

Collaboration in Shell

VoiceCon Spring 2007
6 March 2007



To be discussed

- Introduction to Shell
- Introduction to Shell - IT
 - IT Infrastructure Services
 - Voice Landscape
 - Overview of the current Collaboration setup
- Way Forward
 - Voice Solution
 - IPT Migration
 - Real Time Collaboration
 - Virtual Teaming
 - Overview of the target Collaboration setup
- Summary
 - Migration
 - Strategic Developments
 - Learnings/Lessons



Introduction to Shell

- Formal name Royal Dutch plc with headquarters in The Hague, The Netherlands.
- Main Businesses:
 - Exploration & Production
 - Downstream
 - Trading
 - Gas & Power
 - Renewable



Introduction to Shell

- 112,000 employees in over 130 countries.
- Over 45,000 retail stations globally.
- Global refinery capabilities.



Business Changes

- Majority of our businesses have moved from a country to a global-based organisation:
 - Large increase of virtual team working across multiple time zones.
 - Information sharing at global level.
- Upcoming 'big crew change', whereby a large number of staff retire in the coming 5 to 10 years:
 - This means that a lot of experience and knowledge disappears.
- Work is brought to the staff, rather than bringing staff to work.
- Large number (1000s per annum) of new staff (graduates / experienced hires) are entering Shell and:
 - These have different expectations of IT facilities (social networking tools, etc.).
 - Need to get access to information and skills of various staff around the world not familiar to them.



Introduction to Shell IT

- Staff located around the world and providing services in:
 - IT Infrastructure: Telecoms, Desktop, Hosting, Storage, etc.
 - Global Support & Management.
 - Application support.
 - Portfolio management.
 - Application R&D: Exploration & Production focus.
 - Project Management.
 - Architecture & Design.
- All staff are part of a single global IT Function.
- Partner with onshore and offshore suppliers.



IT Infrastructure Services

- Heavily Microsoft based set up with MS Windows and Office 2000, MS Exchange, LCS (Live Comms Server), MoM, .NET, etc..
- Installed base of over 140,000 MS Windows clients & over 155,000 Mailboxes in over 130 countries:
 - We have large numbers of users on every continent.
- Single global Shell MS Active Directory forest (shell.com).
- Standardised server and storage infrastructure installed globally:
 - We get servers pre configured & loaded from the supplier.
- End to end management / support / ever-greening of services executed out of Kuala Lumpur (Malaysia).
- Hosting servers installed, mainly, in our three data centers: Houston, Amsterdam and Kuala Lumpur.
- One main provider of client and server hardware globally.



IT Infrastructure Services

- Information sharing: A number of services with 100s Millions of documents.
- Large scale Linux (Intel / AMD) based clustering for Seismic processing.
- Installed storage of over 3PByte & one main provider of storage.
- A small number of large SAP R/3 & BW (Bus. Warehouse) implementations, installed in our Amsterdam data center and, accessed globally by most of our users.
- Global IP network covering all Shell locations and speed wise between 128 KBPS and 10 GBPS.
- Running Telecoms (voice, mobile, etc.) infrastructures in several countries, offshore (many places), etc.



IT Infrastructure: Voice landscape

- A large installed base of PBX installations around the world.
- We have PBX installations from a number of different suppliers:
 - Due to local restrictions
 - Not always the same supplier over a large number of years.
- Voicemail installed at most sites.
- No central management of these PBX implementations: Local implementations.
- Central standard-setting of PBX manufacturers including configuration settings and commercial framework: Done by the Shell Telecoms Organisation who manage all telecoms activities (not just voice).



Current Collaboration Capabilities & Challenges

- Tools and services available address most areas.
- Tool set is very diverse and therefore too difficult to use for the average user in Shell.
- Information stored in a number of different systems with poor support for metadata & (enterprise) search capabilities.
- (Analog) Voice is not integrated with the rest of the Workspace.
- Large number of Video Conferencing facilities (centrally managed) around the world, but with mixed usage.
- Some tools are very successful such as:
 - BT MeetMe service: Every Shell employee having their own audio conferencing access code available 7 * 24 hours.
 - MS NetMeeting for desktop sharing & remote support.



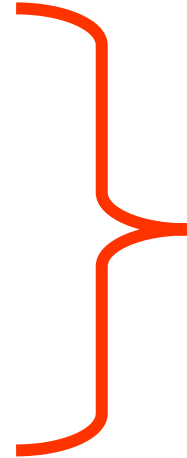
IT Infrastructure Challenges

- Users in several locations with limited or difficult infrastructure:
 - Only accessible via VSAT – i.e., no/limited land cables.
 - Own telecoms: In a number of countries we provide full set of services.
- Most software suppliers underestimate the impact of network latency and therefore we spend considerable time on global deployments & correcting related errors.
- When starting a new Business: Fast access to telecoms in new locations anywhere around the world (often in very remote locations).
- Information sharing at a global level: Most of our virtual teams operate globally and therefore share at this level.



Way Forward

- Voice
- Virtual teaming
- Real Time Collaboration



Information sharing

- Voice becomes another media staff can choose from to perform their Communications: Therefore users start to treat voice as they do IM, E-mail, P2P, etc.
- All services accessible for Shell and non-Shell staff: We have to ensure that we support mixed Shell and non-Shell staffed teams transparently.
- Single user interface: In addition to using MS Outlook for all messaging using MS MOC (Microsoft Office Communicator/MS LM) for Collaboration activities (P2P, IM, Web Conferencing, etc.).



Way Forward: Other developments Having an Impact

- Roll out of MS Windows Vista and MS Office 2007 to all Shell users starting Q1 2008 (and completed in 2008).
- Roll out of MS Exchange 2007 to all Shell users starting second half 2008 + Introduction of unified messaging.
- All client devices to be moved to the Internet once they are all protected using End Point Security (EPS): This means that the data centers are still within firewall protected areas.
- SSL/VPN introduced for all Shell client connections (therefore including encryption).
- Services accessible for Shell and non-Shell staff: With the increased number of mixed teams we must make a step change in this area.
- HP HALO being implemented as TelePresence service in a small number of locations.
- Public Internet being introduced in Shell offices (smaller) as the only connectivity method: Therefore no longer private Internet.



Way Forward: Voice Solution

- Tender in 2006 for an Shell-wide IPT solution with important aspects being:
 - One global service with IPT switching hardware in Houston, Amsterdam and Kuala Lumpur only: It is important to avoid complexity around the world in terms of local (in each country) hardware installs, etc.
 - Scalability: Being able to support our scale
 - Resilience against various IP network link qualities & latencies
 - Management & Support from one location (Malaysia): It is vital that all activities (housekeeping, event management, etc.) can be executed from one location.
 - Standards support such as for SIP.
 - Stability: Voice is still critical.
 - Global dial plan support.
 - Support for analog capabilities in refineries, etc.



Way Forward: Voice Solution

- Also part of the Tender: Integration with MS:
 - MS Active Directory as the driver for all user information (apart from actual extension).
 - MS Office Communicator (MOC) 2005 / 2007 supported as the soft phone: Having an, ongoing, consistent user interface for all Collaboration activities is important.
 - One dial plan between MS LCS / OCS and IPT Switch supplier world.
 - Presence information also accessible for hard phones.
 - Clear alignment with MS strategies.
 - Voice just becoming of the client (desktop / portable / smartphone) services.



Way Forward: Voice Solution

- All global IPT players were invited for the tender.
- After an IPT Summit (intensive week where selective Shell staff and all suppliers were together for one week to cover all elements) Nortel was selected as the Shell IPT provider.

Follow up:

- Soft and hard phones: Clear rules are required when a person gets an soft phone and when still a hard phone.
- Emergencies: Analog phones still need to be around to meet Legal requirements in offices, refineries, etc.



IPT 2006 (new connections)

- MOC functionality:
- Make/Answer call
 - Hang-up
 - Single step transfer
 - Hold
 - Retrieve
 - Forward
 - Deflect
 - DTMF

Smartphone
With Windows
Mobile 5

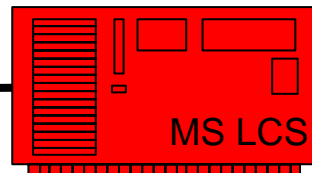


GSM

GIDv1 with
MOC 2005



Amsterdam – Global Center

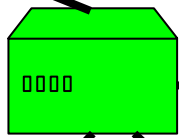


In all cases there
will be local
PSTN / Media
gateways

Nortel
hardphone

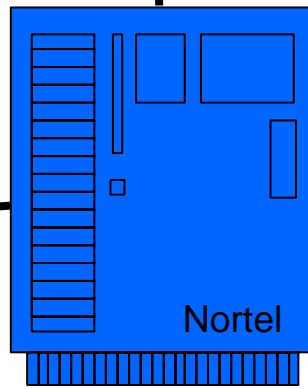


Nortel
Boss/Secr
hardphone



External
PSTN

Adam / HST / CBJ centers



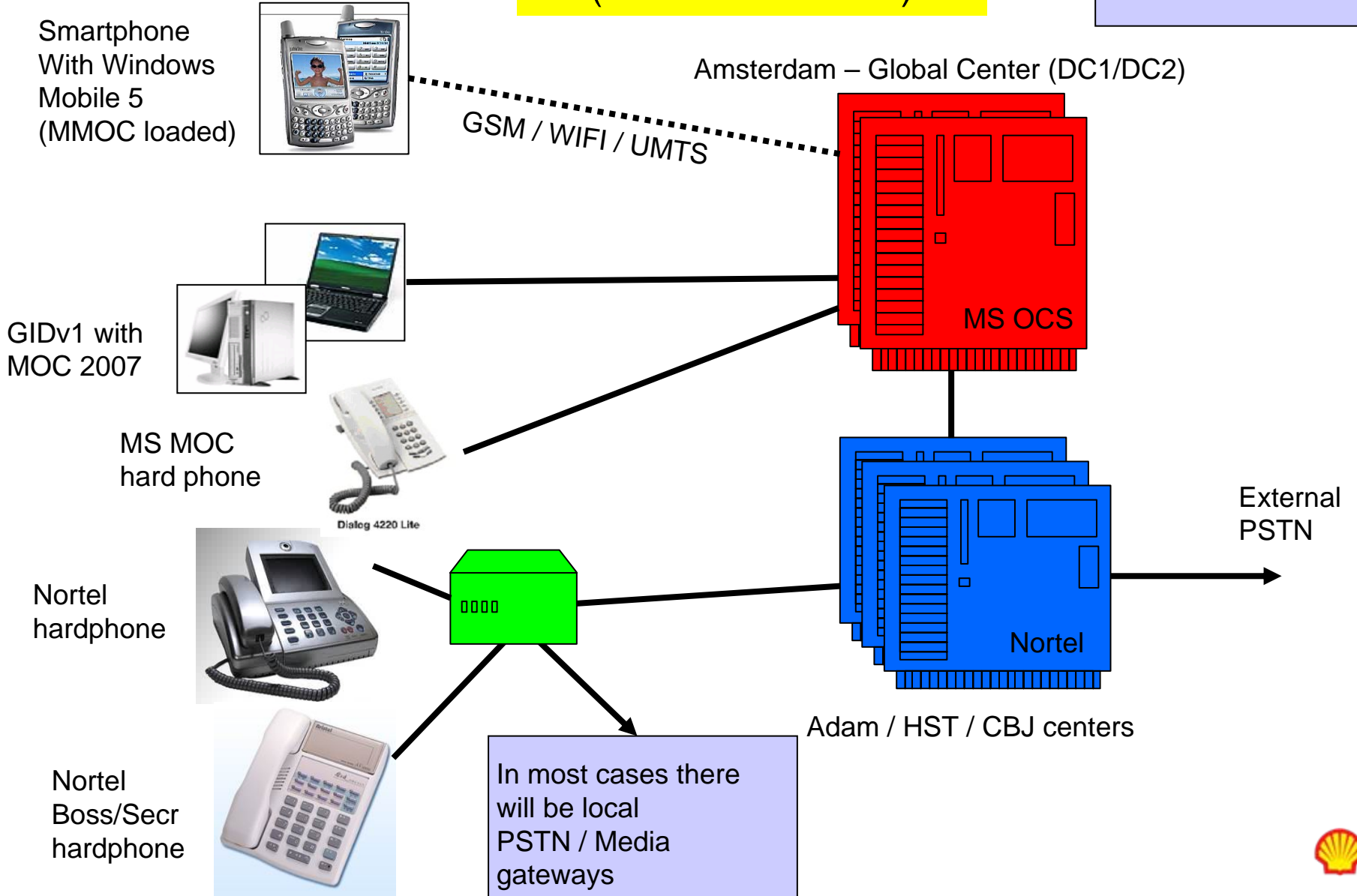
External
PSTN

GIDv1: Shell standard client



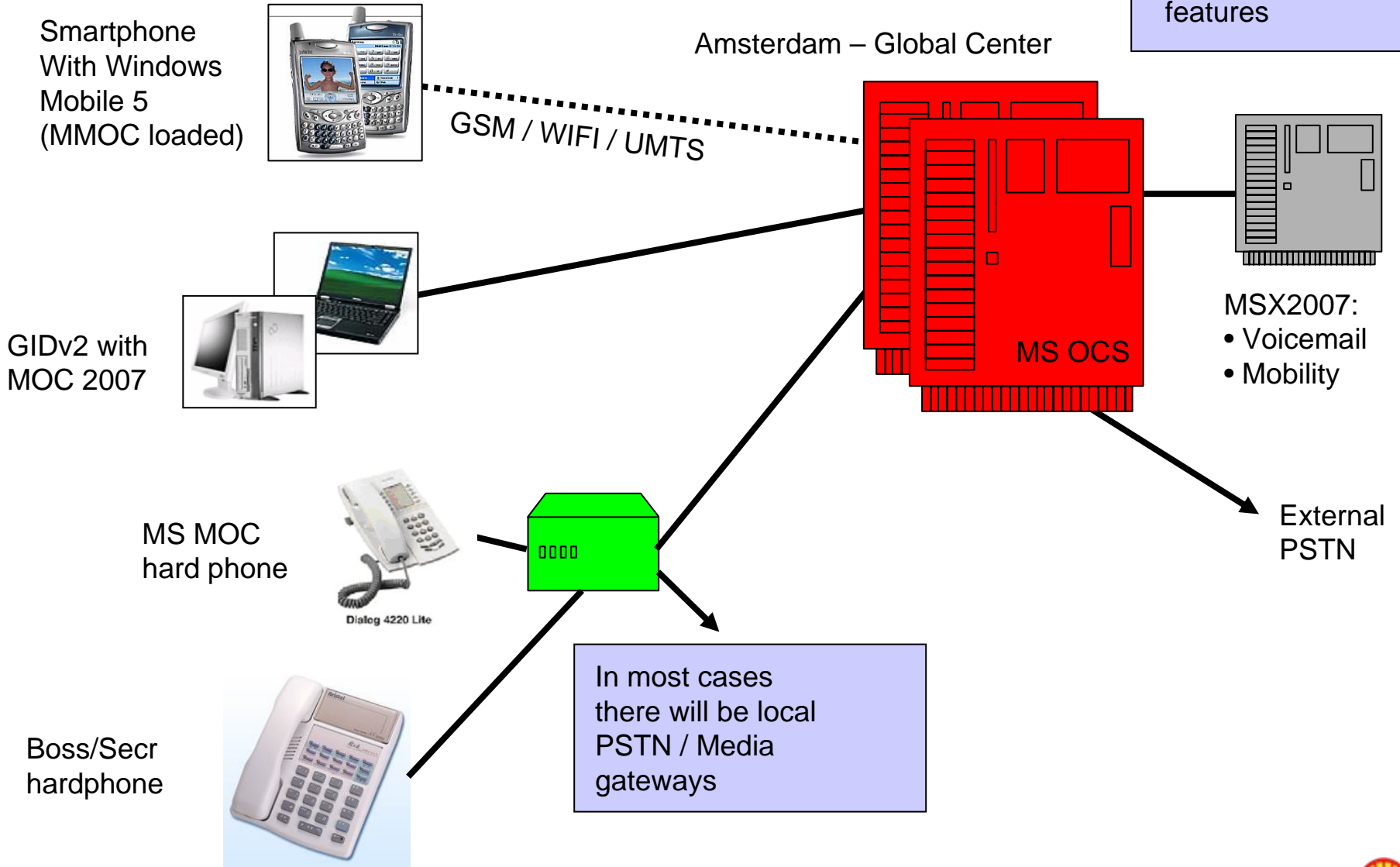
MOC functionality:
• Increased functionality over 2006

IPT 207 (Q3) (new connections)

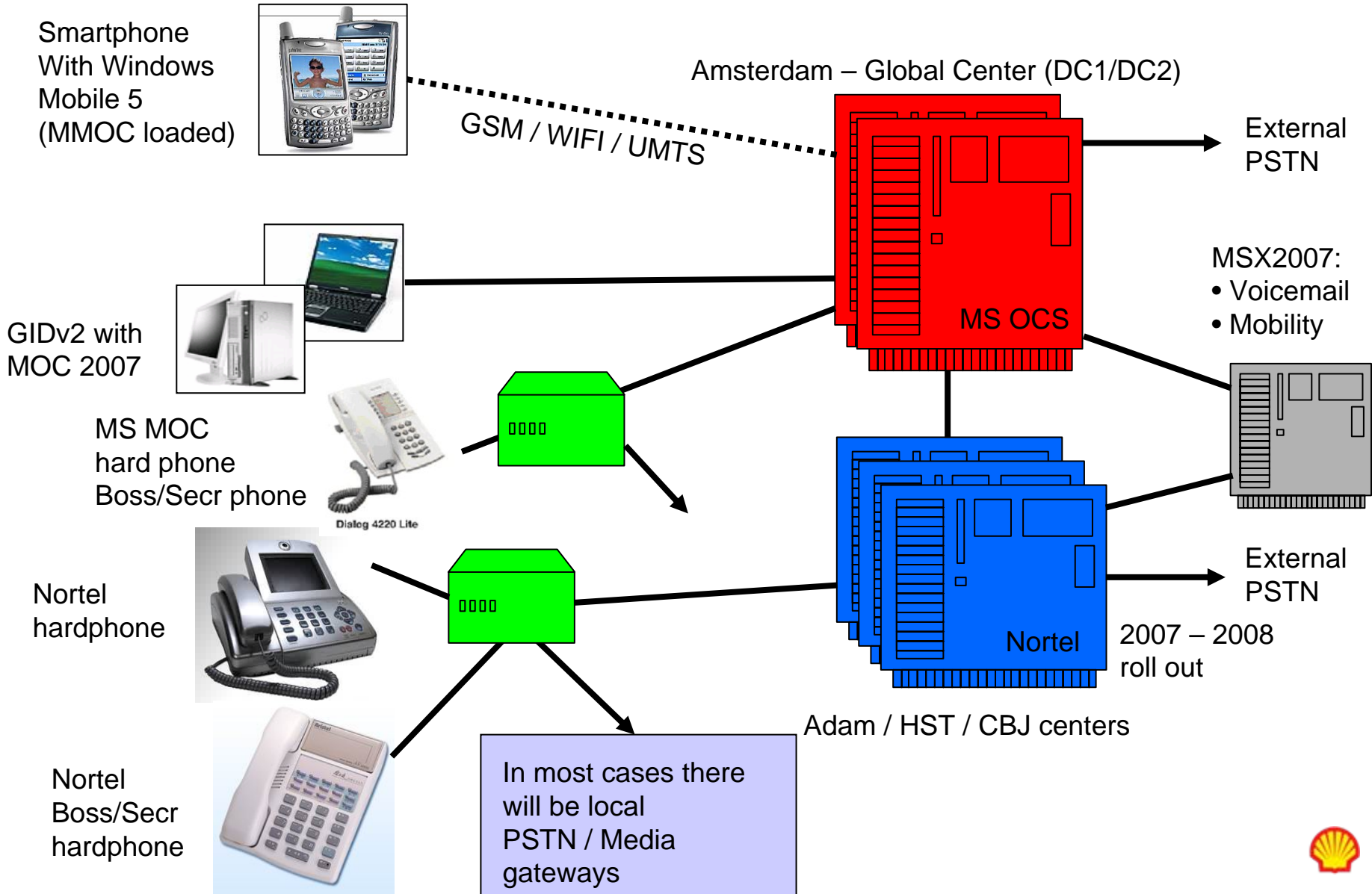


IPT 2008 (possible Q3) (new connections)

MOC functionality:
• Full function including support for boss/secr and other advanced features



IPT 2008 (possible Q3) (total overview)



IPT Migration

- Amsterdam, Houston and Kuala Lumpur: Central IPT switches in place first since there after we can move any site across.
- Migration is done at site level.
- All new Shell sites get IPT from day one.
- In case of an upgrade to an existing PBX that site also moves to IPT: No investment in PBX anymore.
- In case the PBX has been written off, that site also moves to IPT.
- This approach takes longer in elapsed time.

Easy evolution and network growth



New Locations:

Hosted from a central data center

Existing Locations:

Migrated to central data center when local PBX requires major upgrade or reaches End of Life

Data Center Consolidation

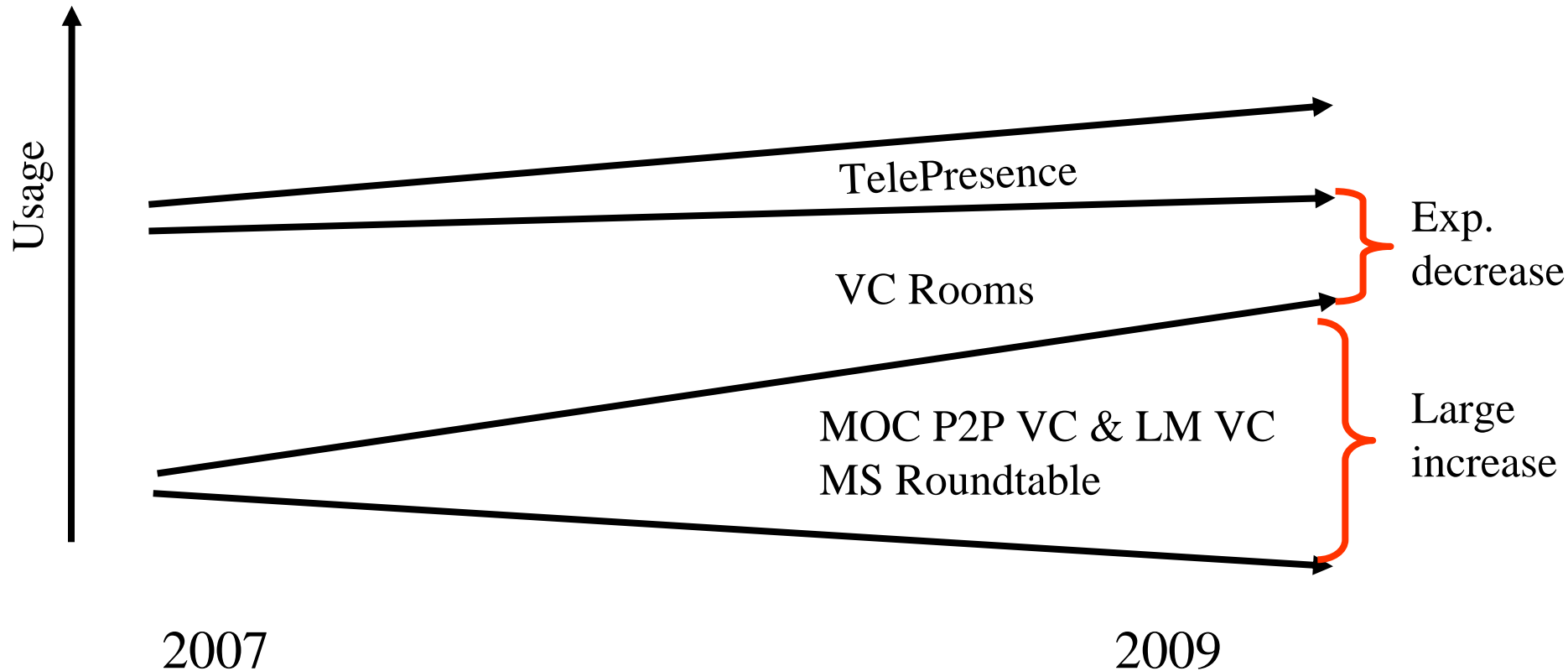
- ✓ 3 locations worldwide
- ✓ Nortel CS 1000 Communication Server
- ✓ Microsoft OCS and Exchange

Way Forward: Real Time Collaboration

- Main elements:
 - MS Office Communications Services (OCS)
 - MOC 2007 as the client interface
 - MS LiveMeeting as the client interface.
- Services:
 - Peer to Peer Video Conferencing
 - Peer to Peer Audio Conferencing
 - Instant Messaging (including external parties)
 - Audio conferencing
 - Web conferencing
 - Video conferencing
 - Desktop sharing



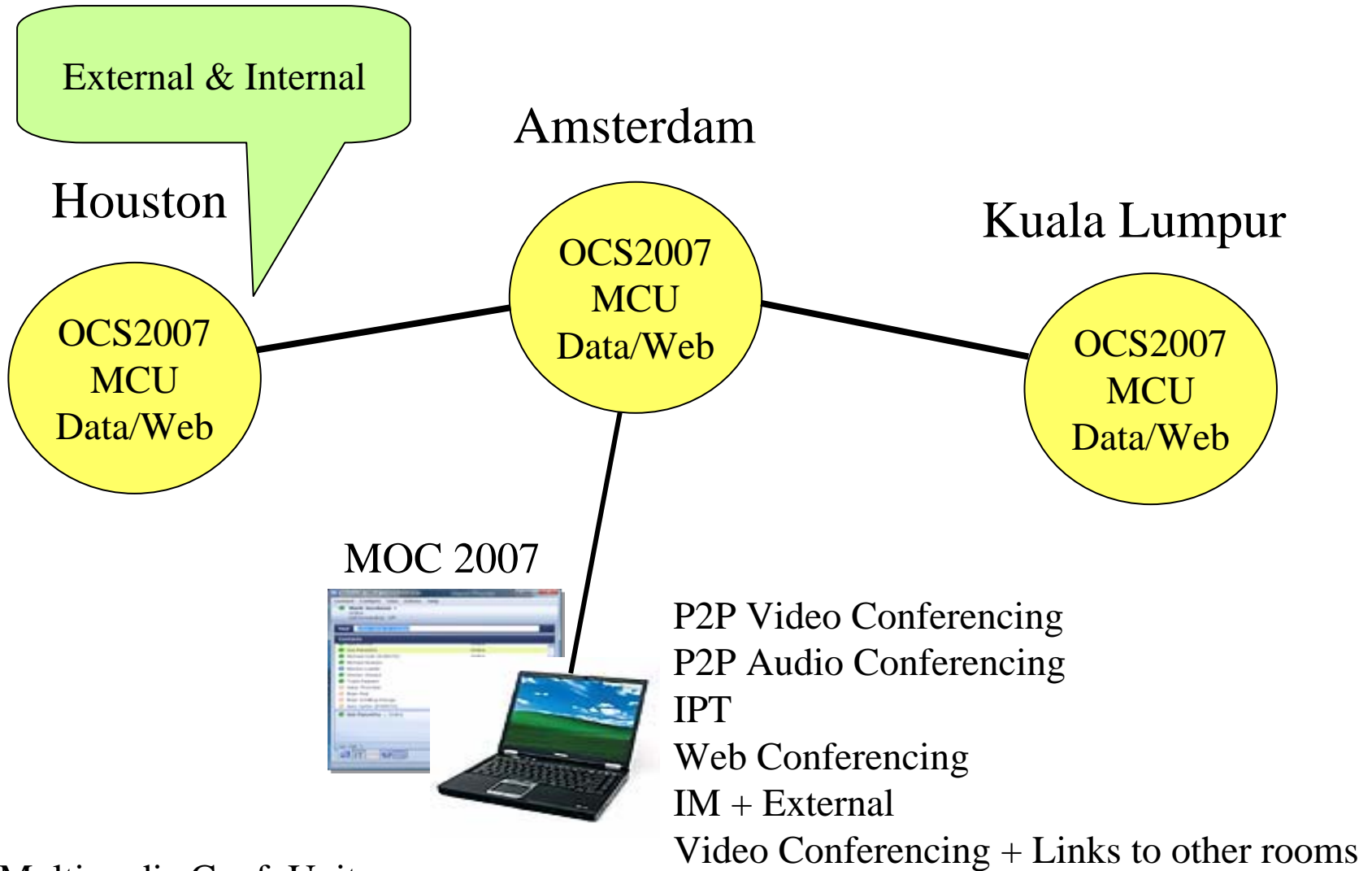
Real Time Collaboration Video Conferencing Developments



- Large increase in P2P
- Expected decrease in VC room usage
- TelePresence targeted at top end of market



Real Time Collaboration



MCU = Multimedia Conf. Unit

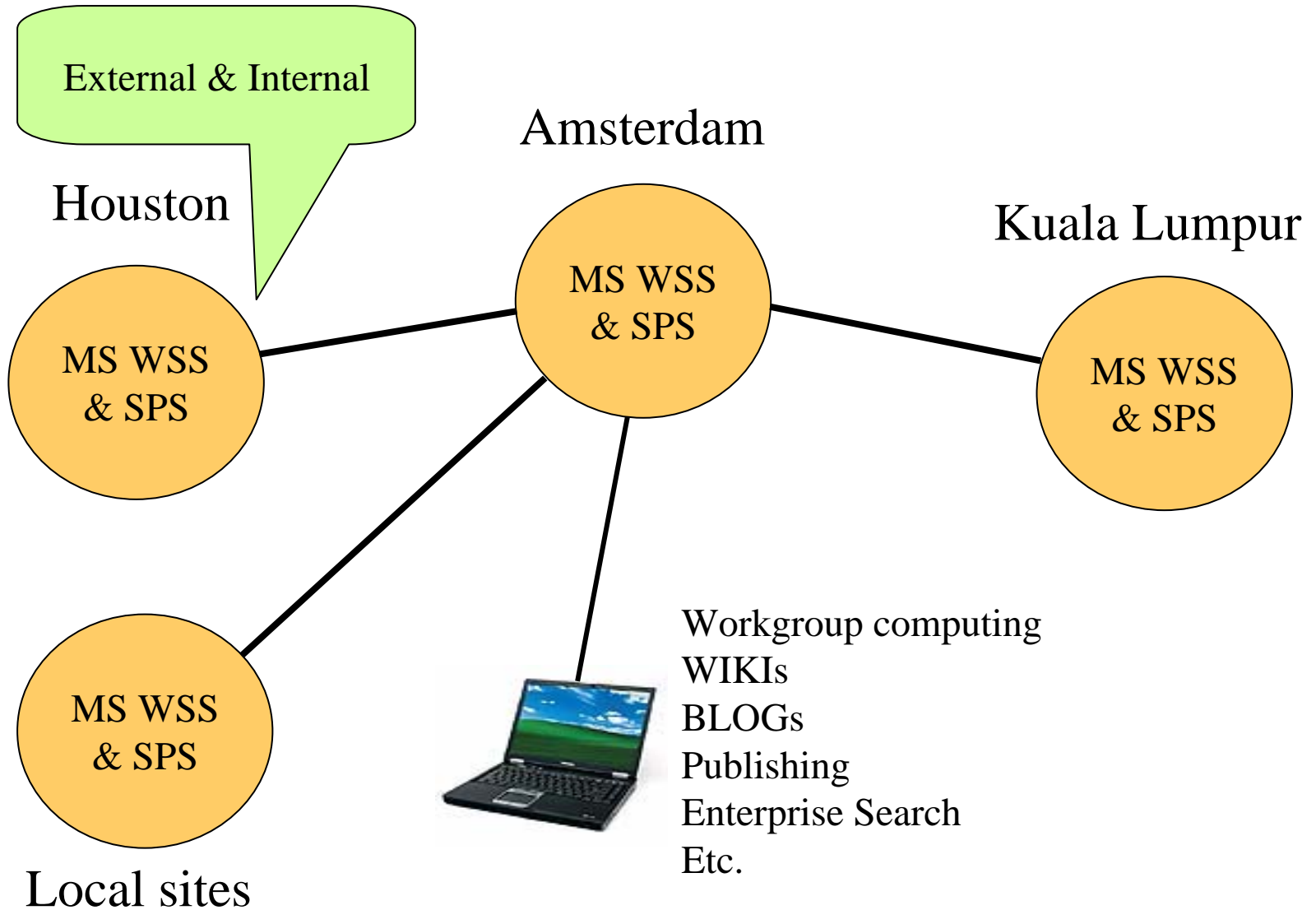


Way forward: Virtual Teaming

- Main elements:
 - MS Sharepoint Portal Services (SPS) & Windows Sharepoint Services (WSS)
 - MS Exchange 2007 & Voicemail support
- Services:
 - Workflow & Forms
 - Information sharing / Metadata support
 - Publishing
 - Social Networking: WIKIs, BLOGs, etc.
 - Portal services
 - Enterprise Search
 - Close integration with MS Office 2007
 - Etc.



Virtual Teaming



Migration

- Information in existing services will only be migrated on request basis: There will be no mass migration of information.
- RTC and Virtual Teaming aligned with MS Windows Vista and MS Office 2007 roll out.



Developments

- Keeping in close touch with both Nortel and MS to determine how the MS IPT developments will affect the current model of Nortel IPT switches for hard phones and MS LCS for soft phones: MS plans can have an impact on our deployment.
- Installing services on top of the base IPT services.
- Support for MMOC: IPT support over WIFI for Smart phones.



Learnings/Lessons To Date

- Challenges around integrating Voice and Desktop from an organisational point of view: Coming from two different worlds.
- Be clear about your vision and make sure that your vendors also understand that: Architecture and design need to be aligned with that.
- Have a detailed tender phase and do understand the capabilities and more importantly the limitations (capacity, support & management, integration, etc.).
- Do not assume that IPT vendors fully understand the desktop, server, back office, Active Directory, etc. and way large enterprises have deployed that: They can make the wrong assumptions.

