Solutions for Linux

- → Linux solutions
- → Service offerings

Hardware for Linux

- → Linux on @ server
- → Linux on TotalStorage
- → Linux on personal systems
 - Linux on workstallons

Software for Linux

- → IBM Software for Linux
- → Partner software



IntelliStation Product Line



The Balance of Power 64-bit performance, 32-bit convenience

IntelliStation Z Pro



Scalable multiprocessor performance for compute-intensive applications

IntelliStation M Pro



Ultimate graphics performance-6230 Streamlined workstation performance-6220

IntelliStation T221 Precision Monitor



Exceptional clarity and detail for high-end immersive visualization



2004 – Linux Client Industry Focus

Retail

Branch Banking

Public Sector

EDA (Electronic Design Automation)



Linux Solutions for all Three Tiers of Retailing











VPNs

Leased lines

- Legacy application servers
- Data warehouse/ data marts
- Web application servers

Tier 3Enterprise

n-store Servers

Tier 1 User touchpoints

IBM

Retail

Environment

For

SuSE

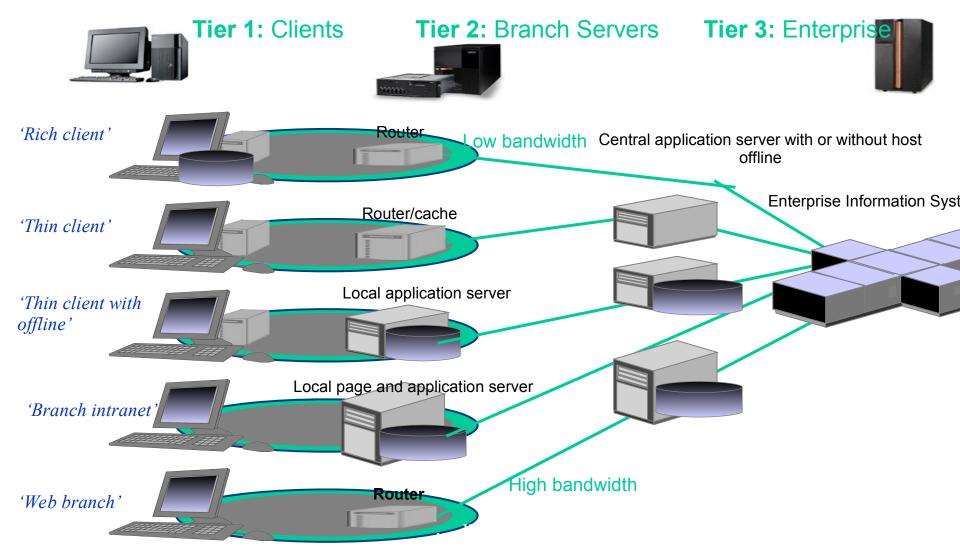


- POS controllers
- Legacy ISP / Store servers
- Web application servers

- POS terminals
- Kiosks
- End User Device
- Mobile devices



Linux is a key component of IBM's Branch Banking Technology Portfolio





Public Sector Embracing Linux on the Client

National and Local Adoption Momentum Accelerating

- *Governments will spend over \$2B on Linux related HW, SW and Services in 2004
 - We see significant demand for Open Office support
 - Looking to replace MS Office
 - Seeking advice from IBM on the Linux Client
 - Discuss with these customers where they can succeed first with Linux on the desktop







Linux is moving rapidly to the engineering workstation







- Higher performance
- Lower TCO
- Reliability and Stability

- Mobility, improved productivity
- More flexibility, no vendor lock-in
- Interoperability



EDA environment & ISVs

"Typical" EDA applications and already on Linux

Cadence, Synopsys/Avanti, Mentor Graphics

- ✓ Strong IntelliStation offerings
 - Red Hat Linux preloaded
- ✓ Customer references available
- ✓ IBM, Intel Announce Mobile Workstation for Design Engineers
 - Uses Cadence Design's software and Linux
 - IBM Thinkpads







LVM Insurance

German Insurance Service Supplier

Challenge

 Enable sales force mobility and provide accurate, up to date data at customer locations

Solution

 Sophisticated thin client architecture capable of providing services to geographically dispersed sales force

Benefit

 Sales force can handle proposals and requests, process damages or change any contract related data from the customer's living room





iSeries Access for Linux

A full-function 5250 emulator

That runs natively on a desktop Linux operating system

An ODBC Driver

This functions enables your Linux PC applications to access information in DB2 UDB for iSeries database

Runs either on Linux desktop or in Linux partition (LPAR – Power PC) on iSeries

ISeries Access API's

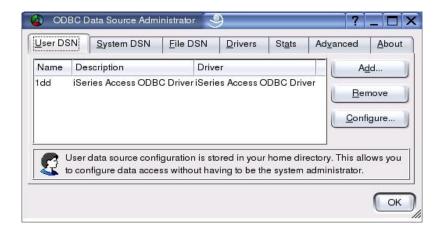
RmtCmd, NLS, System Object, ...

Available since August 2003

5014 Downloads in 2004 1100 Downloads in 2003

- Designed to run on Linux
 - Red Hat Linux
 - SUSE Linux







www.ibm.com/eserver/iseries/access/linux



IBM Provides - Mozilla Technical Support!

- 1) IGS Led Support Offering
 Support tied to Linux support , Mozilla included in the Linux support
 L1, L2 How-to Questions
 L3 (code fixes)
 Referred to Linux vendor
- 2) Mozilla Technology Center Offering via IGS
 IGS Contract with Mozilla technology Center
 Mozilla only support (special bid)
 L3 on specific Mozilla versions (1.4.x, 1.7.x)
 All fixes from IBM rolled into Mozilla and available from mozilla.org



Client OS	Windows	MAC OS X	Sun JDS	Novell/SUSE	Red Hat
User Desktop	Windows XP GUI	Desktop	Gnome 2.2	Gnome 2.2 / KDE 3.1.1	Gnome 2.2 / KDE 3.1.1
JRE	MS/SUN JVM	JVM	Sun J2SE /JVM	JVM	JVM
Base Apps	Text Editor, Calculator, CD Player, Media Player, Image Viewer, as well as many system configuration tools.	Text Editor, Calculator, CD Player, Media Player, Image Viewer, as well as many system configuration tools.	Text Editor, Calculator, CD Player, Media Player, Image Viewer, as well as many system configuration tools.	Text Editor, Calculator, CD Player, Media Player, Image Viewer, as well as many system configuration tools.	Text Editor, Calculator, CD Player, Media Player, Image Viewer, as well as many system configuration tools.
Browser	Mozilla / Internet Explorer	Mozilla /Safari	Mozilla	Mozilla	Mozilla
Office Suite	Microsoft Office	Mac Office 2004	Star Office 7	Open Office 1.1 -Basis for Star Office Suite 7	Open Office 1.1 Basis for Star Office Suite 7
Mail & Calendar	Lotus Notes & Domino Outlook & MS Exchange	Mac Mail and iCal	Evolution 1.4	Evolution 1.4 , KMail, Mozilla Mail, Domino Web Access	Evolution 1.4 , KMail, Mozilla Mail, Domino Web Access
10K+ Industry Applications	20K + ISV Apps Worldwide				

Client OS	Windows	MAC OS X	Sun JDS	Novell/SUSE	Red Hat
User Desktop	Windows XP GUI	Desktop	Gnome 2.2	Gnome 2.2 / KDE 3.1.1	Gnome 2.2 / KDE 3.1.1
JRE	MS/SUN JVM	JVM	Sun J2SE /JVM	JVM	JVM
Base Apps	Text Editor, Calculator, CD Player, Media Player, Image Viewer, as well as many system configuration tools.	Text Editor, Calculator, CD Player, Media Player, Image Viewer, as well as many system configuration tools.	Text Editor, Calculator, CD Player, Media Player, Image Viewer, as well as many system configuration tools.	Text Editor, Calculator, CD Player, Media Player, Image Viewer, as well as many system configuration tools.	Text Editor, Calculator, CD Player, Media Player, Image Viewer, as well as many system configuration tools.
Browser	Mozilla / Internet Explorer	Mozilla/Safari	Mozilla	Mozilla	Mozilla
Office Suite	Microsoft Office	Mac Office 2004	Star Office 7	Open Office 1.1 -Basis for Star Office Suite 7	Open Office 1.1 Basis for Star Office Suite 7
Mail & Calendar	Lotus Notes & Domino Outlook & MS Exchange	Mac Mail and iCal	Evolution 1.4	Evolution 1.4 , KMail, Mozilla Mail, Domino Web Access	Evolution 1.4 , KMail, Mozilla Mail, Domino Web Access
10K+ Industry Applications	20K + ISV Apps Worldwide				
Server Managed Client 25	Workplace - Secure Replicated File System - App Execution Security	Workplace - Secure Replicated File System - App Execution Security		Workplace - Secure Replicated File System - App Execution Security	Workplace - Secure Replicated File System - App Execution Security



Steve Halling
IBM Workplace Team
Lotus Software





Scope of IBM Workplace

All of the products and technologies that make people more productive

Defining the Broad Continuum of Client Interactions

Lotus Wor

Evolution of the computing paradigm

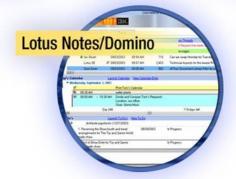
Server managed client model

Support for standards

Interoperable with existing elements of the infrastructure











Managed Client Model

Making More People More Productive in the Context of The Business They Do Every Day

FRONT-END BACK-END INTEGRATION

BUSINESS PROCESSES



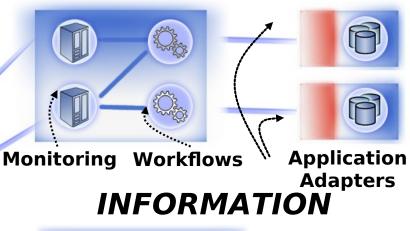
IBM WORKPLACE

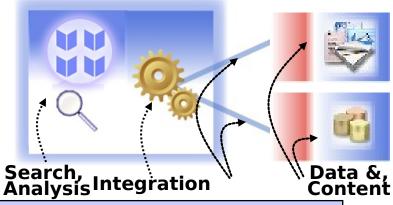
Business Context & Activities

Collaboration Services

Interaction & Access Services

Managed Client Services





The power of one architectural model, one programming model, one consistent tool set

Mobile Clients



IBM Workplace Family Announcement

- New IBM Workplace Client Technology, Micro Edition
- New IBM Workplace Client Technology, Rich Edition
- Release 2.0 of Lotus Workplace Products

Evolved from integrated products to platform in 8 months

Products Featuring Managed Client

IBM Lotus Workplace Messaging

IBM Lotus Workplace Documents

IBM Lotus Workplace Team Collaboration

IBM Lotus Workplace Web Content Management

IBM Lotus Workplace Collaborative Learning

IBM Lotus Workplace for Business Controls and Reporting 2.0



IBM Workplace Client Technology, Micro Edition

An embedded middleware framework which enables application and services deployment, device configuration and life-cycle management, to a wide spectrum of mobile and pervasive devices via **server managed clients**

A

Standards based service delivery and management platform

IBM Workplace
Client Technology,
Micro Edition

Industrial Controller



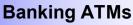
Telematics Controller



Smartcard



Cell Phones/PDAs





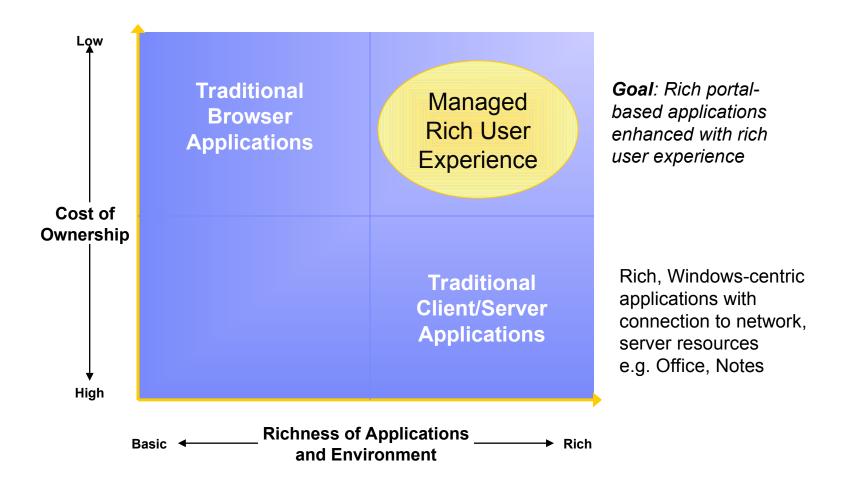


- Increasing mobile worker productivity
- Decrease network connection costs
- Decrease development and deployment costs
- Adaptable to a variety of popular device types

Laptop



Challenge – To Achieve Rich Client Functionality at low TCO





IBM Workplace Client Technology

A dynamically provisioned client middleware built on standards with choice of operating systems

An innovative component based assembly model for building dynamic workplaces delivered on demand



An improved security model delivered via secure, encrypted and replicated repository not accessible by rogue



programs
A foundation for a new
model of rich client
computing for the

- Lotus Workplace Messaging
- Lotus Workplace Documents
- Other IBM & Partner Applications

IBM Workplace Client Technology

No Touch Deployment – Helps Lower TCO



- Server-managed delivery of rich clients to end user communities
- Centralized administration, setup and client updates
- Provision capabilities when needed on demand

Rich user experience



- Disconnected use and synchronization
- Power of client software i.e drag-n-drop, improved responsiveness, UI control
- Componentized and Contextual
- Embedded Doc Management

Extensible client platform for

- Collaboration, including mail, calendaring and scheduling, instant messaging, team spaces...
- Document management
- Existing Web, Java, .Net and Notes Applications
- New Applications IBM and Business Partners

Built in Data Management and Security Features



- Using local and server managed encrypted data stores
- With robust policy managed access and control

Choice and Flexibility



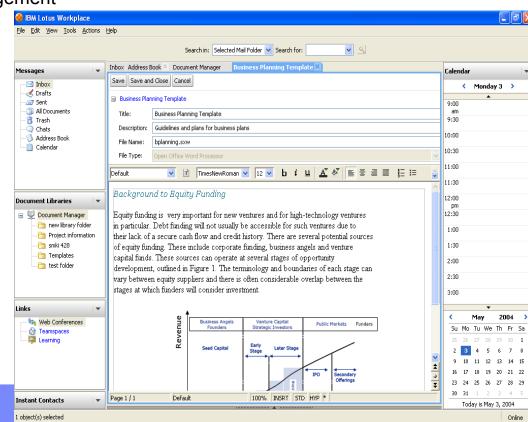
- Linux, Windows and MacOS (planned) desktops
- Manage office documents and Java, .Net and C++ applications
- Standards-based interoperability



IBM Lotus Workplace Documents with IBM Workplace Client Technology

Centralized location for end users to create, import, edit and save rich documents, presentations and spreadsheets within an integrated rich client environment.

- Low TCO business-oriented document library services
 - Central control, management and provisioning of end users environments
 - Synchronization between the local and server stores
 - Integration with Enterprise Document Management
- Security extended to locally managed data store for all documents created within the application
- Increased Productivity / Reduced Desktop Complexity
 - A full desktop productivity user experience with built in editors for documents, spreadsheets, presentations Support for disconnected use
- Multi-client Platform support

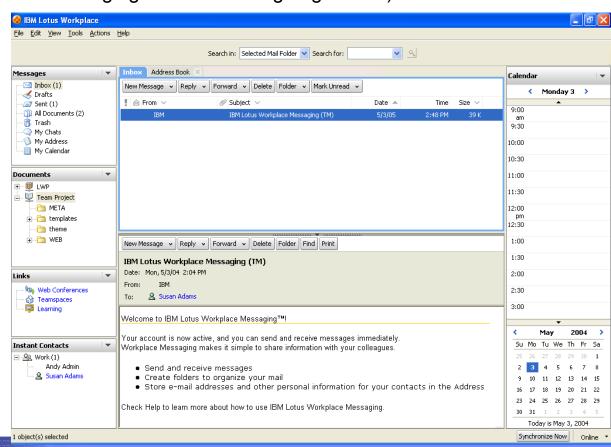




IBM Lotus Workplace Messaging with IBM Workplace Client Technology

In 2.0, we will introduce a rich client edition to complement the existing web access/browser edition of Lotus Workplace Messaging

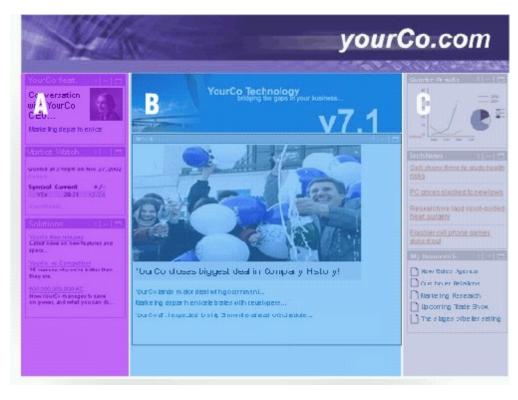
- Mail (based on same Lotus Workplace Messaging Mail for browsers)
- Group C&S (based on Lotus Workplace Messaging basic meeting negotiation)
- Dynamic client provisioning, configuration, upgrade
- Secure local data store
- Offline support
- Multi client platform support
- Other:
 - Integrated Instant Messaging and chat, including ability to save chats
 - Full text search on local mail
 - People Finder
 - **Universal Navigator**
 - Attention indicators
 - Spell Check
 - And more ...





WebSphere Portal Server Portal Is the Desktop

- Combines application user interfaces together into one unified presentation
- Users in different roles see different pages and content
- Administrators can either lock or open up areas of the page for end users to customize
- Administration tasks can be delegated to anyone
- Mozilla Support



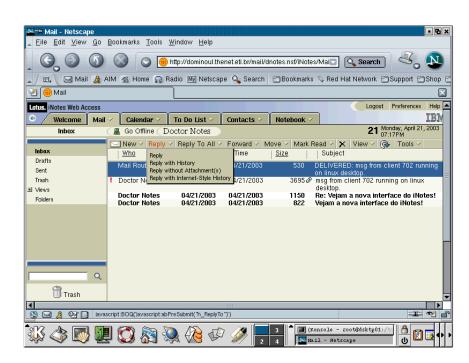


IBM Lotus Domino Web Access 6.5

- Mozilla support for World-Class Domino Web Access
 Including Mail, Calendar and Scheduling, Instant Messaging integration, Replication
- Complete Linux SolutionEnd-to-End Client-to-ServerDrive Down Costs



Best of Show January 2004



1.3.1 Mozilla client Linux RedHat 7.2, 8.0, 9.0



Packaging/Pricing Summary

	Products	Price	Introduced in 1.0/1.1	Introduced with 2.0	Workplace Client tech available 2.0 New!
Buy	Lotus Workplace Messaging	\$29/user			New!
individually or in any		T		1	
combination for flexibility	Lotus Workplace Collaborative Learning	\$35/user			
101 Hexibility	Lotus Workplace Team Collaboration	\$89/user			IM Ohiyw!
	Lotus Workplace Web Content Management	\$49,999/CPU		New!	Newl
	Lotus Workplace Documents	29/user			
					New!
				New!	New!
Buy all at	Primary bundles that have Lotus Workplace products				



Adding on the IBM Workplace Client technology to Lotus Workplace products

		Products	Price	Introduced in 1.0/1.1	Introduced with 2.0	Workplace Client tech available 2.0
	Buy individually or	Lotus Workplace Messaging	\$29/user			
	in any combination for flexibility	Lotus Workplace Collaborative Learning	\$35/user			
	TOT HEXIBITES	Lotus Workplace Team Collaboration	\$89/user			
		Lotus Workplace Web Content Management	\$49,999/CPU			
		Lotus Workplace Documents	29/user			
	Buy all at once for	Primary bundles that have Lotus Workplace products				
	simplicity	IBM Software Solution for On Demand Workplace	\$399/user	Announced in January 2004	Add Lotus Workplace Documents	
!	A	Lotus Workplace portfolio bundle** (all Workplace products w/o portal)	ТВА			

New Info

To find out SKU #, You must first get approval through Client Project Office

,	Technology Name	Price	Introduced in 1.0/1.1	Introduced with 2.0	
	IBM Workplace Client technology	\$2/user/month Each year NO discounting			



Key Deliverables Expected within next Twelve Months

2Q04 3Q04 4Q04 1Q05 2Q05

Lotus Workplace Products 2.0

- Rich Client (including disconnected)
- Collaborative Documents
- Workplace Builder
- **IBM Lotus Notes/Domino** 6.5.1 products
- Domino Based
- Lotus Instant Messaging & Web Conferencing
- Lotus Team Workplace
- Domino Document Manager

WebSphere Portal Enable & Extend

WebSphere Portal Express & Express

WebSphere Portal

Lotus Workplace Products 2.5

- iSeries, Solaris Server Support
- Expanded Data Store Support
- Continued API build-out
- Enhanced Tooling
- Synchronize Domino family products Rich Clients for Portlets
 Domino Passed **Applications**
 - Mobile Rich Client
 - Tech preview for **Notes/Domino** plug-in for Linux

WebSphere Portal 5.1

WebSphere **Portal Enable & Extend for z/OS**

IBM Lotus Notes/Domino 7.0 products

- Tighter integration between **Domino family applications**
- Tighter integration with Workplace
- Continued focus on TCO
- Administration. performance and scalability improvements.
- Enhanced Application **Development with DB2** storage and native web services
- Workplace for Notes **Application**



Linux Client Summary

- Remember : The IBM client strategy is customer driven
- We are focused on the Linux client usage segments where we know Linux on the client can succeed in 2004
- Retail, Finance, Public Sector, and EDA
- We will lead with an IGS offering and will drive sales of the PCD Think Family and xSeries IntelliStation to capture this emerging market opportunity
- IBM Workplace is now a critical part of our client strategy
- Linux Client Sales Kit http://w3.linux.ibm.com/linux/sales/desktop.shtml



The Need for Linux on the client is Everywhere w3.linux.ibm.com







Store Manager Operations











Customer Service



Linux Client Project Office

- Mission
 The Worldwide Linux Client Project Office will provide support to sales teams and act as the facilitator for opportunities in order to rapidly grow our Linux Client sales.
- What does that mean?

Lend assistance to field sales force on major opportunities (account calls, briefings, technical requirements, coordination across IBM divisions, etc)

Help overcome challenges

Build skills and transfer knowledge

Assist marketing team in crafting value propositions, messages, and Sales

deliverables

Communication to Linux management team on opportunities, issues and requirements



Linux Client Project Office

Who we are:

Brian Fullington - Worldwide Project Office Sales focal point

Billy Boykin – Worldwide Linux Client Sales Leader

Greg Kelleher – Project Office Lead and Strategy

Sigmund Puchacz – ISV & Sales support

Christopher Creber – EMEA Sales focal point

Shintaroh Nezuka – AP Sales focal point

Contact the project Office :

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