



## Environment

### *Industry and economy*

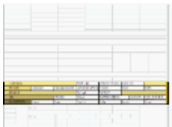
- ❖ Services: move out of Europe – IBM plans to cut up to 4% of its workforce (mostly in Europe). A combination of factors (e.g. high costs, slow growth) makes Europe a relatively unattractive place to employ IT people.



## Business tools – produce, collaborate, organise knowledge

### *Collaborate*

- ❖ Collaboration: Hula – will be a groupware calendar and mail server built on open Internet standards such as SMTP, IMAP, iCalendar and the emerging CalDAV calendar access protocol. It will have an extensible architecture to facilitate integration with other projects such as Open-Xchange; Thunderbird (email client); Sunbird (calendar tool). Various open email clients (e.g. Novell's Evolution, Thunderbird) can already use Hula's mail and contact services and it is hoped that Outlook could be connected via open standards. The goal is to make Hula to collaboration software what Apache is to WS.



## Software infrastructures

### *Presentation & integration*

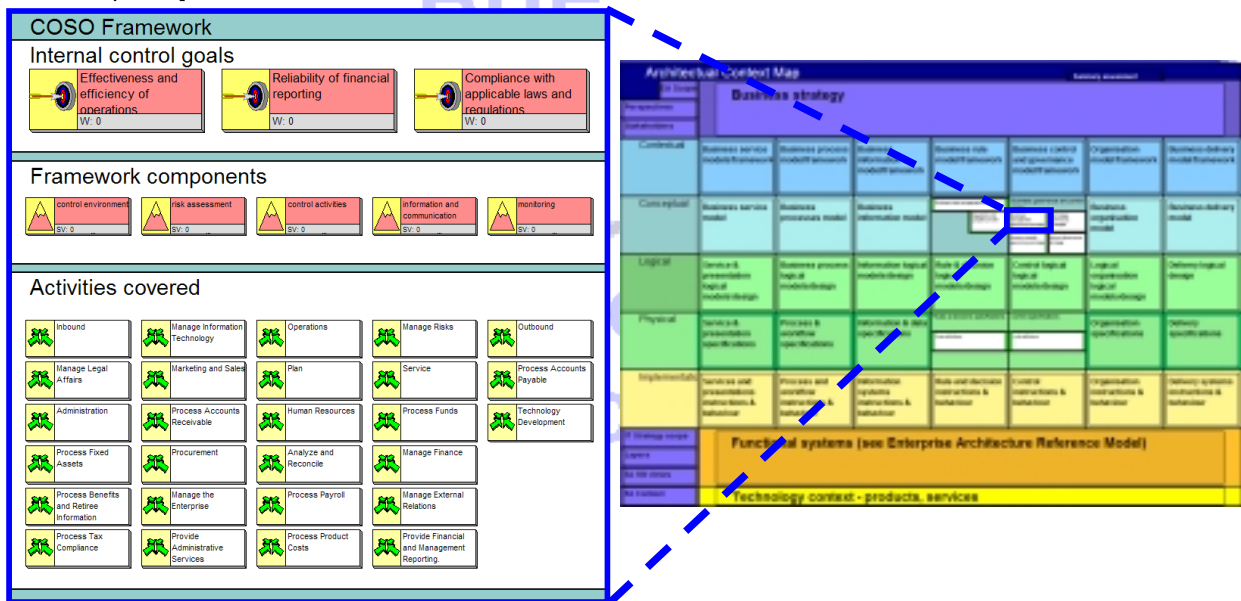
- ❖ Presentation voice: Opera EPG – electronic program guide gives consumers voice control of their devices (DVDs, DVRs etc.). It is written in XHTML+Voice (a language for multimodal web applications), which was developed by Opera, Motorola and IBM.
- ❖ Presentation voice: Voice with IBM/Cisco – WebSphere Voice Server combines the app server with tools for developing/deploying speech-enabled apps. Cisco's Customer Voice Portal is IVR SW that combines call-management with support for speech recognition and text-to-speech technologies. Together they provide a platform for launching applications that let callers use speech commands to perform transactions.
- ❖ Presentation documents: Metro more – Metro is a way to save intelligent views from within any application so that they can be opened or viewed by individuals who do not have the application that created the views. They can also be sent to a printer for printing [about time]. If MS is so inclined, it should be able to get good support from printer manufacturers for Metro, making networked printing easier.

### *Service & process*

- ❖ BP: CA CleverPath Aion 10 – is design for defining, implementing, monitoring and managing BP. It also supports workflow implementation and management, which includes human-to-human, system-to-human and system-to-system interactions. It combines a new BPM module with the existing BR module.

*Rule & formula*

- ❖ COSO Framework: Business rules that directly support an organisation's strategy represent about 2-3% of the rules an Enterprise must comply with. Most of the rules come from the environment e.g. regulators. The COSO (Committee of Sponsoring Organizations of the Treadway Commission) Framework is a basis for internal control and reporting standards and translates into policies, procedures, and business rule sets. In COSO, internal control is defined as "a process, effected by an entity's board of directors, management and other personnel, designed to provide reasonable assurance regarding the achievement of objectives in: effectiveness and efficiency of operations; reliability of financial reporting; compliance with applicable laws and regulations". The COSO framework has 5 interrelated components: control environment (people and their environment), risk assessment (identify, analyze, and manage risks related to objectives), control activities (policies and procedures), information and communication, and monitoring. The Sarbanes-Oxley (SOX) Act leveraged off COSO work and two sections of SOX (302 and 404a) deal with the internal controls ensuring the accuracy of data (and relate to the systems that a company uses to control, transmit, and calculate the data that is used in their financial reports). SOX 404a requires the framework used by management to evaluate the effectiveness of internal control to be identified and its effectiveness in financial reports to be attested to. Often the path from legislation (Zachman context) to operational rules (Zachman physical) is at best unclear. COSO requires rules to be documented in policies and procedures (Zachman concept/logical) and these can form part of a linkage between the upper and lower levels of a Zachman model [or RHE's ACM. ACM and COSO are available as Metis Templates].



*Data & metadata*

- ❖ EII: IBM WebSphere Data Integration Suite – (ex Ascential) will include a new UI, new metadata profiling and enhanced linkage between Ascential's DataStage TX transactional and operational data-integration software and IBM's WBI Message Broker.

*Implementation*

- ❖ Presentation: XAML Flash – Xamlon Pro Flash Edition allows developers to write Flash application UIs using XAML so that instead of using Flash MX (Adobe/Macromedia) to create the UI, developers can use Xamlon's Flash product. This allows developers to create the UIs using standards-based XML (so one does not require graphics designers to do the Flash work). XAML separates the UI code from application logic and a β version of Avalon (MS's advanced graphics subsystem based on XAML) is due this year.

- ❖ Presentation: XForms – seems to be coming of age e.g. Chibacon Chiba is a server-based engine, written in Java, that dynamically transforms XForms markup into something that Web browsers can digest (Chiba can also run on the client in a hidden Java applet). DENG is a Flash-based engine that runs on any browser and, when combined with UGO, provides an interesting solution. The x-port FormsPlayer now has enhanced SVG integration as well as a voice interface. Firefox uses code from IBM, Novell et. al. to implement XForms in an optimized way so that XForms will be supported on all platforms that Mozilla runs on. Orbeon (PresentationServer and Orbeon Studio) is an open source presentation server and Eclipse-based IDE for developing XML-based applications whose run-time UI is specified in XForms. PureEdge 8x is a collection of tools for e-forms creation, distribution, and management that uses XForms to create an e-form's UI. IBM's XML Forms Generator is used for developing XML formats that can tie into BP using WS and JavaServer Pages response templates (Forms adhere to XHTML and XForms 1.0).
- ❖ XML Editors: A third party evaluation – recommendations: For Advanced users (who use the whole spectrum of XML, write XML documents, stylesheets to publish HTML, PDF etc.): Emacs, Exchanger or Oxygen (best). User's who work in the XML itself (because of the extensive/complex encoding their work requires): Emacs, Exchanger (best) or Oxygen; Intermediate users in XML encoding (familiar with the XML but would rather work in a WYSIWYG, but sometimes they have to edit invalid documents or encode more complex structures that forces them to work in the XML code): Epic Editor, Oxygen, Serna and XMetal (best). WYSIWYG users: Authentic, Serna, XMetal (Best) and Open Office. Oxygen was high on the list for most people and when combined with XMetal or OpenOffice would meet all sets of users needs. IBM is releasing an XML forms generator that can be used for exposing WS via WSDL – this is new so was not evaluated. The Compound XML Document Editor is for dealing with documents using: XHTML, XForms, XML-Events, SMIL, XUL, SVG, VoiceXML, MathML etc.

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## Platform – clients

### *Clients mobile*

- ❖ PDA: PDA sales up – 3.4m units (up 25%); the average selling price rose by 15% to \$406. Most (55%) where PDAs with WLAN+mobile phone capabilities. The provision of QWERTY keyboards is driving growth [as few like the pesky hand writing recognition technologies]; PalmOne PDA shipments dropped 26%. MS's Windows CE was the top PDA OS with 46% of the market.

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## Platform – servers

### *Appliances*

- ❖ NW: Cisco Adaptive Security Appliance 5500 – includes VPN services, such as remote IPsec and SSL VPN capabilities, as well as QoS capabilities and general routing. Threat-defense services include worm and virus mitigation, spyware/adware protection, network traffic microinspection, hacker and intrusion prevention and denial-of-service prevention.

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## Platform – utilities, storage, networking, management and security

### *Storage*

- ❖ Storage: Hospitals MAID – hospitals manage huge amounts of data (medical imaging, scanned patient records etc.); some are moving to MAID (massive array of idle or independent disks) to cut backup times, reduce space requirements and cut power requirements. Copan and Exavio produce MAID solutions and prices range from \$3 to \$5 per gigabyte, depending on the configuration, the amount of redundancy and total capacity. MAID systems use arrays of relatively inexpensive ATA disk drives that power down when idle in an effort to extend media life and save on power use. By spinning up only when they write or read data, the arrays use less power, mitigating heat issues and allowing drives to be packed more densely into the system. Idle disk drives require about 10 seconds to spin up, but once online, they provide faster access to archived data than tape does.

### *Network*

- ❖ WiMax: Intel PRO/Wireless 5116 – live demos illustrate high-speed (7Mbit/se+) access over a 200-square-km area around Las Vegas.

- ❖ WiMax: Speakeasy WiMax – launch an Internet access service for businesses (starting in Seattle) that is faster/easier to deploy than its current DSL service.

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## Governance and quality

### *Development and delivery*

- ❖ Presentation: Ajax – Ajax (asynchronous JavaScript and XML) is the confluence of a number of technologies e.g. standards-based presentation using XHTML/CSS, dynamic display/interaction using the DOM, data interchange/manipulation using XML/XSLT, asynchronous data retrieval using XMLHttpRequest and JavaScript. Google Maps is built using Ajax.
- ❖ EA: Business linkage – Infoworld discusses EA under a number of headings. Its summary said "in reality, we probably could have boiled them down to one: the business-driven architecture. No matter which design buzzword you choose these days: SOA, ILM, virtualization etc., chances are there's a business driver behind it. Never before has the business side had such a direct, quick, and forceful impact on how IT environments are being designed and refreshed. And never before have CIOs -and even CEOs – been as interested in architecture. Architectural principles have been raised to the level of the CIO.". The following three items are from this Infoworld article (which is in our EA Approach document repository).
- ❖ EA: Information Architecture – Enterprises are increasingly focusing on: improving data/content management, unifying their enterprise-wide data and designing architectures to maximize the usefulness/accessibility of that data to reduce costs and make better decisions. Bad (error-ridden, inconsistent, obsolete data) or inaccessible data slows Bp, hinders automation and impedes optimal decision making. The usual starting point is rationalizing the "master data" at the heart of the business (which is usually spread across many systems).
- ❖ EA: Process architectures – Good CIOs are ensuring their people become more process-centric and look for architectures that will let them be more flexible with their BP. IT must start with process strategy (then design, then execution). The business side must first formally define its processes as the degree to which you can automate depends on the clarity the customer has around their processes. If the business isn't willing to put in the work and make trade-offs, it's very difficult. IT must be able to model and implement a process-driven architecture at an abstract level, enabling rapid change as processes change and thereby providing more flexibility to the business.
- ❖ EA: Focus on context and concept – Gartner says "Over the last few years, 85% of the work of architects has been in the physical and logical layers, but we are now moving to 50% in the business layer.". [At last] Contextual and conceptual are the top layers in models like Zachman (with Logical & Physical being the bottom two, more technical, layers).

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## Governance and quality – Standards

### *Collaborate*

- ❖ Calendaring: CalDAV (extending WebDAV) permits calendar sharing over the Web – and reduces the co-ordination cost of scheduling meetings across and within organizational boundaries. In 1996, Netscape formed a working group that became the IETF's Calendaring and Scheduling (CalSch) working group. It was built on an earlier spec called vCalendar and produced iCalendar (a non-XML format) and iTIP (iCalendar Transport-Independent Interoperability Protocol). CAP (Calendar Access protocol) provided services that calendars could use to access items from remote servers, schedule meetings etc. but died last year. The major vendors (IBM and MS) will attempt to stall the adoption of interoperable calendaring in the same way that they stalled the adoption of interoperable email – but will adopt it quickly when it is demanded by the market (i.e. just as MS Mail and Lotus mail quickly supported the internet mail standards).

### *Rule & formulas*

- ❖ Rules: The vote on OMG's BRT's SBVR – has been delayed until June. A goal is to align SBVR with ODM. The grounding of SBVR in formal logic will be made more explicit. "Business Rules Management RFP" has been re-scoped and renamed "Business Vocabulary and Business Rules Management RFP" (BVRM).

*Network*

- ❖ NW: UWB Divided – Bluetooth SIG is to work with the two competing UWB camps (WiMedia Alliance and the UWB Forum). UWB is designed to deliver much greater bandwidth than a Wi-Fi wireless LAN over a distance of only a few metres. The WiMedia Alliance (Intel, Sony, MS, HP et al) expects members to begin shipping UWB (480Mbps over 2 to 4 metres) products by the end of 2005. The UWB Forum (Motorola et al) says its technology can scale from 100Mbps to 2Gbps and is eager to explore ways to take advantage of Bluetooth (e.g. Bluetooth running on top of UWB, along with IEEE 1394, and USB running on top of UWB).

