

Integrated Office Agenda

- ◆ Introduction
- ◆ Integrated Office
 - ◆ Market Overview
 - ◆ Vision
 - ◆ User Activities
 - ◆ Benefits
- ◆ Schedule
- ◆ Process
- ◆ Issues

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Introduction

- ◆ Just getting started
- ◆ Past efforts give head start
 - ◆ UI convergence
 - ◆ OLE
 - ◆ OB
 - ◆ Our great apps
- ◆ This meeting
 - ◆ Review overall direction
 - ◆ Get input
 - ◆ Start brainstorming

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TRIAL EXHIBIT 1735

Plaintiff's Exhibit

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Market Rationale for Integrated Office

- ◆ Dramatic increase in demand for "Office Suite" type products
- ◆ Consistency and integration are becoming important software purchase criteria
- ◆ Leverage our control of platform technology
 - ◆ Allow our apps to anticipate the coming "left turn" of platform
 - ◆ Repeat advantage we gained from bet on Windows
- ◆ High development cost increase entry barrier for competitors

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Why Is This Is Not Another Symphony/Framework ?

- ◆ Components will be proven best of breed
- ◆ Integrated Office will be open architecture (?)
- ◆ Single components already merging UI: fewer artificial compromises

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Integrated Office Vision

- ◆ **Combines world-class applications**
 - ◆ Product-specific features continue to evolve
 - ◆ Slim-ship with stand alone products
- ◆ **Feels like one application**
 - ◆ Strong unifying metaphors
 - ◆ Cross-app activities are as easy as in-app activities
 - ◆ Unifies activities that are common across document types
 - ◆ High performance and efficient working set
- ◆ **Extensible and configurable**
 - ◆ Components can be added, removed or replaced
 - ◆ Easy to use tools for building and customizing UI
 - ◆ Programmable
- ◆ **Microsoft's highest-volume desktop product**

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Key User Activities (excluding category-specific features)

- ◆ **Working with documents**
 - ◆ Creating, using, modifying, saving documents
 - ◆ Working with compound documents
 - ◆ Working with groups of documents
- ◆ **Working with other users**
 - ◆ Mail, BBS, routing, doc library, collaboration
 - ◆ Most of these are not product-specific
- ◆ **Working with information**
 - ◆ Finding, retrieving, analyzing, updating, database access

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Key User Activities (cont.)

- ◆ Customizing
 - ◆ Adjusting UI
 - ◆ Adding/removing capabilities
 - ◆ Automating tasks
 - ◆ Building new systems with Office components
 - ◆ May be done by: end user, MIS, ISVs or Microsoft (at different levels, of sophistication)
- ◆ Learning
 - ◆ Consistency, help, cue cards, help channel, tip wizard

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Benefits to End Users

- ◆ Synergy between applications
- ◆ Easier to work with mixed document types
- ◆ Products more closely tailored to their needs
 - ◆ by themselves
 - ◆ by their MIS departments
 - ◆ by ISVs
 - ◆ by Microsoft
- ◆ Freedom to choose appropriate apps
 - ◆ high vs low end
 - ◆ specialized apps
- ◆ Reduced working sets.
- ◆ Higher performance for mixed app activities
- ◆ Easier installation and upgrading

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Benefits to MIS & System Integrators,

- ◆ Platform for targeted solutions
 - ◆ Easier to create solutions targeted at exact requirements
 - ◆ Office as run-time for custom solutions
 - ◆ Easier to maintain
 - ◆ More robust
 - ◆ Building blocks for down sizing
 - ◆ Opportunity for 3rd parties to offer add-ins, vertical products or services
 - ◆ Security?
 - ◆ Real time processing?
- ◆ Business Opportunity
- ◆ Reduced training costs



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Benefits to Microsoft

- ◆ More customers buy the office suite
- ◆ Lock in users, lock out competition
- ◆ More features possible through extensibility
- ◆ Development efficiency
- ◆ Opportunity for industry-specific solutions
- ◆ Steady revenue flow through annual licenses
- ◆ "Paradigm shift"
 - ◆ New class of application: integrated but open
- ◆ ORGANIZATIONAL

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Integrated Office Contents

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- ◆ Standard Edition
 - ◆ Word processor (Word)
 - ◆ Spreadsheet (Excel)
 - ◆ Presentation (Powerpoint)
 - ◆ Drawing
 - ◆ Charting
 - ◆ List manager (low end database)
 - ◆ PIM (Ren?)
 - ◆ ISAM? Query Tool? Document library?
- ◆ "Professional Edition" adds
 - ◆ High end database (Access)
 - ◆ Data analysis (Alchemy)
 - ◆ Other add-ins
 - ◆ OB development environment
 - ◆ Library of custom controls

old chart

"Home Office"

"developer office"

"small Biz office"

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Also Interfaces Tightly With

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- ◆ Mail
- ◆ PIM (Ren)
- ◆ BBS (Cairo, Notes?)
- ◆ Document routing
- ◆ Project management
- ◆ Smart office equipment
- ◆ Hand-held computers
- ◆ Notes?

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User Concepts to Unify

(Also implies code sharing)

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- Charting, Drawing
- Tool bar/tool bar customization
- Options/Settings
- Proofing tools
- Print Preview
- Mail
- Document Library
- Property sheets e.g. Font, borders
- Styles
- Print layout, headers, footers, etc.
- Workbooks
- Outlining
- Tables/spreadsheet grid
- Annotation
- Naming
- UI customization
- Add-in management

FORMS

"Paper"

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Other Code to Unify

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- Event loop
- Layer
- Memory manager
- Undo handler
- Forms
- OLE support
- Rich text editor
- Filters
- Rascal
- Data access
- ODB

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UI Demos & Examples

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- ◆ Mini-Office
 - ◆ Floating tool bar/launcher for office apps
- ◆ Workbook
 - ◆ Integrated Office container based on the Excel 5 workbook metaphor

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Reno

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- ◆ Pure object oriented, document centric interface
 - ◆ SDI
 - ◆ Provides consistent container hierarchy starting at compound document components all the way up to the shell
 - ◆ Unify frames and Windows
- ◆ Minimize number of concepts user needs to know
- ◆ De-emphasize menu bar
- ◆ Emphasize popup menus and property sheets

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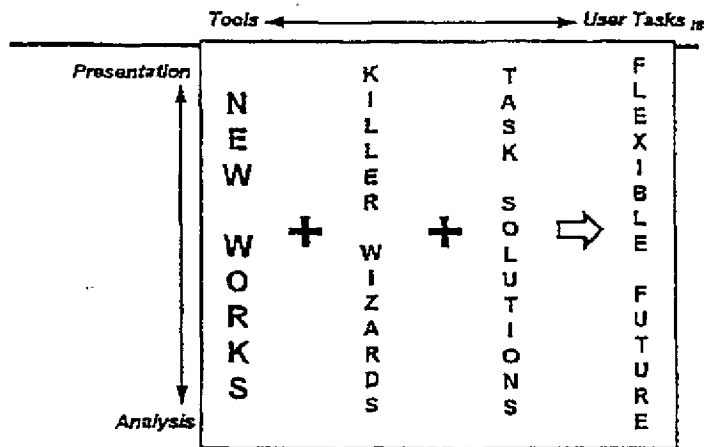
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- ◆ Spectrum of uses ranges from Tools to Wizards to User Tasks
- Product should be designed to accommodate spectrum
- ◆ Focus is on creating engines or servers that are UI independent

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Product Spectrum

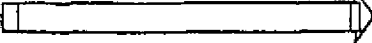


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Tool-centric Works Product

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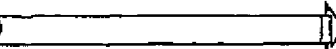
Tools  User Tasks

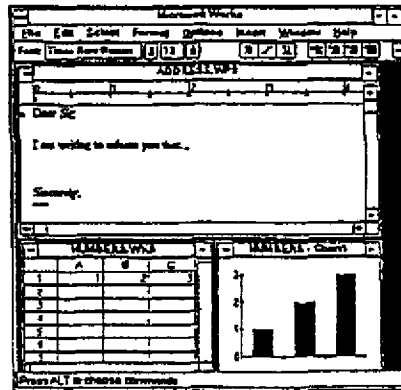
- Set of applications is fixed.
- Templates are passive.
- Set of wizards is fixed.
- Wizards are appendages.

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Tool-centric Works Product (Example)

 User Tasks



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Works With Killer Wizards User Tasks²¹

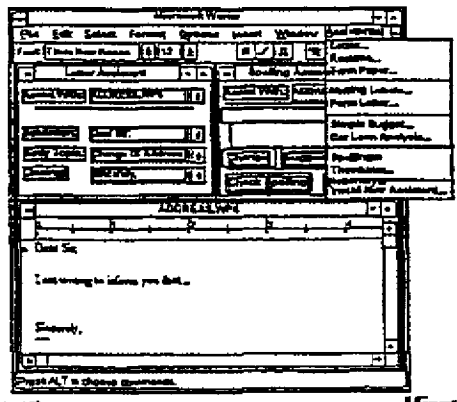
- Set of applications is still fixed.
- Templates are active and generate events.
- Wizards are installable integrated components.

- Wizards get extensive control over document content without any "special" work by architecture or engine teams.
- Wizards become mini-task solutions that work as "assistants" to the Works tools.
- Wizards can be invoked either in the context of a tool or on their own, in which case they bring up a template document.

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Works With Killer Wizards (Example) User Tasks



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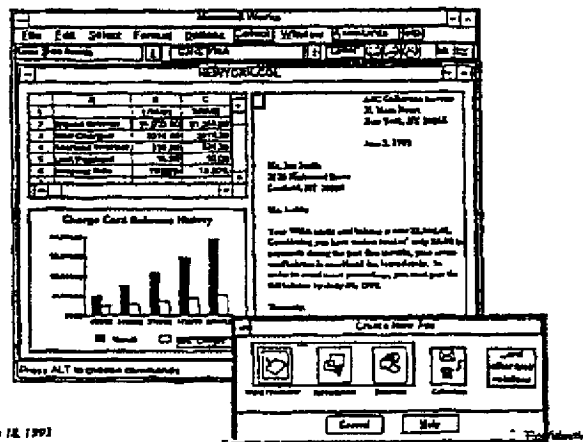
Works With Task Solutions User Tasks²³

- Set of applications can be configured at runtime.
 - Set of applications includes task solutions.
 - Templates are active and generate events.
 - Wizards are installable integrated components.
- Task solutions get their own command sets (e.g. menu commands, toolbar buttons) just like standard Works tools do.
 - Task solutions can expose only the engine functionality that is relevant to the task at hand.
 - Works tools can be used to perform ad-hoc analysis or create presentations derived from data that was originally entered into task documents.

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Works With Task Solutions (Example) User Tasks²¹



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Integrated Office Process (proposal)

Is this the best process? Other alternatives?

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- ◆ Confirm vision and fill in details
 - ◆ Interop, apps marketing, DAD product groups
- ◆ Write spec and develop prototype
 - ◆ Interop/Word/Excel partnership
 - ◆ Interop starts asap (need to staff up)
 - ◆ Word and Excel each assign a full time program manager as soon as available
- ◆ Investigate code sharing, modularity, other technical challenges
 - ◆ Initially an Interop/Word/Excel partnership
 - ◆ Proposal: Word and Excel each assign 1 or 2 developers to work together merging the code looking for what can be shared.
 - ◆ Interop starts thinking about necessary architecture
- ◆ Provide input to Chicago, Cairo, OB and forms effort

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Other Related Activities

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- ◆ Ship OLE 2.0: OLE 16, Mac OLE, NT OLE
- ◆ Ship 1993 apps with "core feature set"
- ◆ Chicago phase OLE
 - ◆ Meet with product groups to determine feature set (Must include capability for extensible interfaces)
 - ◆ Develop and ship in time for Chicago
- ◆ Determine "Core Features" for Chicago phase apps
 - ◆ IDG has already started this
- ◆ Coordinate implementation of programmability
 - ◆ Want to limit divergence
 - ◆ Create a small IDG-like team (in Interop?) to coordinate product groups work on exposing OB interfaces. Associated with Int.Off.
- ◆ Works group develops Peoria based on integrating components with OLE 2? Coordinate with Int.Off.

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Schedule (hypothetical)

What is the best way to stage the work? First priorities?

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- ◆ Version 0.5 - 6/94 (3 yr plan dates)
 - ◆ Universal container to ship with "Chicago Office" (MDI, workbook, or...?)
 - ◆ Integrate using OLE
- ◆ Version 1 - 6/95
 - ◆ More components integrate with major apps through OLE (handlers?)
 - ◆ All major apps use WLM on Mac. Reduce reliance on SDM.
 - ◆ Support cross-app controls, converge object models, share more code
 - ◆ Excellent integration with shared top level container
- ◆ Version 2 - 6/96
 - ◆ Word, Excel and Powerpoint can share same process space (Shared components are in DLLs. Presumably with component object model interfaces.)
 - ◆ UI and performance makes it feel like one app
 - ◆ More radical user model change?

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Issues

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Paradigm Shift?

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- ◆ Is this enough of a "left turn"?
(Integrated products have been done before.)
- ◆ We are integrating all full featured products.
- ◆ Integrated but open and extensible product?
- ◆ Integration with the OS through OLE and Component Object Model?
- ◆ UI customizability with our forms technology?
- ◆ Cross app programmability with a single macro language.
- ◆ What key features will be hard for competitors to follow?

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Platforms

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- ◆ Use of platform-specific features
 - ◆ Win 3.1
 - Provide Chicago-compatible OLE DLLs?
 - Extensible interfaces?
 - ◆ Chicago
 - Tray, common dialogs, property sheets, mail UI, PIM
 - ◆ Cairo
 - As above, plus explorer, smart folders, security, indexes
 - ◆ Mac
 - Does not have these features
- ◆ 1996: Target Chicago. Will benefit from "free" OLE-based features on Cairo. Mac if possible.
 - Assume most users upgrade to Chicago
 - Too much dependence on Cairo in 1996 time frame will limit market
 - Need to supply system extensions on Mac
- ◆ How distinctive can Integrated Office be?
 - e.g. Mail & PIM part of system, won't have Integrated Office extensions.

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Product Compatibility

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- ◆ **Backward compatibility**
 - ◆ Fully unifying products could require incompatible changes. How much should we constrain the design to avoid this?
 - ◆ Possible examples
 - ◆ Unifying tables and spreadsheet grid
 - ◆ Styles
 - ◆ Naming in Word and Excel
- ◆ **Would want to sim-ship stand-alone products**
 - ◆ Architecture needs to make it possible to update applications, mini-servers and accessories reasonably independently.

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User Interface Issues

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- ◆ **Assume standard UI is document-centric**
 - ◆ Apps much less visible. User focus is on documents.
 - ◆ Commands and tools come and go as needed based on selection
 - ◆ Some commands and tools are always available. e.g. spell check
 - ◆ Create new documents by replicating templates or "stationery"
 - ◆ Also need to incorporate non-document oriented tools
- ◆ **What should the top level container be?**
 - ◆ Cairo/Chicago Shell (pure SDI)
 - ◆ Mixed MDI workspace
 - ◆ Tab-based workbook or hanging file folder
 - ◆ Word
 - ◆ Other?
 - ◆ Task-specific applications
 - ◆ User supplied specialized UI

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Code structure

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- ◆ Single process vs multi process
 - ◆ Ideally, all key components would be in a single process space (all frequently used components of "Standard Edition")
 - ◆ Higher performance and smaller code size
 - ◆ However, more work up front
- ◆ Importance of architectural purity
 - ◆ Interfaces of shared modules based on Component Object Model
 - ◆ How important is UI independence of engines?
 - ◆ Tradeoff is speed of first release vs eventual ability to rev faster.
- ◆ How important a priority is scalability?
 - ◆ Ability to accommodate a variety of engine types with different levels of power
 - ◆ Easier to build in specific engines, at least in first release
 - ◆ But we will eventually be able to be able to move forward faster if build it in from the start.

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Low End Strategy

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- ◆ Do we need a low end integrated product?
- ◆ Is it Peoria or stripped down Integrated Office?
- ◆ How tightly should we try to unify Integrated Office work with Peoria?
- ◆ Positioning Of Works Vs. Office

◆ <u>Works</u>	◆ <u>Office</u>
◆ Entry User Feature Set	◆ User Programmable
◆ Entry User Wizards Tasks	◆ Workgroup Support
◆ Entry User UI	◆ Product Depth
◆ Size of Product	

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