

freedom



# Mitel Freedom Architecture

White Paper

NOVEMBER 2010





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## Introduction

The changing landscape in business today has brought with it an unparalleled level of complexity and challenges. In order to be increasingly effective and gain competitive edge, one must support a multitude of communication mediums, such as voice, data, and social networking, many of which come with numerous interface technologies and devices. The economic landscape has been altered tremendously as well, with many organizations collaborating, communicating, and interacting in ways that previously were the exclusive domain of regional and departmental divisions of only the largest organizations. The challenge for any business today is in the ability to cost effectively support the open interaction between these communities of users in a manner that must be done regardless of physical location, device, or preferred communication medium.

Success in today's economy demands that we efficiently communicate with the end user, whether an internal colleague or external partner, and do so in a borderless fashion that provides the richest possible interactive experience for these users – seamlessly. This paper will explore the technical benefits and total cost of ownership benefits that the Mitel® Freedom architecture solution can provide to an organization at such crossroads.

## The Dilemma

Communications solutions today are typically hampered by issues such as high cost or proprietary solutions that, in many cases, can solve immediate issues but often leave the customer with limited options for transition from the old to the new. This can also be accompanied by the dual penalties of a costly inconvenience of rip and replace and corresponding limitation of vendor lock-in for future functionality enhancements or technology integrations. There has been a growing trend in the workplace towards mobility, with a recent survey that indicated that 44 percent of all workers in 2009 considered themselves as mobile. The trend is expected to continue to grow, reaching 72 percent by 2012<sup>1</sup>. Mobile workers by definition cover a wide scope, ranging from the home or teleworker to remote office workers to nomadic corridor warriors and even the traditional travelling employee, such as sales. The movement towards mobility adds further complexity, including issues such as device support, specifically whether to standardize on one manufacturer or support a "bring your own device" approach. Additionally, many organizations that have been through industry consolidation and related company acquisitions or mergers are faced with challenges on how to best integrate existing communications infrastructure for maximum return on investment and with the least amount of disruption to the end user.

To further complicate matters, many of these same organizations have communities of users that have more diverse or complex communications requirements. Options have been very limited, typically to either make do with current incompatible or inefficient communications systems, or to passively endorse their users' adoption of smartphone devices and public IM and presence solutions. The end result brings with it elevated costs, increased security risk, and the loss of valuable aggregate usage data.

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<sup>1</sup> "Enterprise Mobile User Forecast: Mobile 'Wannabes' Are the Fastest-Growing Segment," Forrester Research, Inc., October 9, 2008.



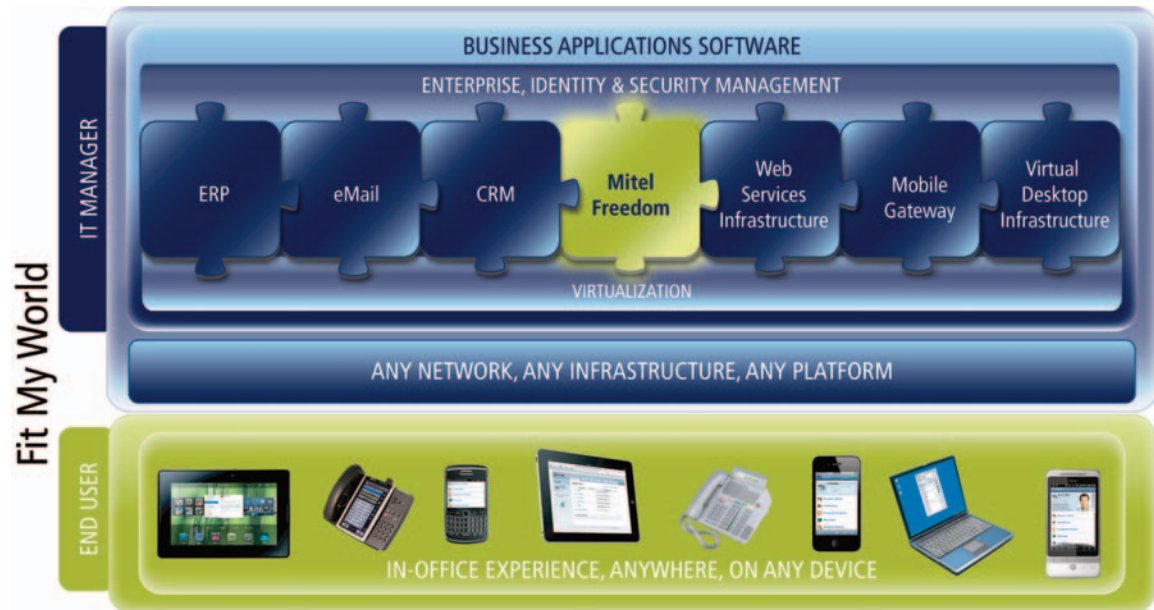
Today's diverse business communications requirements – enhancing workplace mobility and productivity while leveraging existing capital investments

## The Freedom to Choose

The Mitel Freedom architecture provides organizations with a single stream, software-based unified communications solution that readily plugs into their existing IT framework best practices, and does so without the requirement for manufacturer-dependant hardware or explicit reliance on one vendor for an end-to-end, single-source UC solution<sup>2</sup>. Many organizations today are facing numerous challenges as they try to incorporate a next-generation communications solution. Do you need to couple highly available, multi-site call control with your existing presence and collaboration tools? Would you like to leverage your existing investment in redundant data centers? Or perhaps your ideal solution would leverage your corporate deployment of Microsoft® Active Directory® for single-user credential store and authentication? The premise of the Mitel Freedom architecture is that this choice can be achieved with the deployment of the Mitel Communications Director (MCD). With MCD, organizations can deploy a cost effective, feature rich, and complete Unified Communications solution, addressing the needs of all user types: Office worker, Mobile worker, or Blended worker (time spent mobile and in office), regardless of whether they work from the corporate head office, a remote satellite location, in state or out of country, a home office, or freely moving between.

<sup>2</sup> For customer confirmation on interoperability details, please refer to the customer videos or case studies associated with Mitel Freedom, available at [www.mitel.com/freedom](http://www.mitel.com/freedom).

Through a combination of flexible, software-based deployment topologies comprising of both core call processing control and line of business integrated Unified Communications applications, MCD employs open interfaces and capability-enhancing APIs in a unique, software-based Unified Communications platform.



Mitel Freedom Architecture

### The Foundation

The Mitel Freedom Architecture begins with a single stream of software-based call control that is built on Linux O/S and can be packaged in a number of form factors, ranging from a traditional physical hardware appliance, to industry standard server, to virtual machine and multiple instance software “blades”. MCD is the common software framework and carries the same features, device support, and management tools, regardless of physical hardware configuration or premises-based vs. hosted deployments.



## Your Choice of Server, Your Choice of Implementation

MCD can be deployed as a pre-configured, rack-mounted, 2U appliance on the Mitel 3300 Controllers or industry standard servers (e.g., HP®, Dell®, IBM®) or virtualized<sup>3</sup>, and can be either premises based or hosted / “cloud” based, or a combination of the two. Mitel’s single MCD software stream can be deployed on any of these platforms individually or in an evolved architecture utilizing any of the elements in combination. Benefits include the ability to have a more elastic architecture, allowing organizations to freely scale up or scale down resources to the cloud / data center, or to provision the resources as local customer premise equipment (CPE). Scalable from a single site solution of 100 users to a multi-location, mixed-user environment of tens of thousands of users, MCD single software stream solution offers a level of flexibility and deployment topology that is unparalleled.

### MCD on 3300 Controllers:

The Mitel 3300 Controllers are the traditional Mitel-branded hardware platform. A rack mounted 2U design, the 3300 Controllers provide traditional PSTN trunk and system interfaces such as PRI or analog (POTS). The 3300 Controllers deliver sophisticated call management applications and desktop solutions for businesses. Mitel delivers a highly scalable, resilient, robust call control that fully utilizes the power of IP while fully supporting the traditional TDM-based telephony for legacy devices and PSTN connectivity. Mitel’s architecture uses the IP network to connect IP telephony devices. It also switches calls between traditional telephone devices. Additional benefits include the ability to configure or license a 3300 Controller as a Survivable Branch Office appliance or as a PSTN gateway for third-party PBX integration, or as a PRI interface for MCD on industry standard servers or Virtual Mitel Communications Director (Virtual MCD).

### MCD on Industry Standard Servers:

MCD has no dedicated server hardware, but instead runs on either proprietary Mitel 3300 Controllers or industry standard servers. It operates across virtually any LAN or WAN infrastructure, regardless of manufacturer. It can also be implemented in any way you prefer or require, whether in a distributed model where call control is managed at local sites, or in a hosted model where call control servers are co-located with gateways to deliver resilience and business continuity.

### Mitel Multi-Instance Communications Director:

Mitel Multi-Instance Communications Director (MICD) defines a new paradigm for centralized voice over IP deployments by providing a dense, scalable, and energy-efficient communication services platform, while maintaining the flexibility of completely distinct PBX instances. MICD leverages virtualization techniques to allow multiple instances of MCD, Mitel’s award-winning call control software, to run on an industry standard server. Now you can manage voice communications like any other application in your data center<sup>4</sup>.

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<sup>3</sup> Please refer to Mitel Virtual Solutions (<http://vmware.mitel.com>) for more details on Mitel’s partnership with VMware® for the industry’s first voice virtualization solution.

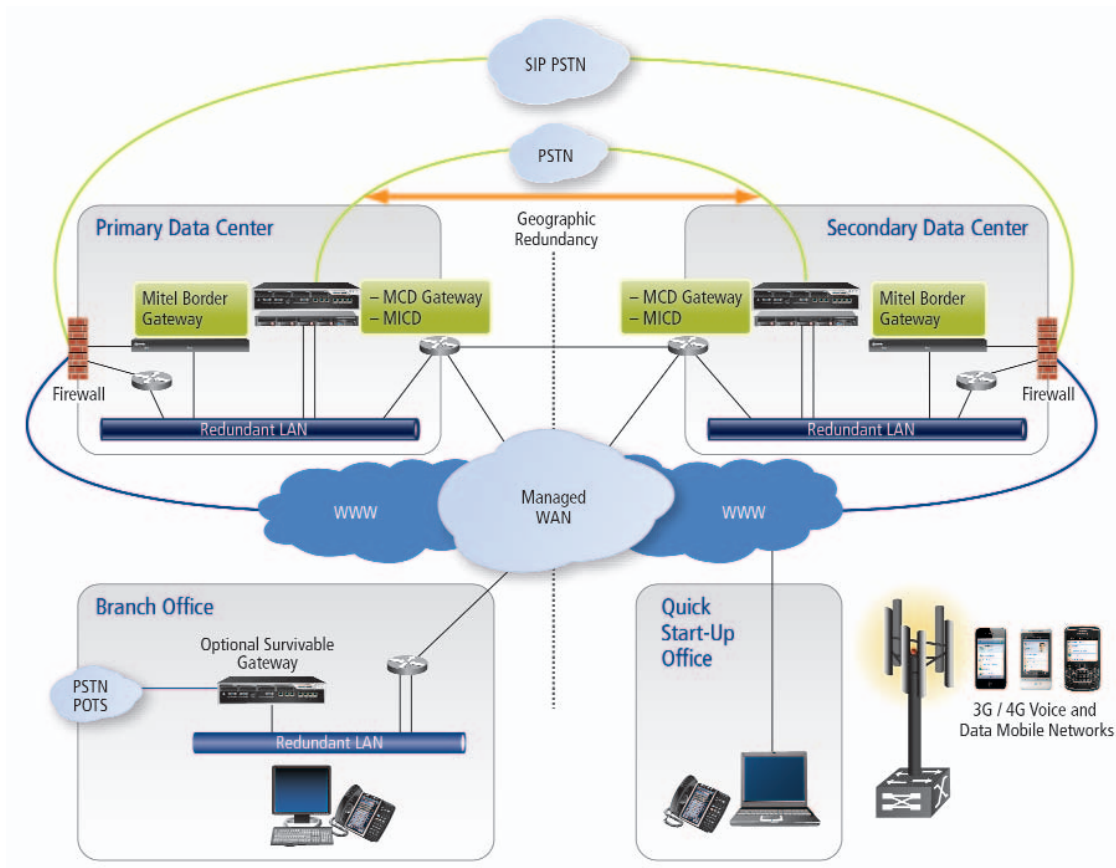
<sup>4</sup> For additional information on MICD, please refer to details at [www.mitel.com](http://www.mitel.com).

**For large enterprises with multiple sites, MICD:**

- Reduces management overhead and cost of ownership through:
  - server consolidation
  - power savings
  - enterprise resource leverage
  - consolidated trunking
- Increases flexibility
- Simplifies the model for resiliency and distributed locations
- Delivers a rich enterprise feature set

**For service providers, MICD:**

- Presents the opportunity for new revenue streams and reduced customer churn, with fully hosted business communications solutions for small and medium-sized customers
- Facilitates a strong business case for a new service, with a low entry cost, and pay-as-you-grow scalability
- Simplifies solution management and enables rapid service deployment
- Delivers cost savings with server and real estate consolidation, power savings, and consolidated trunking across customers
- Is the foundation for a scalable and highly available service that your customers can rely on

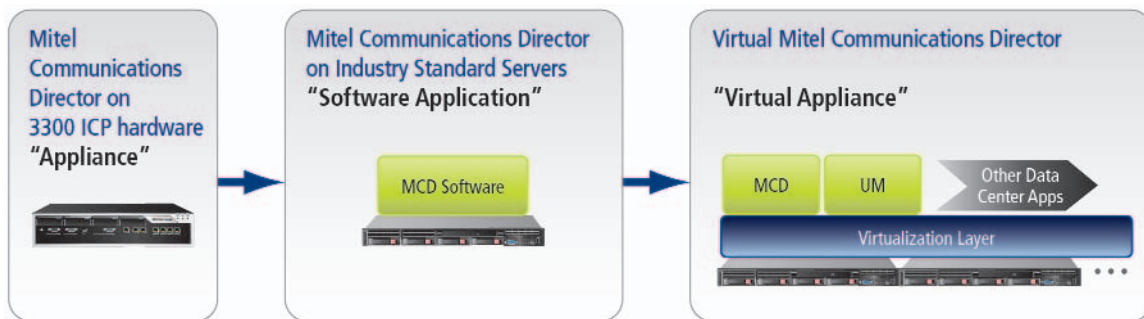


**MICD-Evolved Architecture**

### Virtual Mitel Communications Director:

Virtual MCD is the industry’s first fully virtualized voice processing software application. This is the same MCD software deployed historically on the Mitel 3300 Controllers and offered most recently as a software solution on industry standard servers. However, it is now delivered as a virtual appliance for VMware®-enabled virtual data centers. It maintains the same rich voice communications suite present within the traditional MCD platform, offering consistency in solution set ranging from small businesses up through large enterprises. Benefits of Virtual MCD include:

- **Reduced capital expenditure** – Consolidation of telephony and unified communications as part of a virtual infrastructure enables businesses to further optimize server utilization and consolidation. Dedicated physical servers (or appliances) are no longer required to provide telephony and unified communications services to employees<sup>5</sup>.
- **Reduced operations and maintenance costs** – Consolidation enables reduction in time, effort, and cost associated with server management. As well, integration of telephony and broader unified communications within the fabric of VMware virtual infrastructure management enables these solutions to be managed cohesively alongside other virtualized business applications, further integrating IT processes.
- **Reduced power consumption** – Consolidation of business communications applications enables businesses to take advantage of the inherent power savings of virtual environments enabled by VMware server virtualization – reduced servers and VMware Distributed Power Management.
- **Improved application availability** – Mitel Virtual Solutions can take advantage of VMware VMotion™ and VMware High Availability to provide improved application availability – maintaining business communication services such as telephony, messaging, and conferencing for employees. Should server maintenance be required, VMotion can be used to move Virtual Unified Communicator® (UC) Advanced (Virtual UC Advanced) or any of the other virtual appliances offered by Mitel to alternate VMware host resources, all the while maintaining service availability to the end user. These applications are no longer subject to prolonged downtime for server maintenance<sup>6</sup>.



Your choice of server, your choice of implementation

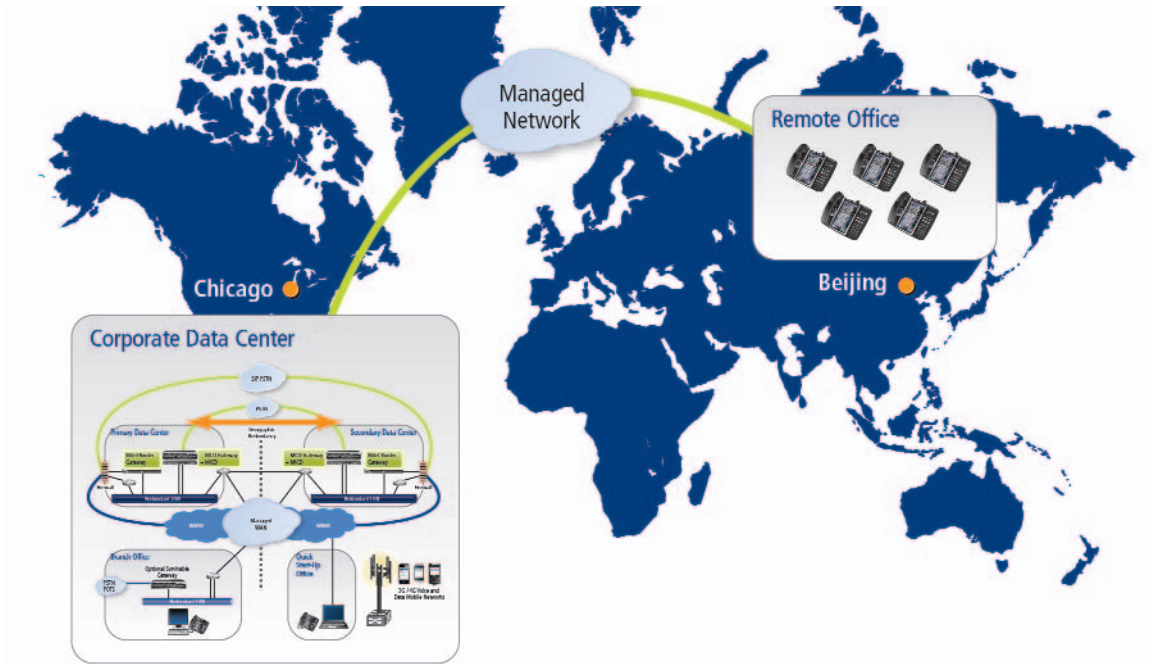
<sup>5</sup> For more information, please refer to the Freedom video or “Why Mitel – Intrasphere Technologies, Inc.” case study at [www.mitel.com/freedom](http://www.mitel.com/freedom).

<sup>6</sup> For additional information on Mitel Virtual Solutions, please refer to <http://vmware.mitel.com> and [www.vmware.com/solutions/business-critical-apps/mitel](http://www.vmware.com/solutions/business-critical-apps/mitel).



## Elastic Demand

Traditionally, the opening of a new location meant substantial investments in telecommunications infrastructure, including items such as separate media trunking resources (PRI, POTS analog lines) through to the actual PBX. An organization that has MCD deployed in its data center can quickly adapt to the need and provision the new services quickly, by either adding an MCD virtual instance for site requirements larger than 12 users, or simply by deploying the phones on the LAN and utilizing the remote, work-enabling capabilities of the Mitel Border Gateway (MBG). MBG is a software blade that provides Network Access Traversal (NAT) and Session Border Control (SBC) firewall traversal along with Quality of Service (QoS) enhancements for unmanaged networks through patented packet management algorithms for adaptive jitter buffering and packet loss.



Centralized corporate data center, with a remote office in China



## A Unified Framework: Voice as a Data Application

The flexibility of the Mitel Freedom architecture combined with MICD allows for provisioning of a new site, complete with its own unique PBX instance, direct from the corporate data center. The PBX instance can be set up and operational in as little as five minutes, and leverages centralized SIP trunk resources and the benefits afforded through more efficient trunk utilization and business continuity enhancements.

As the needs of the organization continue to evolve, additional PBX instances can be created or removed and specific locations or sites can be moved into or out of the data center. The Mitel Freedom architecture allows for a homogenous environment of cloud and premises-based users and can be deployed in a mixture of traditional physical or virtual systems. All of the systems / users can be maintained through a single administrative interface, regardless of the system or user location. According to a recent Gartner survey, the growth in corporate data centers continues to move at a rapid pace, fuelled by three of the most important drivers of strategic change:

1. business continuity and availability (50 percent of respondents)
2. cost containment initiatives (37 percent)
3. maintaining or improving user service levels and satisfaction (36 percent)

More than half of the respondents plan to expand capacity at their existing data center site by the end of 2011, and 30 percent plan to build new data centers. From a technology investment perspective, the top three technologies that respondents plan to invest in through 2011 are server virtualization (67 percent), application consolidation or rationalization (56 percent), and blade servers (51 percent)<sup>7</sup>.

Through a similar drive for increased economic and communication efficiencies, Mitel itself recently went through just such a transformation. After acquiring Inter-Tel® in 2007 and with a focus on a highly available and redundant data center topology, Mitel embarked on a communications technology refresh for the organization's combined 55 locations. With phase one now complete, the transformation resulted in centralized communications for the U.S. using MCD call control software, bringing increased flexibility, ease of use, reduced overhead, and reliability to the company's communications systems. Only the telephone handsets themselves are installed in the regional offices, with all administration handled at the centralized data center. This consolidated approach to maintenance, upgrades, and other system management tasks is reducing costs and providing a much simpler network to maintain. The results have exceeded corporate expectations:

- 48 of the firm's 55 regional offices are now sharing a single, unified platform
- The remaining seven offices have been migrated to a teleworker solution that requires no on-premises equipment other than handsets
- The number of communications servers has been reduced from 55 to 7
- Staffing requirements to manage the communications infrastructure have dropped from 50 to four full-time equivalents

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<sup>7</sup> "Key Trends Shaping the Future of Data Center Infrastructure Through 2011," Gartner, Inc., October 22, 2010.

- The annual spend on communications infrastructure has been reduced by \$3.5 million, yielding a payback period of just six months
- The net present value of the Mitel@Mitel project investment over five years is \$6,500 / employee

## Highly Available Virtualized Voice

Software virtualization technology is available from several vendors, including the open source community. Suppliers offer an array of virtualization capabilities – from hypervisors to virtual machine management tools, and from server virtualization to desktop virtualization. VMware is the undisputed global industry leader with greater than 85 percent market share, including 97 percent of the Fortune 1000, over 22,000 channel partners, and in excess of 150,000 customers.

Mitel, in its acknowledgement of the ubiquity and the power of virtualized data centers, has chosen to virtualize its business communications solutions and to partner with VMware. Mitel is virtualizing its business communications to fit seamlessly within virtualized business data centers alongside other business applications and in context of established business processes.

Mitel's competitors and their products – such as Avaya® Aura™ and Alcatel-Lucent BiCS – offer virtualized applications, but within closed environments. They are leveraging virtualization to enable application co-residency of their own products to produce integrated single server suites. In some of these product offerings from competitors such as Avaya, non-industry leading virtualization technology is used through Citrix® XenServer®.

All virtualization technologies are not created equal. A key differentiation for VMware and its vSphere™ product is its vCenter™ management suite. The initial virtualization benefit of server reduction through application consolidation is becoming table stakes. With VMware vCenter, IT Managers can benefit from several key management functions available to them as part of vCenter or as optional add-ons to vCenter. It is these capabilities and the support of them within a virtual appliance (vApp) that provide valuable recurring return on investment (ROI). The management tools within vCenter are:

- **Virtual infrastructure management** – virtual machine creation and configuration, health monitoring, performance reports, etc.
- **VMotion™** – live migration of virtual machines from one physical server to another with zero downtime. VMotion is the foundation technology for several key virtual machine management functions offered through vCenter, including many of those listed in the subsequent bullets.
- **High Availability** – automatically detects physical server failure and restarts virtual machines on alternate servers when a server failure occurs.
- **Fault Tolerance** – enables zero downtime, zero data loss, and continuous availability against physical server failures with stateful failover protection.
- **Distributed Resource Scheduler** – automated and notified migration of virtual machines to balance workloads to meet business demands and enable optimal utilization of physical server resources.



- **Distributed Power Management** – consolidates unneeded or lightly used virtual machine workloads onto fewer physical servers, placing unneeded physical servers in standby mode. As workloads increase, servers are brought back online and virtual machine workloads appropriately redistributed.
- **Update Manager Server and OS Patching** – automatically patch / update one or more vSphere hosts (physical servers) as well as select Microsoft® Windows® and Red Hat® Enterprise Linux® operating systems in a managed fashion. Virtual machines are migrated (using vMotion) off of hosts to be patched.
- **VMSafe™** – integrated infrastructure that enables virtual machine–aware security solutions from leading third-party security software vendors to be applied and used within a virtual infrastructure.
- **Site Recovery Manager (SRM)** – a plug-in to VMware’s vCenter, SRM enables pre-planned disaster recovery management policies to be enacted should a primary data center or server cluster be put out of service. An entire virtual cluster can be recreated on a backup data center. Storage replication ensures data continuity.

Mitel supports applications consolidation for both Mitel Virtual Solutions and other corporate line of business (LOB) applications on the same virtualization host resources. This allows organizations to benefit from leveraging their existing standardized virtual environment deployment and not have to run a duplicate isolated environment just for the benefit of virtualized unified communications. Through vCenter management support, the organization can also use the same business continuity and disaster recovery planning rules that they have applied to their other critical LOB applications using the same, familiar vCenter tools and interface.

Speed of deployment is another area of consideration and advantage. Through the support of industry standard Open Virtualization Format (OVF) files and VMware snapshot and template capabilities, Mitel further simplifies the deployment of UC across the organization. Mitel customers have experienced installation / deployment times of as little as 15 minutes with Virtual MCD<sup>8</sup>.

As many of these advantages can be applied equally across all UC applications, not just call control, Mitel has demonstrated a commitment to virtualization of our complete Unified Communications portfolio through Mitel Virtual Solutions – Virtual MCD, Virtual Mitel Applications Suite, Virtual UC Advanced, and Virtual Contact Center Solutions. All of these applications are generally available today.

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<sup>8</sup> For more information on Mitel Virtualization Solutions, including the “Uniting the Worlds of Data and Voice White Paper,” visit <http://vmware.mitel.com>.

### Support for vCenter Management

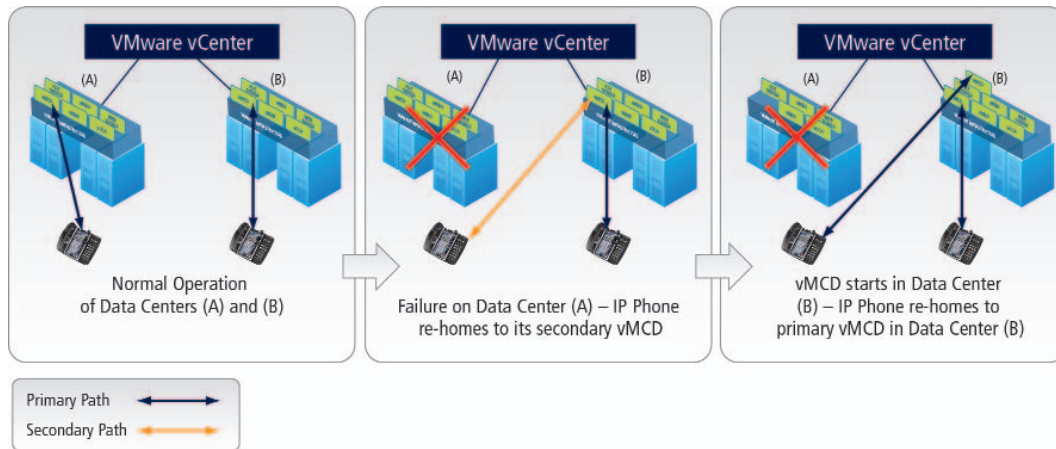
VMware Advanced Management Capability	Virtual MCD	Virtual MAS	Virtual MBG	Virtual UC Advanced	Virtual Contact Center
vMotion	•	•	•	•	•
Storage vMotion	•	•	•	•	•
High Availability	•	•	•	•	•
Fault Tolerance <sup>10</sup>	(future) <sup>9</sup>	(future) <sup>9</sup>	future <sup>9</sup>	(future) <sup>9</sup>	(future) <sup>9</sup>
Distributed Resource Scheduler	•	•	•	•	•
Distributed Power Management	•	•	•	•	•
vStorage APIs	•	•	•	•	(future) <sup>9</sup>
Site Recovery Manager	•	•	•	•	•
Virtual Appliance Deployment (Import)	•	•	•	•	•
Export Virtual Appliance	•	•	•	•	•
Shutdown Guest	•	•	•	•	•
Snapshot (Powered Off)	•	(future) <sup>9</sup>	•	•	•
Cloning	•	•	•	•	•
Health Monitoring	•	•	•	•	•

<sup>9</sup> Mitel will further investigate the potential to support this management option at a future date

<sup>10</sup> VMware Fault Tolerance is currently limited to virtual machines no larger than one virtual CPU.

## Business Continuity – Five Nines Availability and Beyond

The combination of VMware vSphere with vCenter and Virtual MCD resiliency provides your organization with significant enhancements to an already robust availability level. By leveraging vMotion along with the system monitoring and virtual machine recovery processes of high availability and Virtual MCD resiliency, organizations can further improve their communications system business continuity planning by both reducing the required hardware elements and providing a nearly endless number of virtual failover points.



VMware vCenter and Virtual MCD enhance business continuity through high availability and resiliency

## Business Agility through Federation

In today's global business model, agility is critical to success. The ability to quickly react to market conditions is imperative. Today that might mean an immediate solution of acquiring a competitor or strategic supplier or, for example, opening a new sales office in China. There are significant challenges around incorporating IT and business communications between the two. Traditionally, this resulted in a requirement for complete replacement of the acquired company's PBX infrastructure – a costly and time consuming process. Through established interface integrations such as SIP, Q.SIG, and the flexibility of Mitel Dynamic Extension, the Mitel Freedom Architecture gives an organization the flexibility to continue to use existing communications assets while taking advantage of MCD to federate third-party PBX systems. This allows the user community to take advantage of IP-based applications and related operational cost savings. It can be as simple as four- or five-digit dialling and network-based calling efficiencies, or enhancing the older system to add presence-based collaboration tools or Fixed Mobile Convergence (FMC) capabilities, allowing the user to make their mobile device an endpoint on the corporate PBX. By 2011, more mobile phones than desk phones will be supported by enterprises in North America<sup>11</sup>. These are workers who regularly telecommute, work from home, remote office locations or locations other than the main office. In 2009, 39 million people telecommuted – this number is expected to reach 63 million by 2016<sup>12</sup>.

<sup>11</sup> "Emerging Technology Analysis: Fixed-Mobile Convergence Drives Adoption of Unified Communications," Gartner, Inc., December 22, 2009.

<sup>12</sup> "US Telecommuting Forecast, 2009 To 2016," Forrester Research, Inc., March 11, 2009.

When working remotely, they use a wide range of communication devices ranging from laptops to tablet devices, smartphones, and even home telephones. The traditional challenge has been in cost effectively supporting the influx of these devices and to do so in a fashion that is secure, easy to use, and device agnostic. Mitel has extended IP functionality by taking traditional, behind-the-PBX functionality or station-side functions to trunk-side (SIP/PRI) interfaces. Mitel's Dynamic Extension functionality allows third-party devices like mobile phones and third-party PBX systems to make and receive calls as if they were your desk phone.

1 = hold / retrieve

2 = transfer

3 = conference

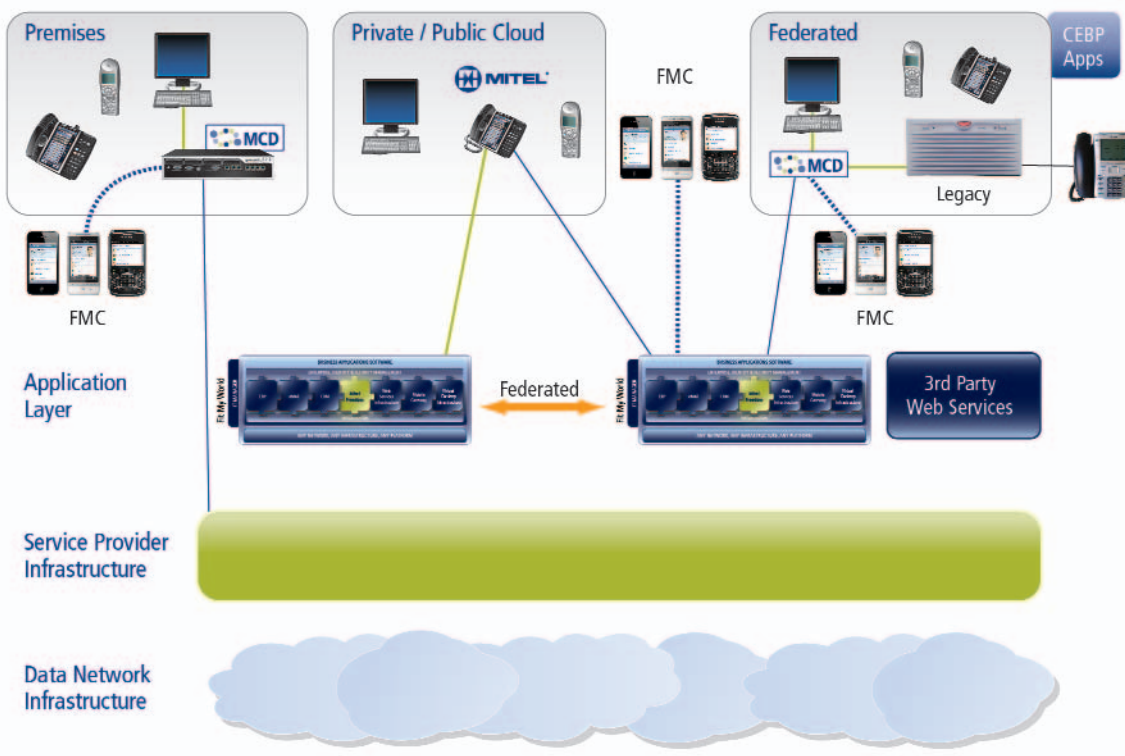
4 = swap

5 = handoff

# = cancel call



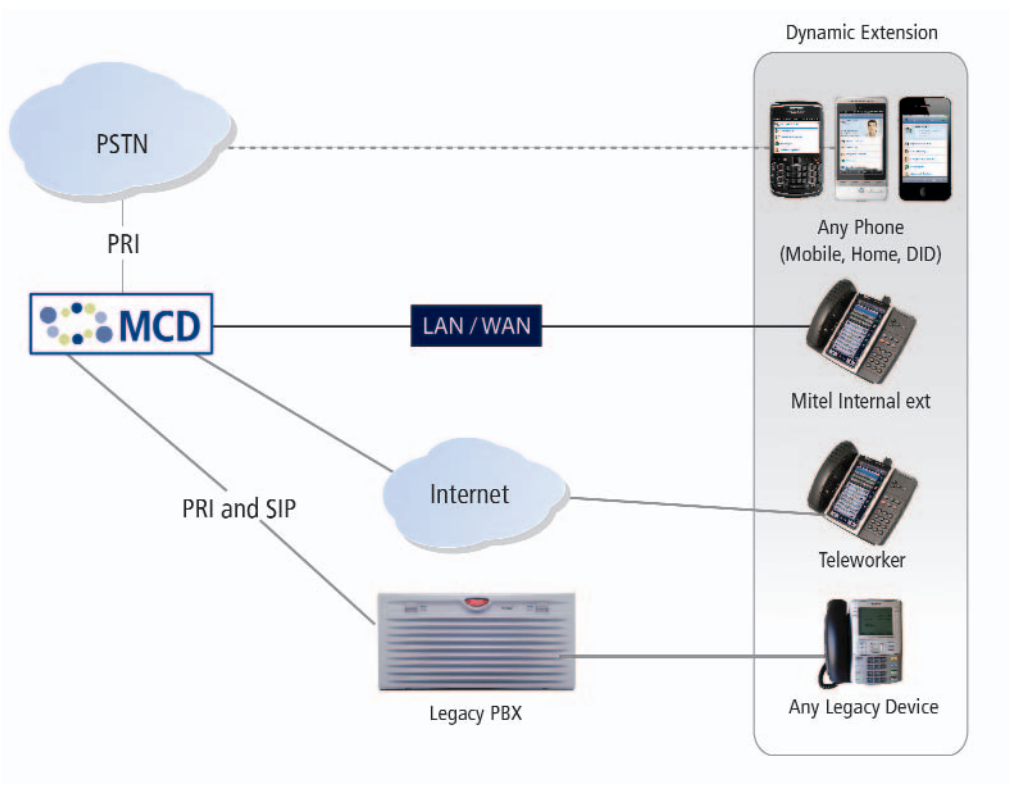
Dynamic Extension allows mid-call features though simple, one-touch commands, on any device



Advanced deployment flexibility

## One Identity Wherever You Are

MCD comes with Mitel's Unified Communications (UC) applications embedded in its core software – no extra server is required to benefit from these capabilities. Mitel Dynamic Extension, an integral part of the MCD call control software, works with any number in the world, including any mobile number on any network, to allow end-users to be reachable wherever they are, whether at work, at home, or anywhere in between. Personal Ring Groups let you decide how your calls are routed with Dynamic Extension, including any preferential treatment for certain callers. You can use your mobile phone, residential set, or any phone to make and receive calls as if you were at your desk, so you are always within reach. You can use a mobile device or a web site to access the UC Advanced Web Portal to edit Dynamic Status, edit the Dynamic Extension number, and check corporate contact details, presence information, and voice mail message details. Wherever you are, you have access to the entire organization and its toolset. By leveraging mid-call features such as hold / retrieve, transfer, conference, swap, and cancel call, Dynamic Extension provides easy, one-touch access to key telephony features on MCD.



Dynamic Extension – Mitel phones, mobile phones, and third-party PBX systems

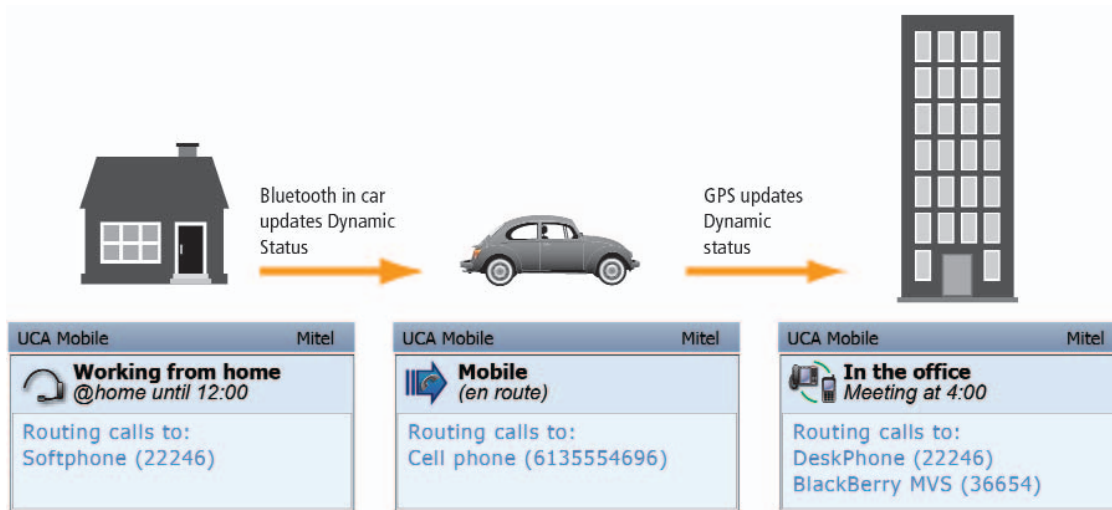
Mitel Unified Communicator (UC) Advanced is a software-based presence and collaboration suite, built on Linux and part of the Mitel Standard Linux blade design, allowing numerous Mitel UC applications to co-reside and be administered from a single interface. A key advantage of combining Mitel UC Advanced and MCD's External Hot Desk User (EHDU) feature is the ability to extend live presence to any device that is part of the MCD user community – this can be regardless of device type or location, anywhere in the world. This combination provides maximum flexibility for your user community while ensuring critical presence feature parity, even for a user with a home phone. Microsoft Exchange and IBM® Lotus Notes® calendar integration automatically provides status availability and preferred call routing updates to colleagues and federated external customers.

UC Advanced advantages include:

- A single administrative interface for provisioning and maintaining users.
- Ability to scale to 2,500 users per UC Advanced server / blade and to federate between the individual servers for customers who require even higher density.
- Built-in presence proxy / aggregator, using the SIP / SIMPLE protocol along with XMPP extensions, allows for interface to various third-party corporate presence and collaboration applications, such as Microsoft Lync™ and Lotus Sametime®.

## One User, Multiple Devices – A Single Experience

Support is extended to mobile devices through either a lightweight web client interface, UC Advanced Web Portal, or the UC Advanced Mobile client application for BlackBerry®, Android™, and iPhone®. The mobile application extends geographic-location-based (GPS and Bluetooth®) presence to automatically change a user’s status and call routing conditions. UC Advanced’s Dynamic Status feature couples with device-based location services to provide automatic call routing and notification of availability to the user’s contact community, both internal and external.

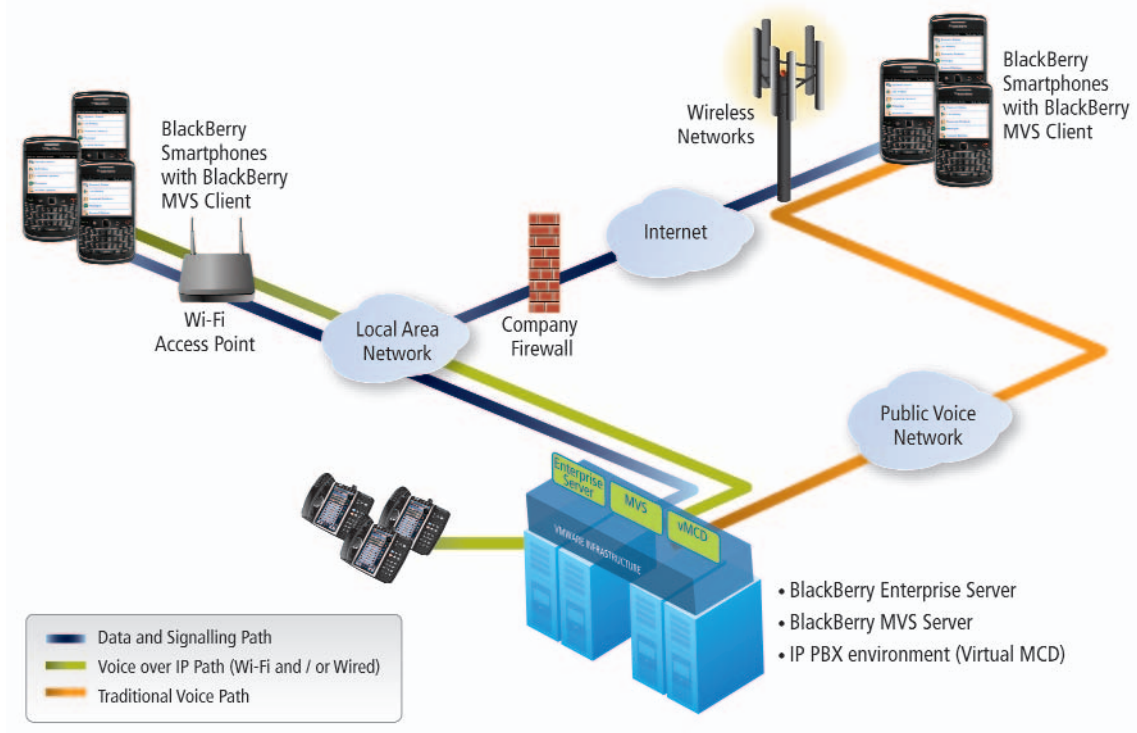


Dynamic Status automatically updated based on geographic location, using GPS and / or Bluetooth

## Mitel Mobility for BlackBerry MVS

Mitel Mobility for BlackBerry Mobile Voice System (MVS) combines MCD and BlackBerry to extend Mitel business communications to the BlackBerry smartphone. It allows the BlackBerry smartphone to become a SIP extension of the Mitel call control over Wi-Fi® or cellular networks and provides the user with seamless calling experience.

BlackBerry MVS 5.0 is designed to be out of the media path and ensures MVS calls are anchored in the company's on-premises MCD. A single MVS server can scale up to 10,000 BlackBerry users under this approach. In addition, BlackBerry MVS routes business calls through the company MCD, leveraging existing investments, infrastructure and optimized routing policies. Administrators can leverage BlackBerry MVS call direction (PBX-initiated vs. BlackBerry-initiated calling) and transport controls (voice over Wi-Fi and voice over mobile carrier networks) to manage mobile costs and ensure their users have the best calling experience possible. Voice policies on MCD are extended to BlackBerry MVS devices.



Mitel business communications extended to the BlackBerry smartphone through Mitel Mobility for BlackBerry MVS

## Seamless Access

Mitel Border Gateway (MBG), part of the Mitel Applications Suite, provides seamless integration for third-party SIP applications and remote end points, managing such requests through its built-in SBC and NAT. Additionally, MBG provides secure, QoS-managed access for remote teleworkers that requires no hardware or software-based VPN. Security is accomplished via AES 128-bit encryption and Secure Real Time Protocol (SRTP). The solution provides efficient, easy-to-deploy remote working with complete feature transparency, and is available for hard and softphone client workers as well as remote ACD agents.



Efficient, easy-to-deploy remote working, with complete feature transparency

## Freedom – Bringing It All Together

Mitel's Freedom Unified Communications solution provides a unique, software-based approach to solving today's communication problems, and does so in a framework that provides the highest level of options to meet the new challenges of tomorrow. Mitel's truly flexible architecture provides your organization with the tools to communicate efficiently and effectively, without the traditional encumbrances that often accompany the shift to UC. Mitel Communications Director provides an open and extensible software-based Unified Communications platform that allows your business to improve business agility, while providing innovative and cost-effective integration to your existing operational elements – an architecture that does not simply mask inefficiencies but rejuvenates your operations, drives positive results to your bottom line, and provides the flexibility to meet the change of the future.

Mitel Communications Director – the freedom of choice.



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