UC²

IBM

IBM SOA ARCHITECT SUMMIT
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Communications & Collaboration
Enabled Business Processes

Profile	Communities	Blogs	Dogear	⌄
Activities	Files			

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Send Mail | Chat | More Actions▾

Leveraging Unified Communications and
Collaboration plus Smart SOA Strategies
for Integrated Text, Voice, and Video
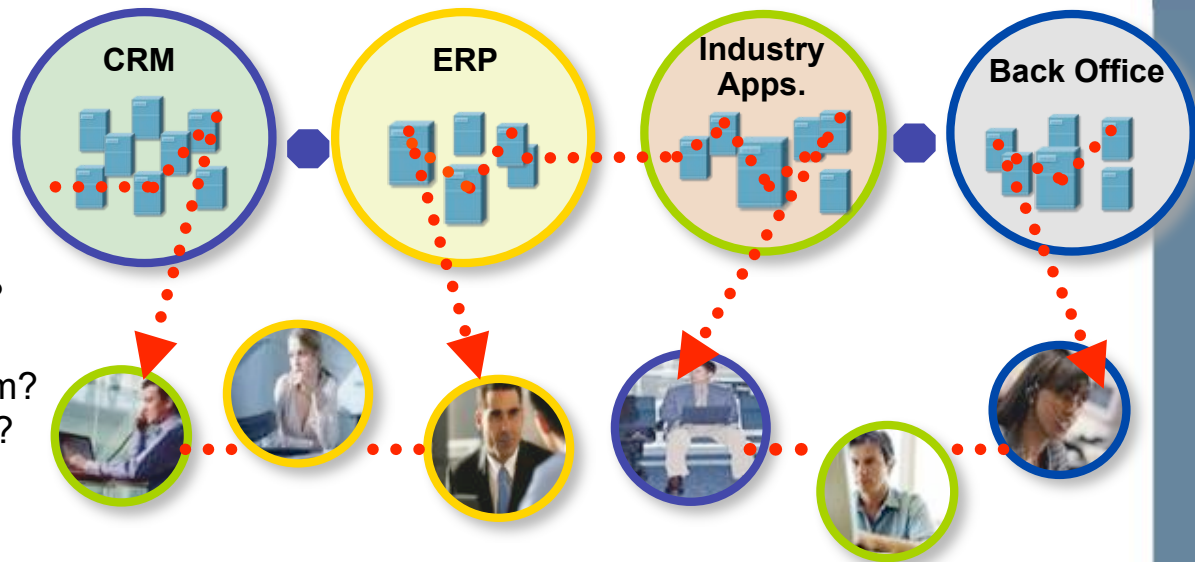
UC Continuum – Telephony Model
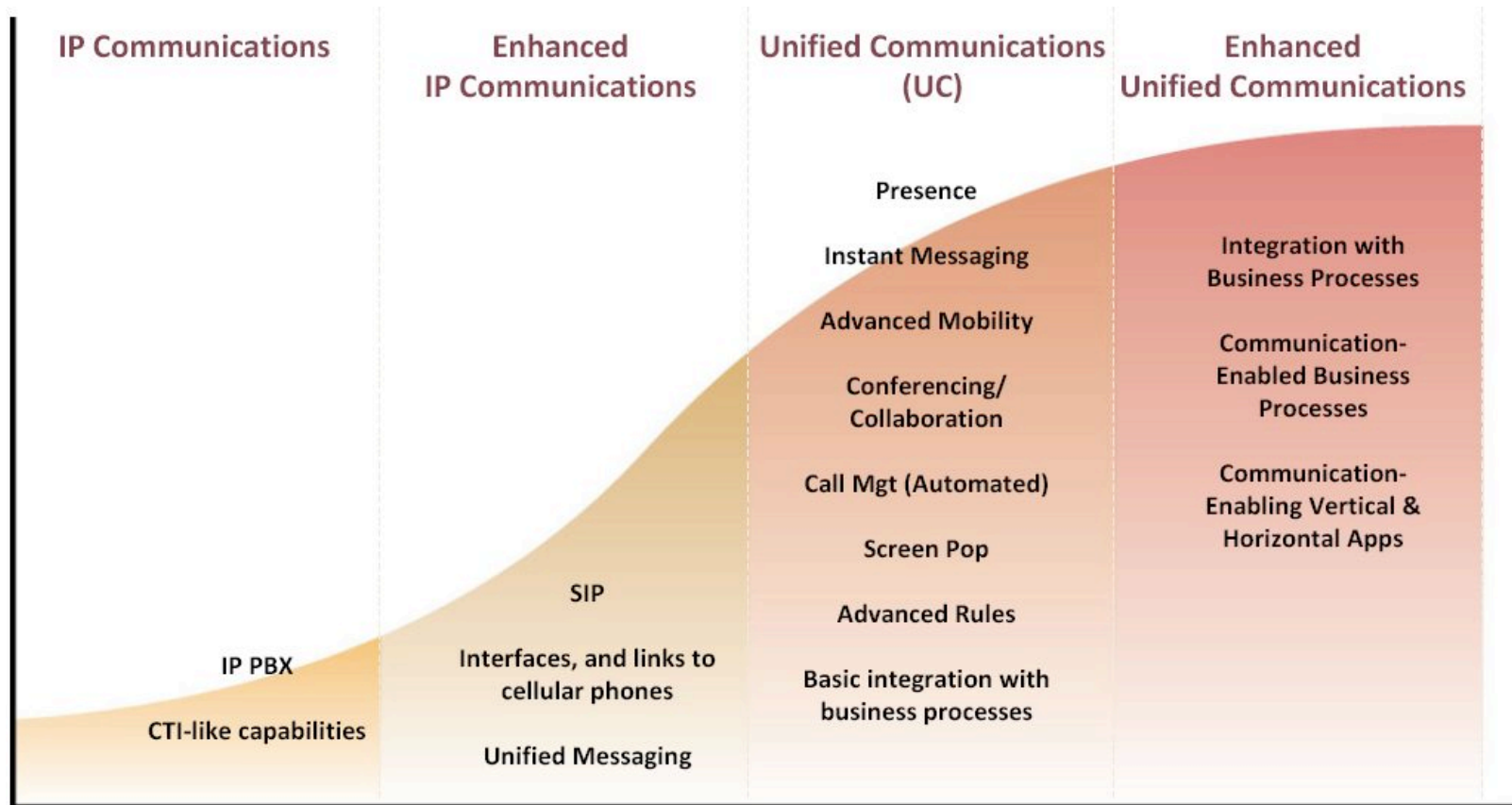
The Need For Communications Enabled Business Processes

Current Reality

Communication/collaboration required

- Exception: Who should I ring ?
- Approval: Who is available and Where ?
- Teaming: Who do we get together ?
- Expertise: Who and how do I reach them?
- Location: How do I reach the sales rep ?

CRM   ERP   Industry Apps.   Back Office

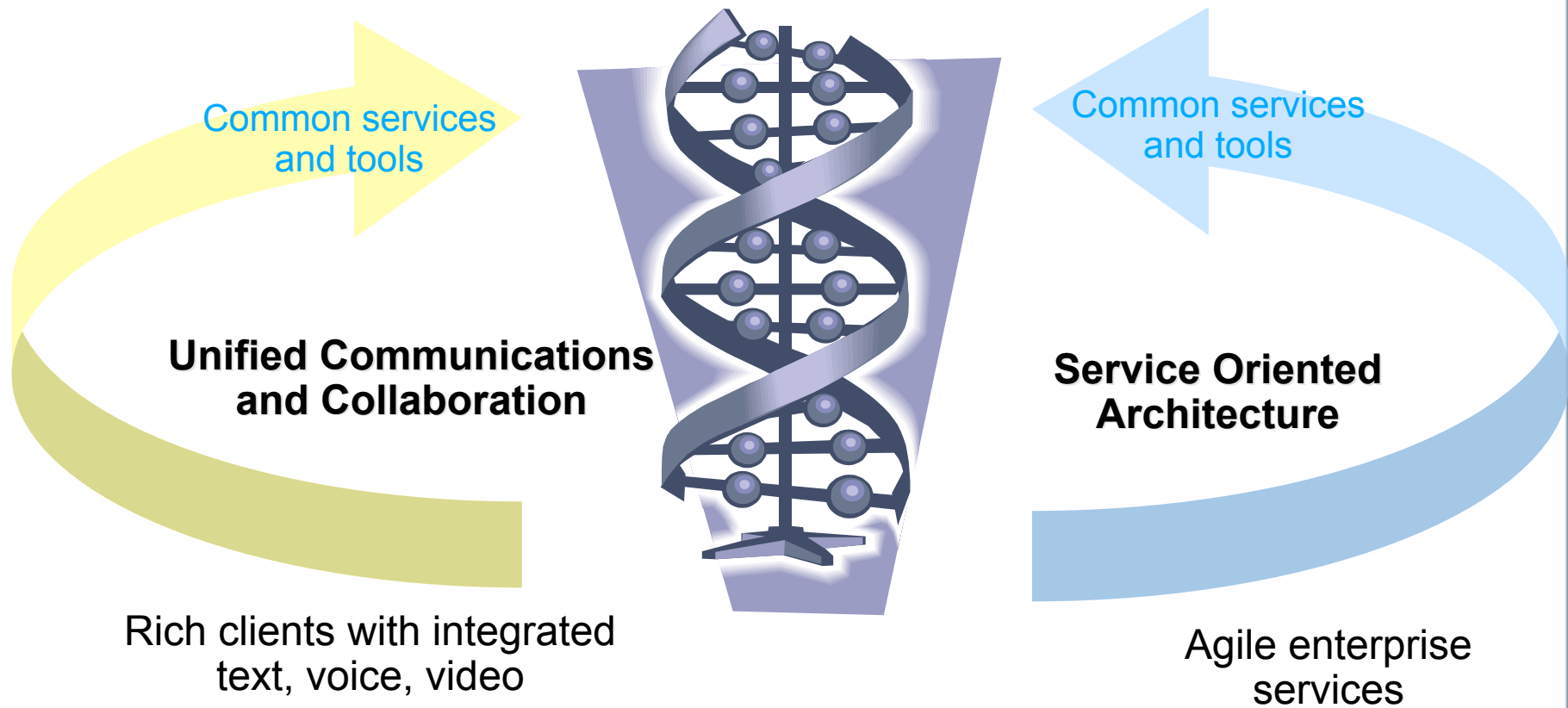## Unified Communications Streamlines Business Processes

Embed UCC and SOA tools into process to

- Increase Contextual Collaboration
- Reduce decision latency,
- Speed up teaming
- Improve Expertise Location
- Improve Customer Service

Kelly Hardart
Please join me...
Invited Participants (1)
Heather Reeds
Text-to-speech   Voice mail   Forward   Join

CRM   ERP   Industry Apps.   Back Office

The DNA of Communications Enabled Business Processes

Enabling simple and rapid integration of communication services within applications and business processes for intelligent communications that incorporate text, voice, and video
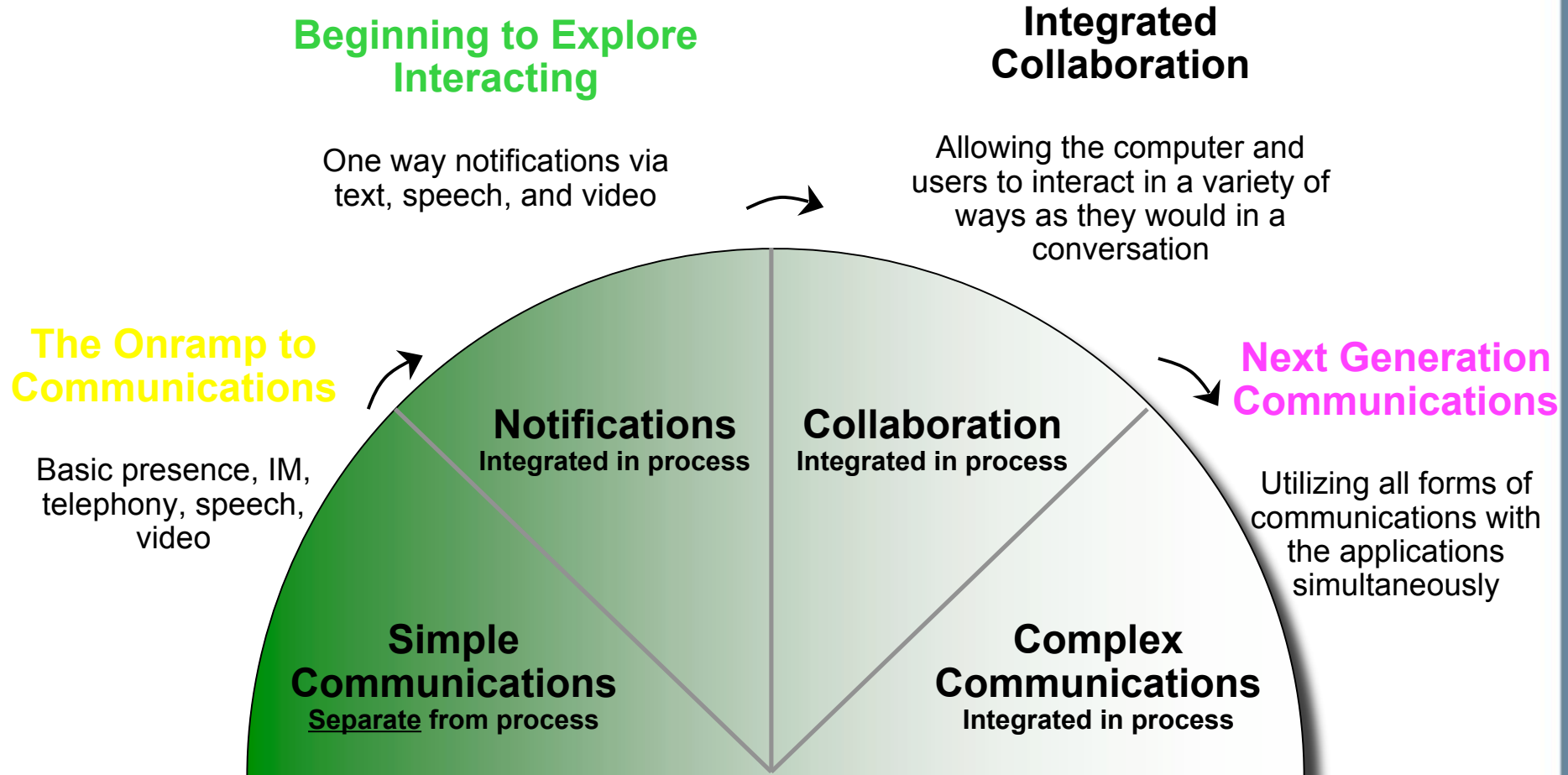
Common services
and tools

Common services
and tools

**Unified Communications
and Collaboration**

**Service Oriented
Architecture**

Rich clients with integrated
text, voice, video

Agile enterprise
services

Tenets of the Strategy

- The UC^2 principles, technologies, and partner ecosystem help drive the integration of text, data, voice, and video in CEBP

- The SOA programming model is our technical common ground

- While many of these communications technologies and components exist today, there exists a large opportunity to deliver a set of common communications services and tooling for CEBP

- We need to adapt these services to how people prefer to work, using rich clients as well as agile servers

- Web services can be built and deployed within existing infrastructures server-side (using WebSphere) and/or client-side (using Lotus)

- APIs, services, and widgets available through WAS, Process Server, Commerce Server, Portal Server, Sametime, Notes, and Expeditor; using a common set of tools through Rational; implementing a common SOA approach

- Communications enablement applicability across industries and across vertical applications (CRM, PLM, SCM, ERP, etc.)

Services include:

- Messaging services: IM, e-mail, calendaring integrating text, audio, and video; using Web 2.0, Eclipse, OSGi, XML, portlets

- Presence services: desktop presence, mobile presence, telephony presence

- Profile services: Rules, including communications profiles defining how best to establish and intelligently route communications

- Voice services: Voice and speech services using VoIP, TTS, ASR, VoiceXML

- Video services: Video integration in Web conferencing and rich desktop collaborations

Implementation Stages in Communications Enabled Business Processes

Beginning to Explore Interacting

One way notifications via text, speech, and video

Integrated Collaboration

Allowing the computer and users to interact in a variety of ways as they would in a conversation

The Onramp to Communications

Basic presence, IM, telephony, speech, video

Next Generation Communications

Utilizing all forms of communications with the applications simultaneously

Notifications
Integrated in process

Collaboration
Integrated in process

Simple Communications
Separate from process

Complex Communications
Integrated in process
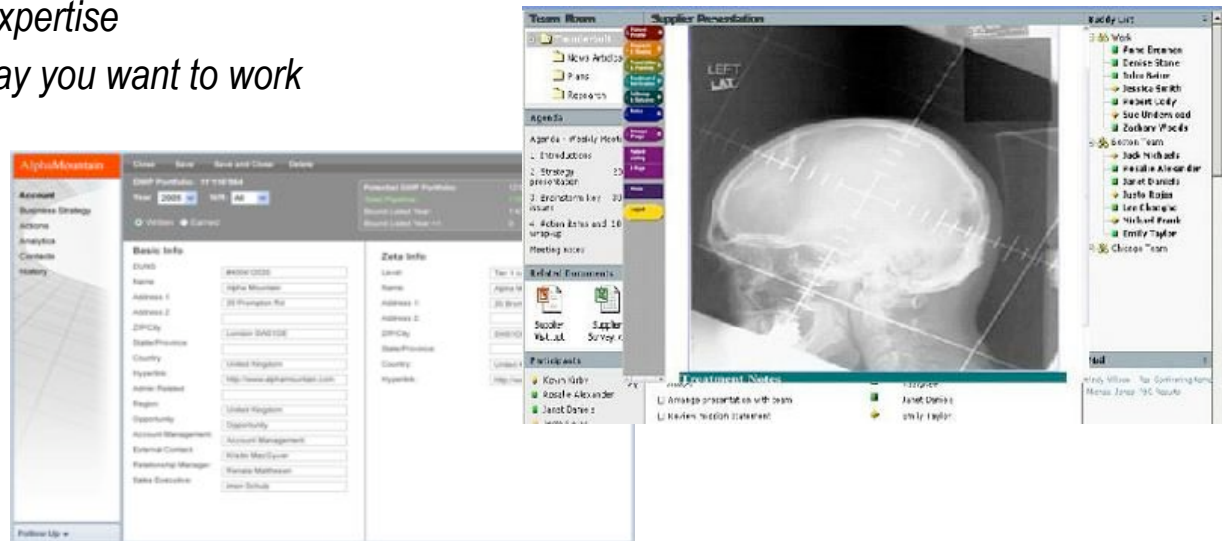
Expand the Business Value

Communications Capabilities Where and When You Need Them

*Open & intuitive real-time communications for **data, voice, & CEBP***

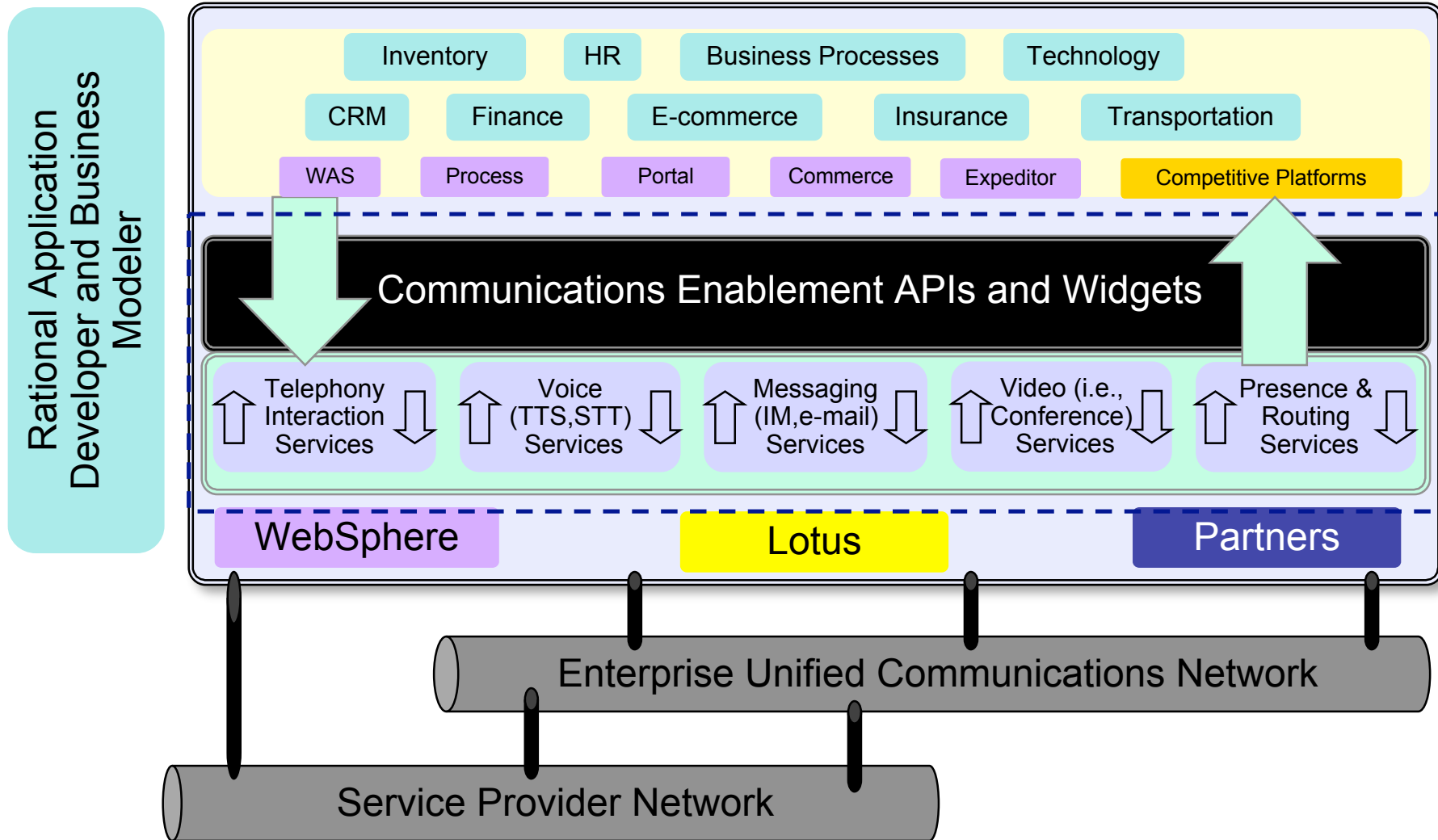*Flexible access to information and expertise*

Integrated and adaptable with the way you want to work

Line of Business Applications

Intelligent Communications & Collaboration Services

Reference Architecture for CEBP Services

Rational Application Developer and Business Modeler

| Inventory | HR | Business Processes | Technology |
| CRM | Finance | E-commerce | Insurance | Transportation |

WAS | Process | Portal | Commerce | Expeditor | Competitive Platforms

Communications Enablement APIs and Widgets

Telephony Interaction Services | Voice (TTS,STT) Services | Messaging (IM,e-mail) Services | Video (i.e., Conference) Services | Presence & Routing Services

WebSphere | **Lotus** | **Partners**

Enterprise Unified Communications Network

Service Provider Network

IBM Unified Communications and Collaboration Strategy

Vision: Foster innovation and business agility by making it easier for people to find, reach and collaborate through a unified user experience

Software platform

➢ Open & Extensible
➢ Intelligent Integration
➢ Unified experience
➢ Multi-vendor support

Integration services

➢ Plan, Deploy, Manage
➢ Reduce Risk
➢ Faster Time to Value

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Business Partners

➢ Broad ecosystem
➢ Customer Choice
➢ Leverage existing investments

Industry expertise

➢ Business Process Optimization
➢ Responsiveness & Agility
➢ Competitive Advantage

Enabling Abilities Through Linked Value

UC² Environments

Lotus Sametime Standard
Lotus Sametime Unyte
Lotus Notes/Domino
Enhanced IM
Voice/Video integration
**Open, extensible platform
for plug-ins**
Web conferencing
Integrated in e-mail
Integrated desktop

Lotus Sametime Adv
Lotus Connections
Lotus Quickr
Persistent chat
Broadcast suite
Communities
Profiles/Blogs/Wikis
Repositories
Mobile support

Lotus Expeditor
**Expanded UC business
process profiles**
**Communications
enablement for LOB
applications**
**Composite Application
Development**
Mobile support

**Lotus Sametime Unified
Telephony**
Advanced presence
**Advanced call controls
and management**
Soft phone
**PBX management and
integration**
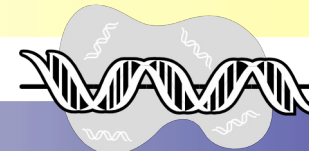
**WebSphere Process
Server**
Enterprise Service Bus
**Business Process
services leveraging SOA**
Process modeling
**Business Integration
Adapters**
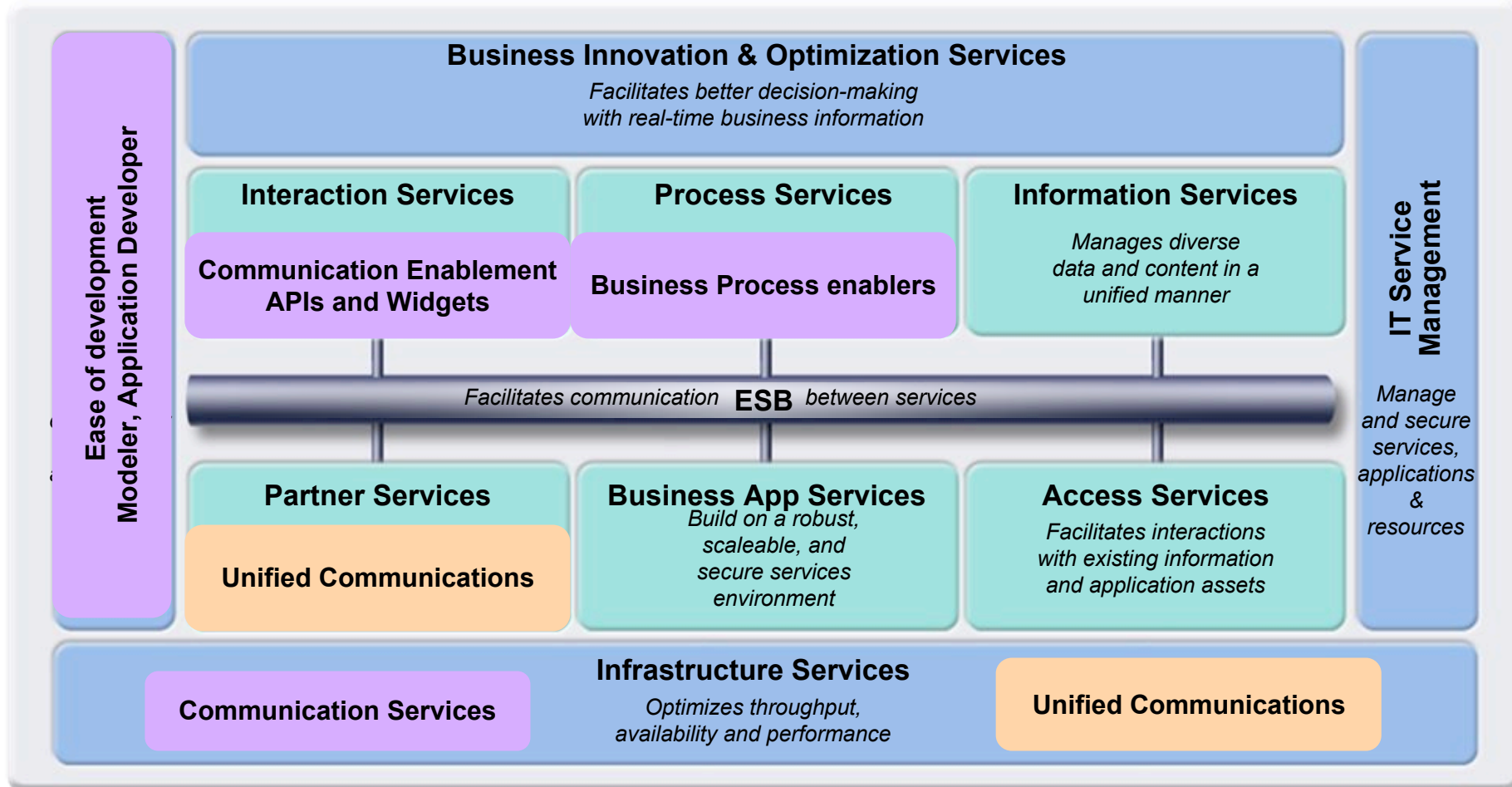**Human Tasks**
Business Rules

**WebSphere Voice
Server**
Text-to-speech
Speech-to-text
**Voice services for
speech recognition,
voicemail, Interactive
Voice Response
systems**
VoiceXML

**WebSphere Portal Server
Portal interface**
**IM and collaboration inside
portlets**
**Portlets integrated at the
glass**
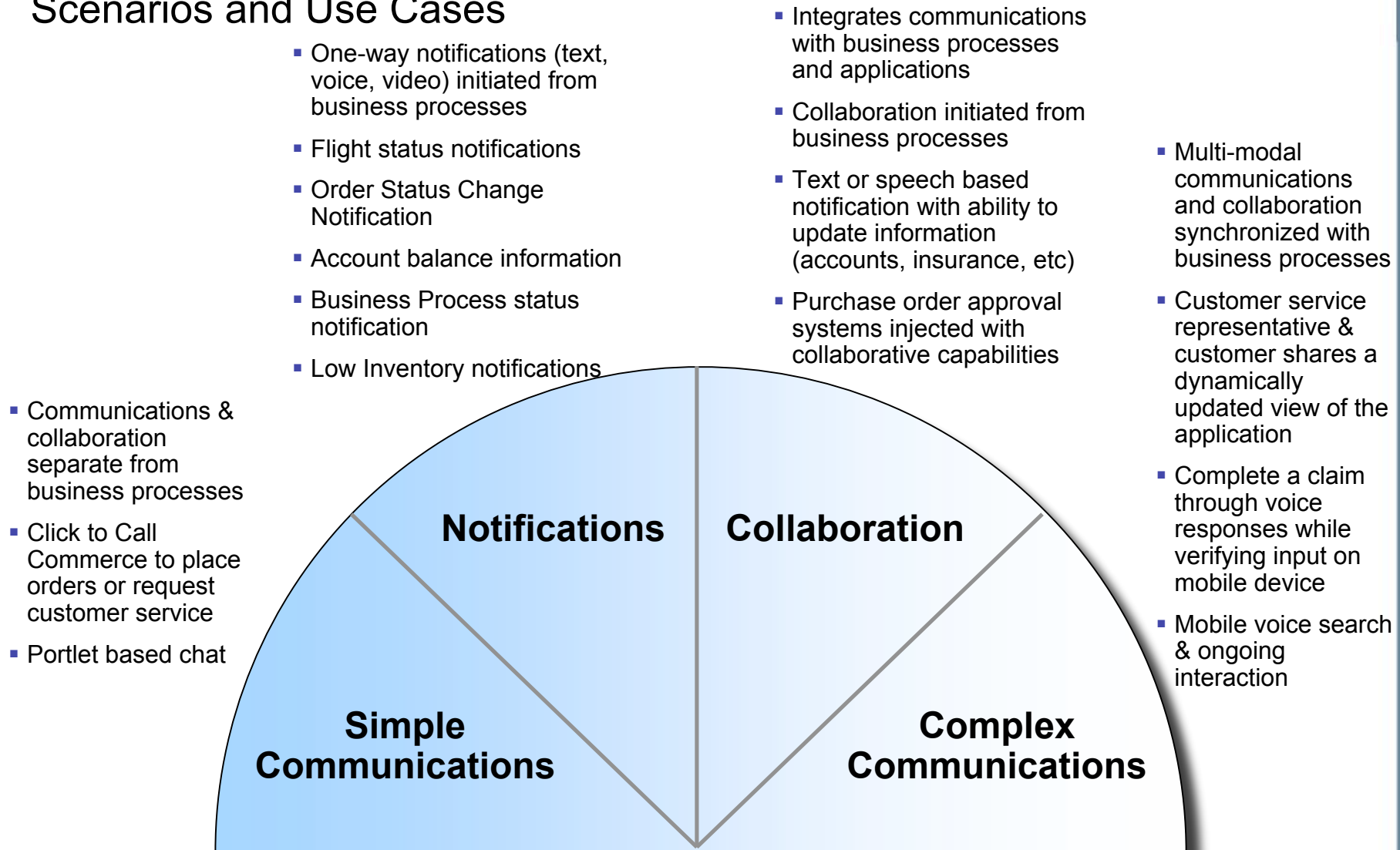**Easy portlet development**
Dashboard access

**WebSphere Application
Server**
**WebSphere Commerce
Server**
Web application serving
Web services providers
**Server-side application
management and
deployment**

SOA Environments

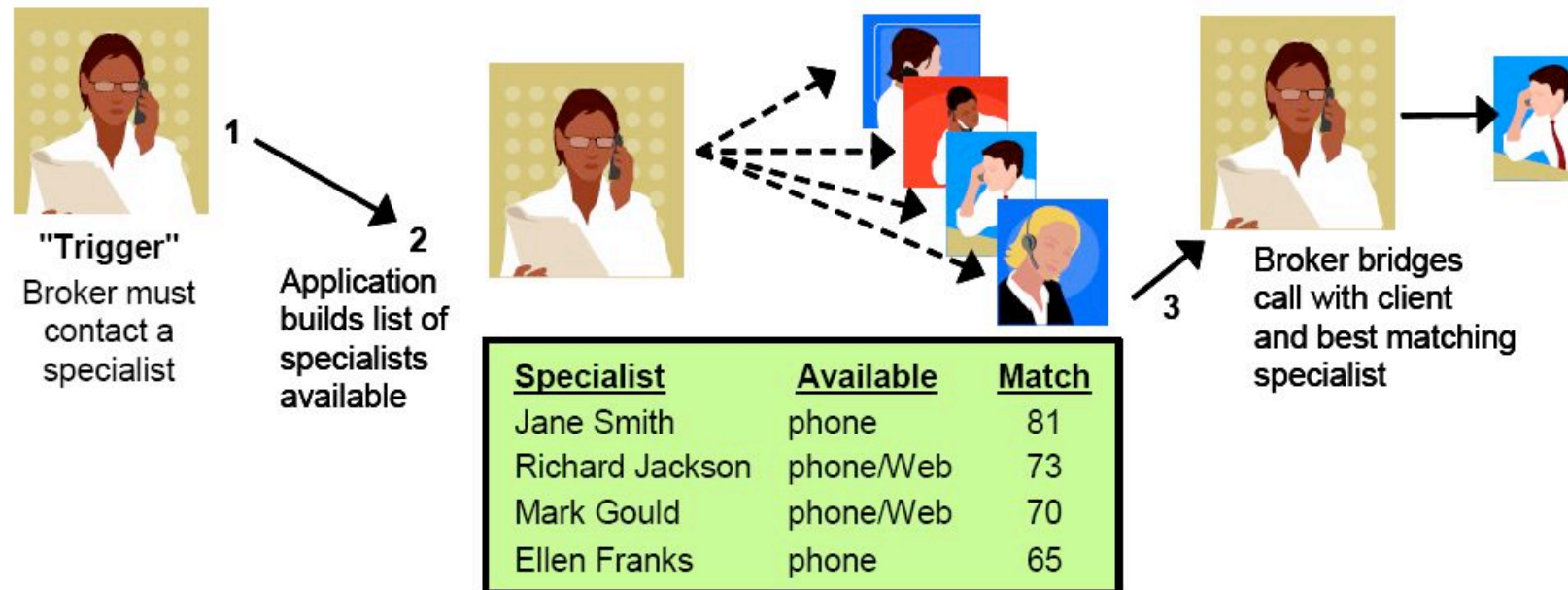## CEBP Services within the SOA Reference Model

Business Innovation & Optimization Services
Facilitates better decision-making with real-time business information

Ease of development Modeler, Application Developer

Interaction Services
Communication Enablement APIs and Widgets

Process Services
Business Process enablers

Information Services
Manages diverse data and content in a unified manner

IT Service Management
Manage and secure services, applications & resources

Facilitates communication **ESB** *between services*

Partner Services
Unified Communications

Business App Services
Build on a robust, scaleable, and secure services environment

Access Services
Facilitates interactions with existing information and application assets

Infrastructure Services
Optimizes throughput, availability and performance

Communication Services

Unified Communications

Scenarios and Use Cases

- One-way notifications (text, voice, video) initiated from business processes
- Flight status notifications
- Order Status Change Notification
- Account balance information
- Business Process status notification
- Low Inventory notifications

- Communications & collaboration separate from business processes
- Click to Call Commerce to place orders or request customer service
- Portlet based chat

- Integrates communications with business processes and applications
- Collaboration initiated from business processes
- Text or speech based notification with ability to update information (accounts, insurance, etc)
- Purchase order approval systems injected with collaborative capabilities

- Multi-modal communications and collaboration synchronized with business processes
- Customer service representative & customer shares a dynamically updated view of the application
- Complete a claim through voice responses while verifying input on mobile device
- Mobile voice search & ongoing interaction

Notifications

Collaboration

Simple Communications

Complex Communications

Contextual Presence Lists

Context-specific presence lists

Dynamically created lists based on specific current needs. Determining who is currently available to assist. May be integrated with location services.

Applications

- Broker/medical/technical specialist to answer questions
- Account team to handle request
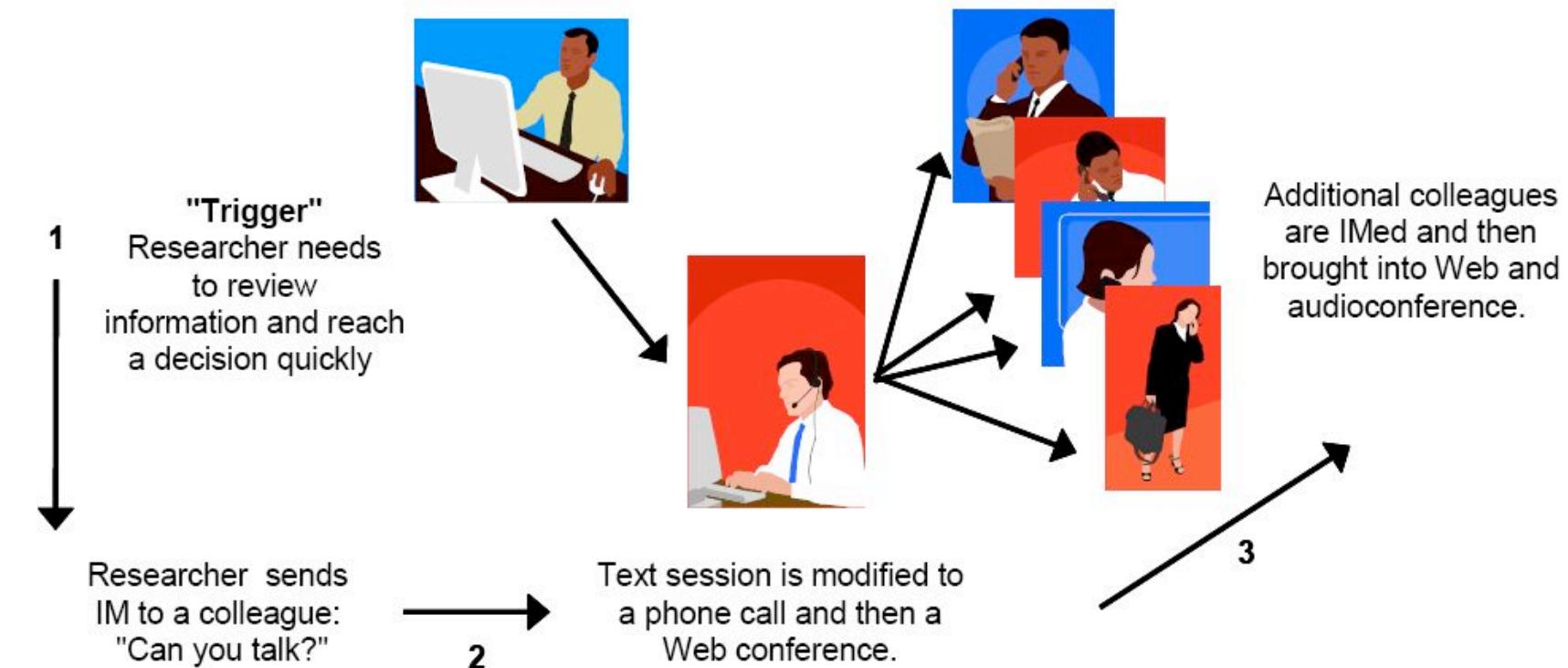- Retail floor clerk to assist
- Manager who can approve

"Trigger"
Broker must contact a specialist

1

2
Application builds list of specialists available

Specialist	Available	Match
Jane Smith	phone	81
Richard Jackson	phone/Web	73
Mark Gould	phone/Web	70
Ellen Franks	phone	65

3

Broker bridges call with client and best matching specialist

Source: Gartner (June 2007)

Flexible Media and Conference Switching

Flexible media and conference switching

Interaction starts one way, escalates to another, invites others. Chat, to audio, to Web and so on. Know who is available (dynamic presence lists).

Applications

- Fast response teams: financial, medical, technical
- Cohesion in dispersed groups
- Managers resolving issues

1

"Trigger"
Researcher needs
to review
information and reach
a decision quickly

Researcher sends
IM to a colleague:
"Can you talk?"

2

Text session is modified to
a phone call and then a
Web conference.

3

Additional colleagues
are IMed and then
brought into Web and
audioconference.

Source: Gartner (June 2007)

Intelligent Notification Services

Intelligent notification services

Personalized, group or interenterprise; role-based; cascading or escalated. Channel-independent. Find-me/notify me.

Applications

- Notify individuals of events, alerts or calls via preferred method.
- Use location services and presence to notify nearest person.

1

"Trigger"
System receives notification of urgent alert.

System first tries to locate specific person. Uses preferred contact method.

2

After delay, notification system uses presence to identify others in response team who are available and qualified.

3

Text session is modified to a phone call and then a Web conference.

Source: Gartner (June 2007)
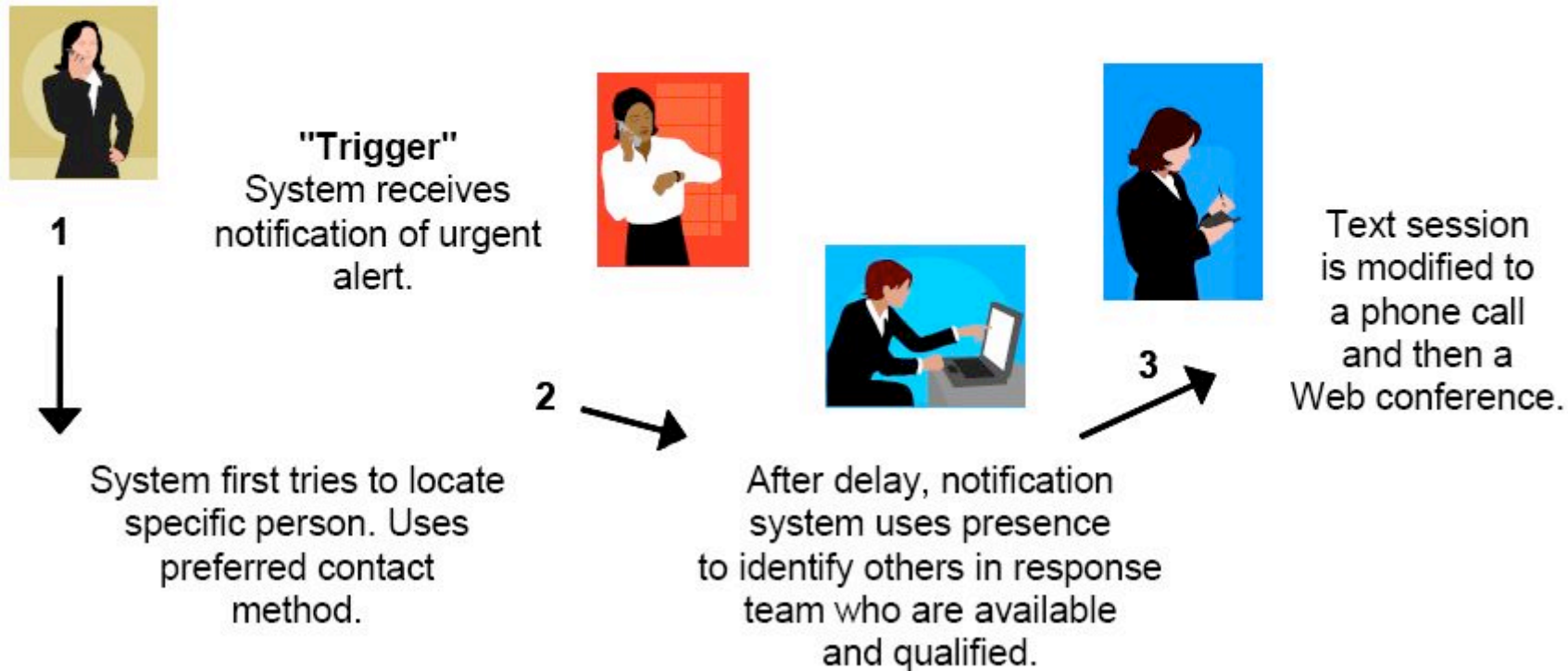
Insurance Claims Adjuster Demo
Demonstrating Business Value

- Integrates communications with business processes and applications

- Openness and heterogeneity provides us with a huge advantage

- Enables increased productivity & time savings

- Provides fast and accurate responses to the customer

- Shows:
  - UC services across desktop and mobile environments
  - Uses same, open programming model
  - Line Of Business Application (Insurance Adjuster) augmented with Click-to-call, presence, chat (gateway), file transfer, and user profiles
  - Secure enterprise access and database interactions from a mobile device (update claim info, access client profile)
  - Communications from anywhere (searching, discovering, communicating, collaborating, getting answers)

Bank Customer Services Demo
Demonstrating Business Value

- Integrates communications with business processes and applications

- Supports better decision making with faster access to accurate information

- Share knowledge among broader and dispersed teams

- Provide preferred and customized customer service

- Shows:
  - Personalized and preferred customer service
  - Easy access to bank services information
  - Improved productivity and customer response

Summary

- The UC^2 principles, technologies, and partner ecosystem help drive the integration of text, data, voice, and video in CEBP

- The SOA programming model is our technical common ground

- While many of these communications technologies and components exist today, there exists a large opportunity to deliver a set of common communications services and tooling for CEBP

- We need to adapt these services to how people prefer to work, using rich clients as well as agile servers

- Web services can be built and deployed within existing infrastructures

References

- Three 'Killer' Business Communication Applications Gartner (June 2007)

- CEBP and the Unified Communications Continuum
  http://www.ucstrategies.com/detail.aspx?id=2210

- Ayava & CEBP
  http://www.avaya.com/gcm/master-usa/en-us/portfolio/communications_enabled_business_processes/index.htm

- Nortel ACE
  http://products.nortel.com/go/product_content.jsp?segId=0&catId=A&parId=0&prod_id=66400

Thank You

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Some Other Things to Consider …

- Integrated Development Environments (what skills can be leveraged?)
  - Rational Application Developer
  - Rational Business Process Modeler
  - Lotus Expeditor (plugs into RAD)
- Application Development Toolkits (what tooling resources are available?)
  - Expeditor Toolkit
  - Sametime SDK
  - Sametime Advanced SDK
  - Sametime Unified Telephony SDK
  - SOA Toolkit
- Business Process Tools (how can I model and integrate my existing processes?)
  - WebSphere Process Server
    - Business Process modeling
    - Human Task management
    - Business rules
    - WebSphere Business Integration Adapters by industry
    - Enterprise Service Bus
- UC^2 Foundation (rich client solutions)
  - Lotus Sametime Standard/Advanced
  - Lotus Sametime Unyte
  - Lotus Sametime Unified Telephony
  - Lotus Notes/Domino
  - Lotus Connections
  - Lotus Quickr
  - Lotus Expeditor
- SOA Foundation (agile server solutions)
  - WebSphere Application Server
  - WebSphere Voice Server
  - WebSphere Portal Server
  - WebSphere Commerce Server

- Common Services (which ones can be synchronized and integrated within the business processes)
  - Telephony Interaction Services
  - Voice (TTS, STT) Services
  - Messaging (IM, e-mail) Services
  - Video (i.e., conferencing) Services
  - Presence and Routing Services
- Application Types (what fits best within the business processes?)
  - Web 2.0 Applications
    - Ajax-based
    - XHTML
    - RSS/Atom feeds
    - Mashups
    - Wikis
    - Blogs
  - Composite Applications
  - Web Services
  - Portlets
- APIs (which APIs are most relevant for my environments?)
  - Web 2.0 APIs (REST, XML, JavaScript)
  - Web Services APIs (XML, SOAP, WSDL, BPEL, UDDI)
  - Real Time Communications APIs
    - Community Services API (chat, presence, location, logging)
    - Meeting Services API (whiteboarding, object sharing)
    - STLinks
  - Telephony APIs (SIP, H323, TCSPI, JTAPI)
  - Voice APIs (VoiceXML)
  - Portal APIs (Java Portal API, JSR 168 and JSR 286 for portlets)
  - Java APIs (Java SE/EE APIs, Eclipse SWT, Eclipse JFace, JDBC, JMS, Web services, OSGi services)
- Partner Ecosystem (how can this be leveraged?)