

IBM Point of View on desktops of the future and How to Get Started Today

Introduction

For the last 15 years, most office desktop software has been purchased in a “suite,” a set of office productivity applications for word processing, spreadsheets and presentation designed to offer extra value, beyond their purchase price. Other products may include an email client, a browser, a low-end data base product, a forms designer, a forms fill-in product, various publishing aids (templates for both the printed page and the web), collaboration and communication and business contact management.

Certainly the way people author content has changed as seen in three major trends -- many business users tell us they are spending more time *locating and transforming* existing content. Secondly, the authoring process itself has become more *real time and team-oriented* -- bringing together people that have different skills and expertise. For example, sales, financial and technical specialists may come together to respond to an RFP. And finally, for the first time, the majority of workers now operate in a more '*virtual workplace*' environment.

Key influencers include *the emergence of a multi-generational workforce, Globalization, shifting skills, new communication approaches and a community-centric collaboration paradigm, new technologies such as Web 2.0, and SOA, compliance requirements, and security threats.*

All of these factors contribute to a massive degree of change from the 'status quo' of the previous 15 years. Indeed, maintaining the status quo is no longer a requirement, with today's new open standards for document formats. Many organizations are looking for new options to adjust and respond to this order of change, now and in the future.

This point of view offers insight into exciting new options for business leaders and CIOs to rethink traditional upgrade paths where 'one size fit all' and to explore new ways of lowering their total cost of ownership (TCO) while increasing organizational flexibility.

Why should you consider this POV

- ❖ Evaluating executing on an open standards based approach to IT
- ❖ Reducing the complexity of desktop refresh initiatives
- ❖ Interested in reducing Total Cost of Ownership of desktop
- ❖ Examining Desktop “migration” challenges
- ❖ Want to leverage Web 2.0 innovations including social computing and rich end user experience
- ❖ Extend Service Oriented Architecture to the end users
- ❖ Concerned about proprietary formats and vendor lock-ins
- ❖ Renewing/signing a Microsoft Enterprise Agreement
- ❖ Simplify and unify communication, collaboration, and socialization capabilities
- ❖ Provide role based access and interaction with applications, information, and people
- ❖ Require flexibility and choice of operating systems, devices, and business services

Across the marketplace one of the more unique approaches is from IBM, with an open client solution which integrates communication, collaboration and social computing. IBM goes beyond traditional office suites by combining productivity, business processes or application integration with “Web 2.0”-style tools. For IT departments, the ability to deliver just the right set of desktop tools in a virtualized footprint to different segments of the organization can reduce costs of ownership and deployment.

IBM thought leadership and research provides an interesting glance of “things to come” in the desktop of the future.

An exploration of IBM’s desktop strategy is based on concepts such as community centric, roles-based, and activity-centric computing and is based on open standards, and technologies around server managed client middleware and virtualization.

New alternatives to traditional office desktops

Companies have noticed that there are more choices available and they are beginning to consider alternatives (Figure 1).

New hardware often forces decision makers to look for new (or better suited) software. Many users don’t spend their days in front of a desktop computer, but divide their time between the desktop and a variety of more portable devices, ranging from laptops and smartphones, to converged mobile devices.

New service oriented software architectures allow a more componentized approach to content and business objects. These components are being assembled in new and interesting ways. Companies are interested in tailored solutions with device independence. There is also an increasing willingness to consider operating systems other than Windows. Linux and Macintosh OS X open new opportunities.

New insights into user activities show that the type of tasks varies and depend largely on the role the user has within the organization. This can vary from company to company and by industry. The result is that organizations need the capability to segment users for themselves. For example, some groups may focus on e-mail and line of business applications; while a smaller percentage spend extensive time on creating complex documents or spreadsheets and require sophisticated tools to support those efforts.

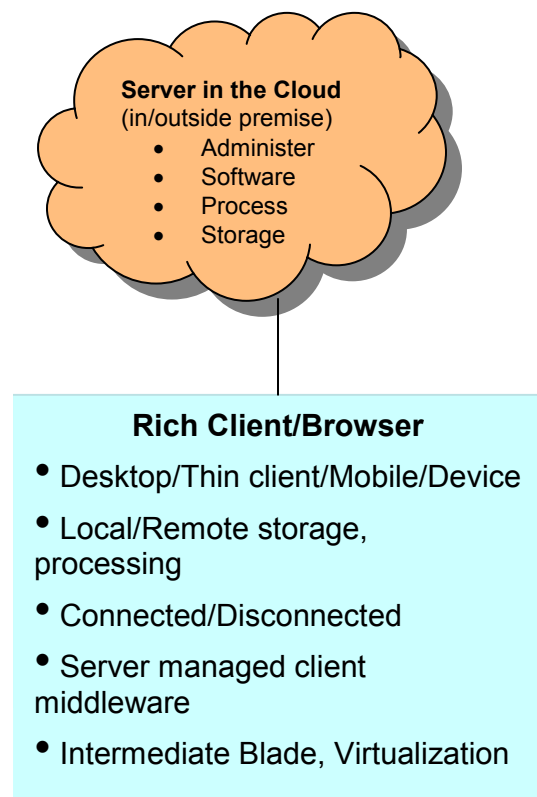
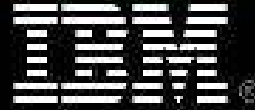


Figure 1. Emerging Alternatives



By segmenting users by their roles, we can provide them just the applications they need for their tasks, within a streamlined interface and navigational environment suited to their needs. Activity-centric computing and Service-Oriented Architecture models introduce new options to solve business problems such as information overload or improving customer service.

New interest in managing the office desktop remotely is driven by the increase in Software as a Service (SaaS), new online services and increasing comfort in performing desktop tasks in the browser.

In the case of the “server-managed client middleware” for the office desktop, the desktop is managed by the server and individual applications are made available to the user depending on his role. The user interface can be downloaded and kept at the local desktop (if desired), for better performance and an enriched user experience. In many cases, “less is more” and can reduce “screen clutter”. In addition, documents can be stored locally and/or remotely depending upon organizational policy.

New technologies, such as “composite” applications or “mash-ups” for assembling services and content are now available for business users. Other innovations include standalone lightweight editors, to new classes of navigational and coordination tools. This also is causing many executives to reconsider the more important role that editors and productivity elements will have on their ability to introduce innovation into their organization and put more power into the hands of the business user.

An IBM vision and strategy for the desktop of the future

IBM’s vision of the desktop of the future is a simplified, security-rich, and real-time work environment designed to foster an increase in knowledge sharing, business insight and productivity. It nurtures communication, real-time connection and extends simplified views of business applications to any device (Figure 2). It also enables CIO’s to drive desktop transformation and tap into the collaborative power of the entire value chain.

IBM researchers play a vital role in the evolving *desktop of the future*. We interviewed a number of them and wanted to share some of their visions.

- “The web has become a platform, but it’s a platform of niches. Many vendors will create trusted brands around particular niches, much like Google has around search and Salesforce.com has around customer relationship management”
- “We give knowledge workers too many tools and then expect them to pay the price of constant context switching. They need to have all their tools available in a single, flexible space, within one interface. It’s time to talk about a new interface in any case; the interface we use today is more than 30 years old. It’s easy to talk about one rich user interface on the desktop, harder on small, portable devices.”
- “We will need keyboards (and, therefore, desktops or laptops) until we figure out how to richly employ voice and gesture interfaces. They will be coming along soon.”

- “We need much better navigation to let users find information and recognize useful patterns. This might take the form of dashboards or advanced navigational tools. Both are being tested today. We want to let users simulate the real world from their computer screen to aid in the decision-making process.”
- “We’ll let users compose their own activities, based on what they actually need to do. This will become so simple we’ll worry less about whether it’s very efficient. Business people know best what they need to do; business tools should let them do it.”
- “Social networking is already having an impact on business users. We are going to figure out how to combine social networking with business, both within the organization and across our value chains.”
- “This is too big for any one company; lots of partnerships are required. That makes open standards like ODF very important.”

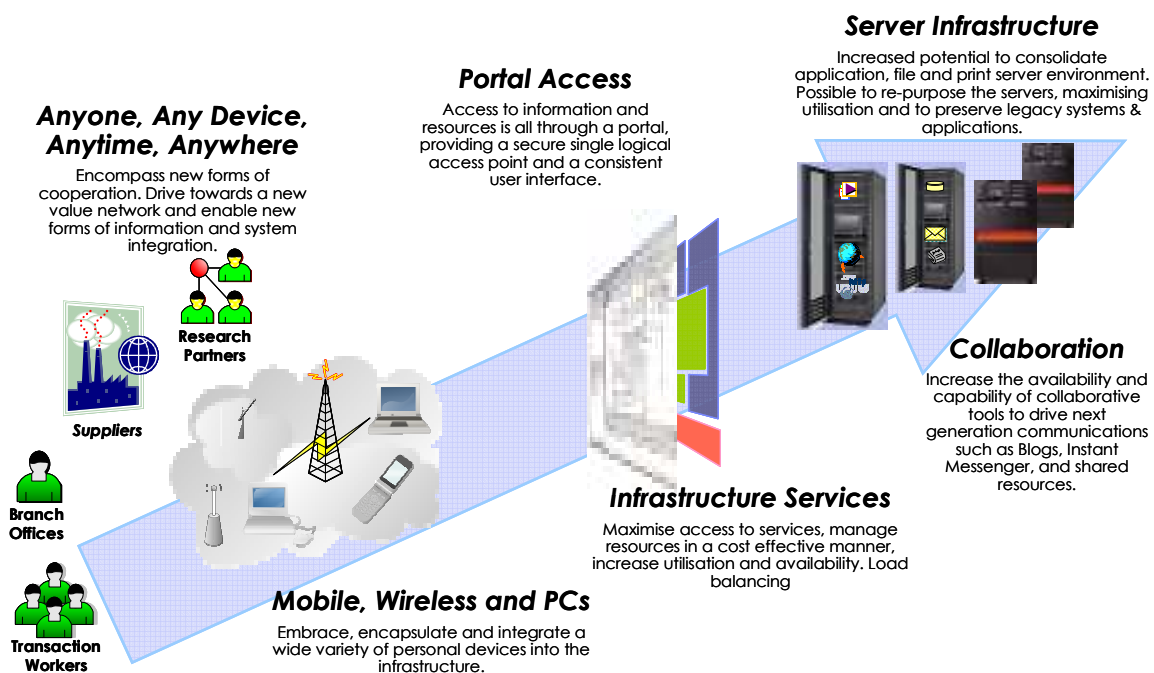


Figure 2. Emerging desktop environment

As the market evolves, we expect that several things will happen.

First, we will have more users getting their office desktop from a SaaS vendor, free or for a fee. These browser-based offerings will grow more elaborate interfaces in order to be more appealing and some will be able to do synchronizing of some sort so that users can perform off-line work.

An increase in “Web 2.0” functionality is underway; including “zero-deployment” and “mash-up” tooling. It is expected that all business software will be impacted by this trend towards greater simplification and “zero-training”. Help desk functionality may shift towards SaaS providers, disappear altogether; or become “community-supported” in nature.

Finally, desktop users will demand more sophisticated tooling; such as “mash-up” tooling that reduces the need for IT intervention. Desktop users may expect to view catalogs of SOA components, and compose new solutions “a la carte”.

Architectural Changes: In a world where users move from desktops on their desks to various mobile devices, users need an architecture that isn’t based on storing programs and information on the desktop alone. One answer to this is SaaS, best for individual applications. Another is managed-server client middleware which provides and manages role-based software to the desktop, synchronizes desktop and mobile devices, and stores documents and information so that it may be accessed and shared from anywhere.

Cognitive architectures that provide awareness, context, speech, touch, rich multi media support, search, semantics, and insights in information collections may become more important. Expanding community centric collaboration solutions to include virtual worlds, multi modal interaction including speech and touch, real-time and model driven intelligence that can provide the fine balance between self service and automation is strategic.

Major Players: In its next generation, the office desktop marketplace will look more segmented than it does today, where a single vendor provides software to the majority of corporate buyers. There will be more choices and more players, some of them broad, horizontal players, some of them focused on niche markets like Higher Education or Healthcare.

- Microsoft, with ever-evolving offerings, will continue to be a major player; its very large installed base guarantees that it will be around for a long time and allows it time to make changes in its offerings.
- At least one Linux® office desktop vendor is likely to be a major player. There are already multiple offerings in the marketplace and more combinations of technology and marketing skills are possible.
- Someone is going to figure out that what users do at their office desktops is different than the functions in the classic office suite and instead of marketing a suite will market a platform, with some office functions, and the APIs, against open standards, for an ecosystem of partners to add their applications. Here, the desktop becomes more of a management device and an interface, a partially empty (and infinite) shell, to be filled with whatever the user needs.

Partners and Ecosystems: It is no longer possible for one vendor to build all the software that anyone might need. An ecosystem of partners is a critical requirement for a successful software vendor.

The best partners are those who know the customers, their businesses, and their needs. They can help assess just what to provide and develop additional software for use with the vendor's desktop offering. Such partners are typically VARs and resellers, but can also include systems integrators, especially those with vertical specializations.

It is likely that all kinds of partners will be part of the ecosystem and that, in many cases, successful partnerships will be created among partners with varying expertise, so that the partner ecosystem won't be a list but rather a complex hierarchy.

IBM in the Marketplace

IBM offers a rich client alternative today, with synchronization, integration and roles-based segmentation. IBM will scarcely remain still and has recently announced expansion into software-as-a-service (SaaS) through the acquisition of WebDialogs, with its 500,000 users. In addition, Lotus® Connections demonstrates thought leadership in social networking for business users. IBM researchers are also 'front and center' in the "virtual worlds" initiatives with their customers.

The office desktop is changing and IBM plans to participate in that change.

IBM's 6 prong strategy provides a good starting point as well as opportunity for customers to adopt an exciting roadmap.

- 1. Adopt community centric collaboration paradigm** supported by web 2.0 technologies and associated social computing capabilities. Unified communication strategies extend this continuum. Lotus Connections, Lotus Quickr™, and Lotus Sametime® are good IBM product examples
- 2. Extend open standards to documents and repositories** (for example, using Open Document Format in Lotus Notes 8 productivity editors) to reduce dependence on proprietary formats and vendor lock-ins and to support interoperability and integration with existing environments.
- 3. Deliver flexibility and choice** of operating system, client device, and a heterogeneous desktop environment using the server managed client middleware. Example: Lotus Expeditor, products developed on it, and virtualization capabilities. This will provide more transparency to the end user.
- 4. Lead mashup and composition based** application development models and deliver associated software tools that provide a unified programming model. Example: Lotus ActiveInsight™ for assembling role-based dashboards.
- 5. Support open source** and application developer **communities**. Example: Eclipse-based framework for plug-ins across products such as Lotus Notes, Lotus Sametime



6. Provide role based execution of human interactions. Example: Activity-centric computing in Lotus Connections, Lotus Notes® 8.

IBM's Technical Benefits – Flexible Platform

IBM Lotus Notes: A consistent user experience across collaboration and communication reduces context switching.

IBM WebSphere® Portal: Application integration, segmented at the user role level which can be further customized at runtime by the business user.

SOA at the Desktop: An office desktop using IBM software will be able to publish or consume other services.

Application composition and mashups: IBM already supports some mashup function and will no doubt support much more; as seen in QEDwiki, and mashups in IBM WebSphere Portal with Google and others.

”Collective Intelligence”: IBM is just beginning to share some of their internal tools from their award-winning “w3 On Demand” workplace – identified as one of the “Top 10 Intranets”. Examples are Dogear, ManyEyes and the infamous corporate people directory which are finding their way into products such as Lotus Connections. Related innovations include advanced search using IBM Omnifind, Web 2.0 value provided by DB2 pureXML technology, WebSphere Commerce.

Future of Productivity Editors: Productivity editors aren't just for office tasks. In the IBM context they can be deployed as part of a line of business application. IBM Symphony is a step in this direction.

IBM Business Benefits

Attractive TCO: Customer analysis may include potential reduction in license costs, choice of operating system, deployment and maintenance using server-managed clients, desktop clients for business applications and application development models.

Increased flexibility: In the server-managed client middleware environment, where applications are delivered (and upgraded) according to role, every user is always working with the latest version of the software. New versions are easy to implement and – providing they meet the ease of use standards of this work environment – they should be readily accepted by users. This gives the organization the flexibility to provide new or enhanced applications to user segments at any time, responding to changes in volume or business strategy.

Better Access to new software allows new applications to be deployed more quickly and permits the organization to respond to new opportunities.

End user focus provides richer, security-rich, and simplified end user experience combined with enhanced transparency and multi/cross channel interaction.

Getting started on Desktop of the Future vision today

Organization can start with an assessment of all current desktop applications and environments and by identifying how well they are meeting current and projected needs.

The next stage involves an evaluation of alternatives in the market, and selection of one or more candidates for a pilot project or group.

The IBM open collaboration client solution provides choices for operating system, productivity editors (text, spreadsheets, and presentation), clients, and application development models. It is a complete and integrated desktop environment, including server-managed client middleware, and unified communications and social computing (<http://www.ibm.com/lotus/openclient>).



Figure 3. Open collaboration client solution

This strategy is particularly well suited for Lotus Notes customers but should be considered by any organization looking for alternatives.

The desktop market is changing from a monolithic market with few choices to a market with many alternatives. As CIO's consider the alternatives – and the opportunities – the IBM combination of experience, expertise, and attractive-cost, readily tailored solutions will be a very appealing choice.

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IBM Corporation
Software Group
Route 100
Somers, NY 10589

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