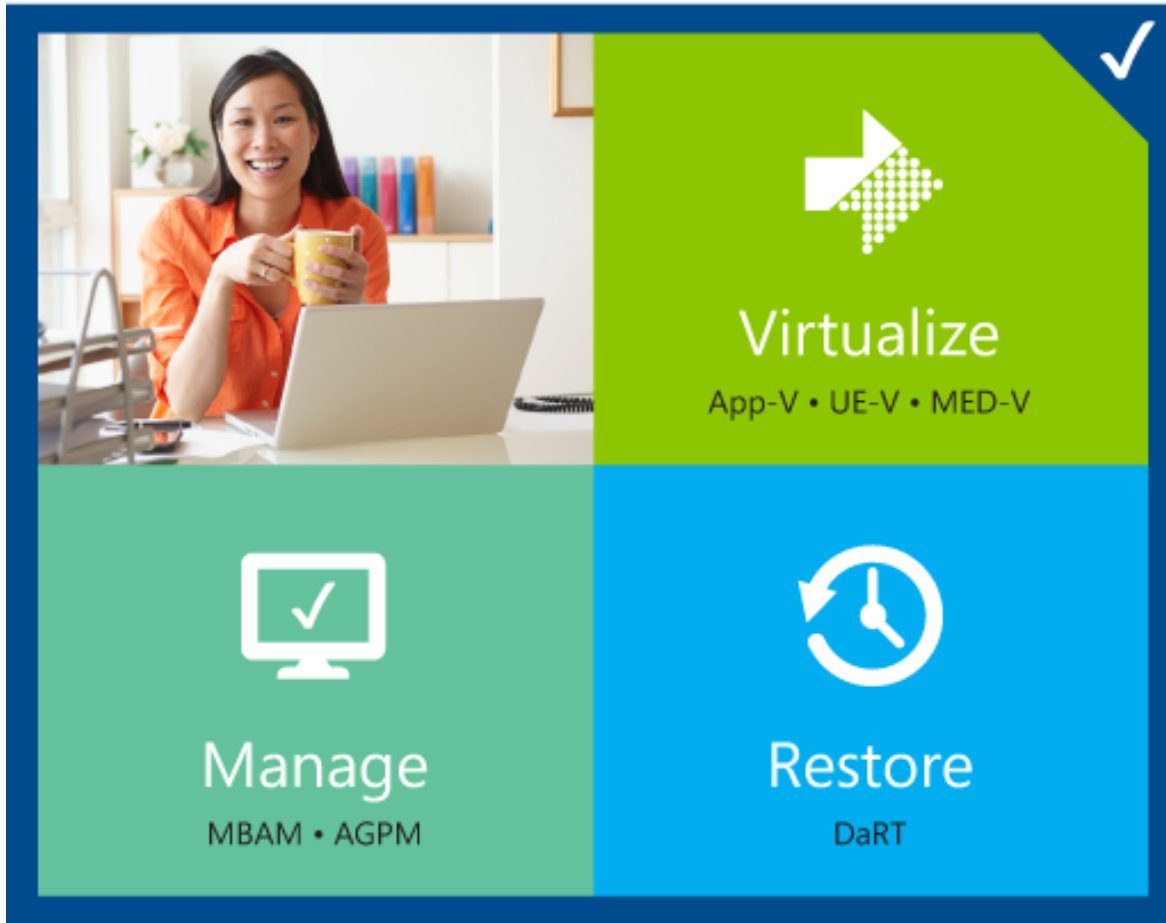


# MDOP

Microsoft Desktop Optimization Pack



A 2x2 grid of colored squares representing MDOP features. The top-left square is a photograph of a woman in an orange shirt smiling and holding a yellow mug while sitting at a desk with a laptop. The top-right square is green and contains a white icon of a right-pointing arrow with a dotted tail, the text 'Virtualize', and 'App-V • UE-V • MED-V'. The bottom-left square is light green and contains a white icon of a monitor with a checkmark, the text 'Manage', and 'MBAM • AGPM'. The bottom-right square is blue and contains a white icon of a clock with a circular arrow, the text 'Restore', and 'DaRT'. A white checkmark is in the top-right corner of the entire grid.




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SoftwareONE Puerto Rico & Caribbean



MDOP

## Agenda

- *Microsoft User Experience Virtualization*
- *Microsoft Application Virtualization*
- *Microsoft Enterprise Desktop Virtualization*
  
- *Microsoft Advance Group Policy Management*
- *Microsoft Bitlocker Administration and Monitoring*
  
- *Microsoft Diagnostics and Recovery Toolkit*



Enhance every  
workstyle with  
MDOP

## Microsoft Desktop Optimization Pack (MDOP)



Virtualize

Microsoft Application Virtualization (App-V)  
Microsoft User Experience Virtualization (UE-V)  
Microsoft Enterprise Desktop Virtualization (MED-V)



Manage

Microsoft Advanced Group Policy Management (AGPM)  
Microsoft BitLocker Administration and Monitoring (MBAM)



Restore

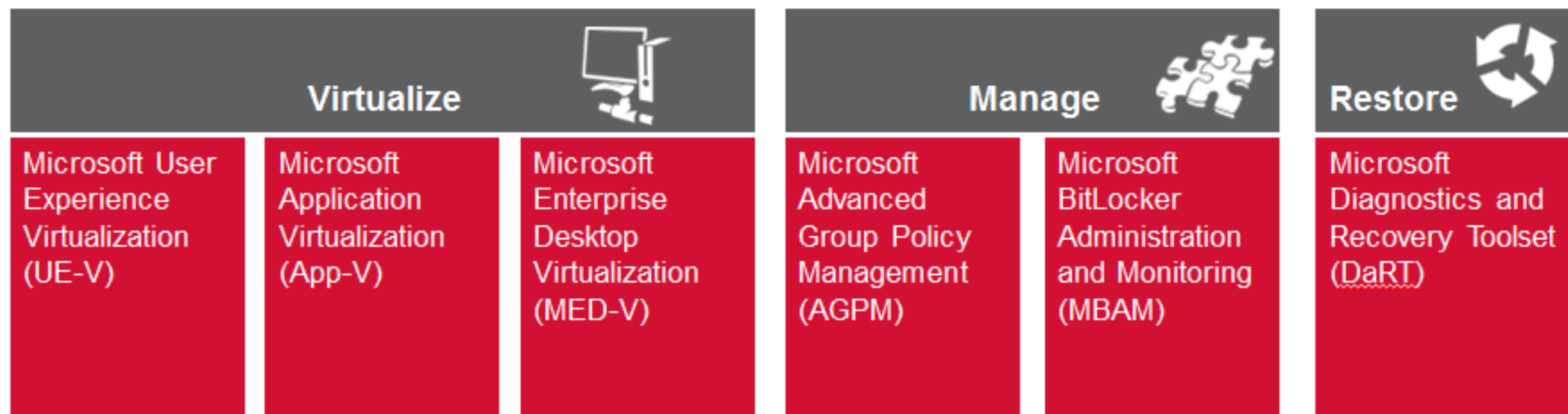
Microsoft Diagnostics and Recovery Toolkit (DaRT)

<https://www.microsoft.com/en-us/windows/enterprise/products-and-technologies/mdop/default.aspx>

# MS Desktop Optimization Pack (MDOP)

Optional Subscription Add-On Windows SA

MDOP is a suite of technologies that helps enterprise customers take advantage of desktop virtualization, better manage Windows devices, and deliver advanced system restore capabilities.



Note: MDOP is an **optional add-on** license based on Windows Software Assurance. Usage ends when subscription ends





# Microsoft® Desktop Optimization Pack for Software Assurance **2013**

The Microsoft Desktop Optimization Pack (MDOP) helps administrators manage Windows features, virtualize applications and the user experience, and restore user productivity after a computer issue. You can learn more about MDOP on the [Windows Enterprise website](#). You can also view MDOP technical documentation on [TechNet Library](#).



Microsoft®  
Advanced Group Policy  
Management



Microsoft®  
Application Virtualization  
for Desktops



Microsoft®  
BitLocker Administration  
and Monitoring



Microsoft®  
Diagnostics and  
Recovery Toolset



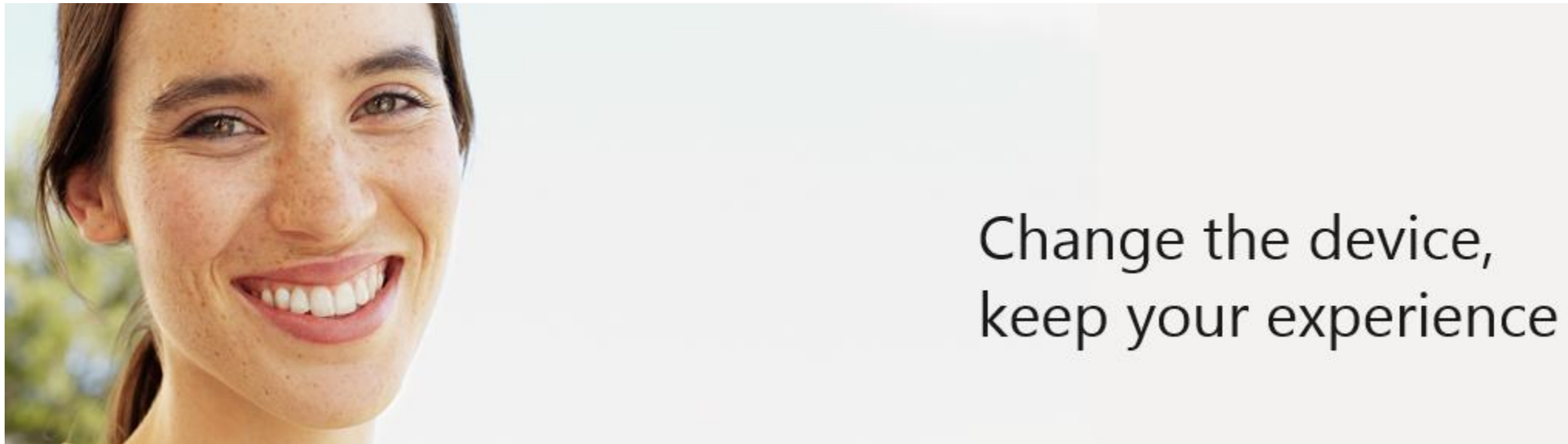
Microsoft®  
Enterprise Desktop  
Virtualization



Microsoft®  
User Experience  
Virtualization

# UE-V

Microsoft User Experience Virtualization



<http://www.microsoft.com/en-us/windows/enterprise/products-and-technologies/mdop/ue-v.aspx>

# Microsoft User Experience Virtualization (UE-V)

Today's enterprise employees are highly mobile and use a variety of means for accessing Windows and their applications. They expect the same experience no matter how they access them. Traditional approaches for roaming this experience no longer meet the needs of this new, flexible workstyle. They either require too much time and effort by the users, or don't work well when employees roam in environments that include physical and virtual applications and desktops. To help workers remain productive in however they choose to work, IT needs a simple, efficient way to provide users with a consistent Windows and application experience.

Microsoft User Experience Virtualization (UE-V) is an enterprise-scale user state virtualization solution that delivers a user's personal Windows experience across many devices, is simple for IT to deploy, and easily integrates with existing management tools. A few of the key benefits of UE-V include:

**Personal and flexible experience:** Delivering a consistent, personal Windows experience for each user's workstyle is at the core of UE-V. It does this by roaming the operating system experience for Windows 7 and Windows 8, providing the consistent look and feel that users expect. UE-V helps retain the application experience without having to reconfigure applications when a user logs in from a different Windows instance—regardless of how the application is delivered or whether it is a rich desktop or virtual desktop session. Smart synchronization policies determine when and where to synch application and OS settings, helping ensure seamless personalization and quick loading. Since UE-V automatically delivers a personal experience to Windows 7 and Windows 8-based devices, employees gain the flexibility to work from anywhere.

**Simplicity and versatility:** With UE-V, IT can use settings location templates that automatically identify the most common paths for application and OS settings. With out-of-box templates for Office 2007 & 2010, Windows 7, and Windows 8, it is easy to begin roaming. For other applications, IT staff can easily create their own settings location templates using a simple discovery process. UE-V is also easy to support. If a user accidentally applies unwanted changes, IT can simply roll back the experience to their initial state. UE-V enables personal, user-defined experiences while allowing IT to maintain oversight.

**Integration and scalability:** As more organizations use virtualization to deliver applications and desktops, UE-V provides a user state virtualization solution that works with their existing desktop virtualization investments and easily scales with existing infrastructure and through the use of familiar tools. UE-V does this by seamlessly integrating with Microsoft desktop virtualization products to roam the user experience in complex environments. IT can use existing tools to deploy UE-V and settings location templates. To make common tasks even easier, IT can use Windows PowerShell to simplify settings updates. Where System Center 2012 Configuration Manager is in use, IT is able to minimize user support requests and help ensure a consistent UE-V agent configuration, with the UE-V Configuration Pack.

# APP-V

Microsoft Application Virtualization



Transform applications  
into managed services

<https://www.microsoft.com/en-us/windows/enterprise/products-and-technologies/mdop/app-v.aspx>





# Application Virtualization (App-V)

Microsoft Application Virtualization (App-V) transforms applications into centrally managed services that are never installed and don't conflict with other applications.

IT professionals and end-users alike face challenges in today's work environment. End-users speak many languages, are geographically dispersed and may not be connected to corporate networks at all times. IT must meet the needs of these users, and provide solutions that are fast, flexible and reliable. App-V can help with the challenges you face day to day and enable your business to be more flexible and responsive to changing needs. Some of the key benefits of App-V include:

**An integrated platform:** Virtual Applications leverage Windows standards for a consistent user experience. With App-V 5.0, virtual applications work more like traditionally installed applications. This means that users don't have to change the way they use an application just because it's virtual. It also makes it easy for IT to work with virtual applications. Diagnostic messages provide meaningful feedback, helping users resolve problems on their own.

**Flexible virtualization:** Businesses can connect separately packaged App-V applications, enabling them to communicate with each other and with traditionally installed applications. This gives businesses the best of both worlds, providing isolation – reducing conflict and time spent regression testing – yet allowing applications to interact and communicate when needed.

**Powerful management of virtualized applications:** App-V 5.0 allows IT to deploy, track and service virtual applications. With new, web-based management interface based on Silverlight, IT can manage applications without being tied to an installed management console. And App-V 5.0 is designed to be easy and efficient to use in VDI environments, allowing IT to make the best use of expensive disk resources without changing the way they get their jobs done. It lets IT simply choose to turn off local application storage, dramatically reducing disk requirements for VDI while leaving the application provisioning and update process unchanged.

App-V integrates with [System Center Configuration Manager](#), so you can manage virtual and physical applications, along with hardware and software inventory, operating system and patch deployment, and more.

# MED-V

Microsoft Application Virtualization



<https://www.microsoft.com/en-us/windows/enterprise/products-and-technologies/mdop/med-v.aspx>

# MED-V

## Microsoft Application Virtualization



### Microsoft Enterprise Desktop Virtualization (MED-V)

When upgrading to a new version of Windows, enterprises must first inventory and test line of business applications on the new operating system and your organization may have some applications that are not yet officially supported by your vendor, or might not work at all despite all efforts.

This whole process of testing, fixing the application, upgrading to a new version that supports Windows 7 or finding an alternative application can be time-consuming. Meanwhile, users are unable to take advantage of the operating system's new capabilities and enhancements, and IT departments have to delay upgrade plans. Microsoft Enterprise Desktop Virtualization (MED-V) can help ease these challenges. Some of the key benefits of MED-V are:

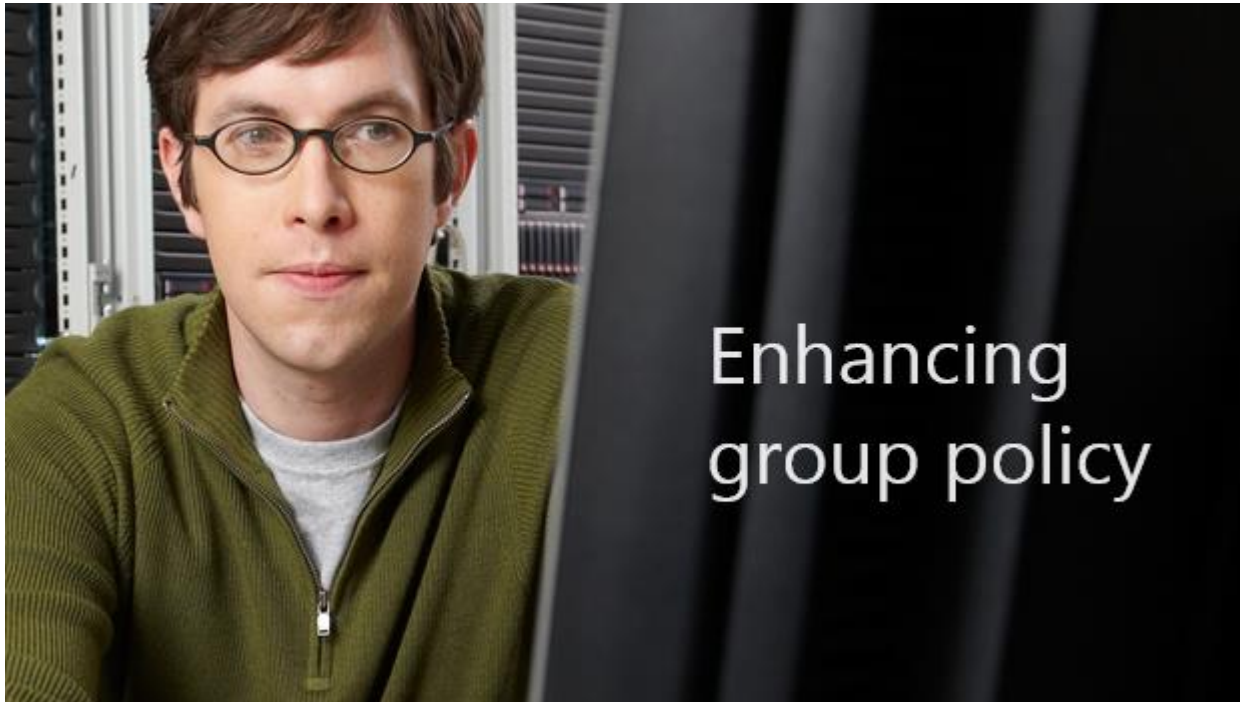
**Maintaining business continuity:** MED-V removes the barriers to Windows upgrades by resolving application incompatibility with Windows 7 and delivering applications in a Windows XP-based application compatibility workspace. Upgrades can proceed on schedule, and users can take advantage of the power of Windows 7 right away without losing access to applications they need while IT departments can remediate incompatible applications.

**Easy to use:** MED-V enables users to seamlessly start the legacy applications right from the Windows Start. Applications appear and operate as if they were installed on the desktop. They can even be pinned to the Windows 7 taskbar! In MED-V 2.0 legacy applications share seamless access to user documents and network-available printers, and even USB devices such as flash storage or Smartcard readers.

**Simplified IT management:** MED-V is easy to deploy and manage. MED-V 2.0 integrates with existing management and deployment systems, such as System Center Configuration Manager, for easy, scalable, enterprise deployment.

# AGPM

Microsoft Advanced Group Policy Management



Microsoft Advanced Group Policy Management is an add-on to Group Policy Management Console that provides change management control over Group Policy Objects

# When do I use AGPM?

- Provide change control system for group policies
- Delegate and control group policy administrators access
- Provide ability to revert to previous versions of group policies





# Challenges in Managing Group Policy

- Edits to live GPOs can affect many or all computers on network adversely
- No way to quickly revert to previous group policy settings
- GPO Editors can deploy GPOs into live environment without testing
- Multiple GPO editors, without audit information on individual settings
- Can't provide review process to accept or reject new settings



# Microsoft Advanced Group Policy Management: Advantages

- Granular administrative control
  - Robust delegation model
  - Role-based administration
  - Change request approval
- Reduced risk of widespread failures
  - Offline editing of GPOs
  - Difference reporting and audit logging
  - Recovery of a deleted GPO
  - Repair of live GPOs
- Enable effective Group Policy change management
  - Creation of GPO template libraries
  - Subscription to policy change e-mail notifications
  - Version tracking, history capture, and quick rollback of deployed changes



# Microsoft Advanced Group Policy Management: Concepts

- GPMC Integration
- Role-based Delegation
- Change Management
- Offline Editing
- Email notification
- Advanced Differencing Reports
- Templates
- Roll-back



# Role-based Delegation

- Allows administration tasks to be delegated to regional or task-oriented administrators
- Provide an optional workflow process that includes role-based delegation, review, and approval
- Roles: Administrator, Approver, Editor, and Reviewer
- Domain-level and GPO based delegation



# Change Management

- Store each GPO in a central Archive
- Administrators can view and edit offline
- Stores versions for Roll-back





# Using GPOs and AGPM for Change management

- Create a new controlled GPO or control a previously uncontrolled GPO.
- Check out the GPO, so you and only you can modify it.
- Edit the GPO.
- Check in the edited GPO, so others can modify it, or so it can be deployed.
- Review the changes.
- Deploy the GPO to the production environment.



# Offline Editing

- Enables administrators to configure and test changes on live GPOs without effecting live environment
- Requires controlled GPO that is checked out before editing
- When checked out no other administrators can edit until GPO is checked in
- After check in, the GPO can reviewed, approved, and deployed



# Email Notification

- Editor or Reviewer attempts to create, deploy, or delete GPOs an email is sent to configured Approver(s)
- Approver(s) can accept or reject the request



# Advanced Difference Reports

- Generate HTML or XML based difference reports
- Comparison of two controlled GPOs
- Comparison of controlled GPO and default template
- All Roles of AGPM administrator can run difference reports



# Templates

- Templates enable administrators to save all of the settings of a particular version of a GPO
- Templates can be used as a starting point for new GPOs
- Editors can select which GPO template is the default
- Eliminates settings errors when configuring multiple GPOs that need to comply with company policies





# Roll-back

- Redeploys previous version from archive
- Overwrites current version in production



# AGPM Technology

- Prerequisites for AGPM
  - AGPM Server Requirements
    - Microsoft Windows Server 2008/2012
    - Group Policy Management Console (GPMC)
    - Membership to the Domain Admins group for install
    - Default Port for AGPM service is 4600
  - AGPM Client Requirements
    - Windows Client (32/64-bit version)
    - Microsoft Windows Server 2008/2012
    - Group Policy Management Console (GPMC)



# MBAM

Microsoft BitLocker Administration  
and Monitoring



An enterprise solution  
to manage BitLocker



<http://technet.microsoft.com/library/dn145063.aspx>

<http://technet.microsoft.com/en-us/windows/jj822162>

# Microsoft BitLocker Administration and Monitoring (MBAM)

Organizations around the world rely on Windows® BitLocker® Drive Encryption and BitLocker To Go™ to protect data on Windows 7, Windows 8, Windows To Go and removable storage devices. To make large-scale BitLocker implementations easier to manage, many are turning to Microsoft® BitLocker Administration and Monitoring (MBAM).

Microsoft BitLocker Administration and Monitoring 2.0 – from the Microsoft Desktop Optimization Pack (MDOP) for Software Assurance – takes BitLocker to the next level by simplifying deployment and key recovery, centralizing compliance monitoring and reporting, and minimizing the costs associated with provisioning and supporting encrypted drives within your organization. Some of the key benefits of MBAM are:

**Simplified BitLocker Deployment:** Microsoft BitLocker Administration and Monitoring lets you choose the deployment scenario that makes the most sense for your business. You can provision BitLocker as part of your Windows 7, Windows 8, or Windows To Go deployment or you can configure BitLocker encryption to be provisioned after the operating system is installed. Using the additional Group Policy controls in MBAM, it's easier for IT to provision BitLocker in a way that meets your business needs. The controls are checked periodically and if a device is detected as non-compliant, MBAM will help put it back into the desired state.

**Increased compliance:** With out-of-box reports you can get a better view of your compliance status, enabling you to easily determine if lost or stolen devices were encrypted. IT staff can also create custom compliance reports using built-in SQL Server Reporting Services tools to show them just the information that they need to see. MBAM also provides you the ability to store BitLocker recovery keys in an encrypted database with granular access controls and creates an audit trail of who has accessed recovery key information, keeping this information protected and only accessible to the right people in the organization.

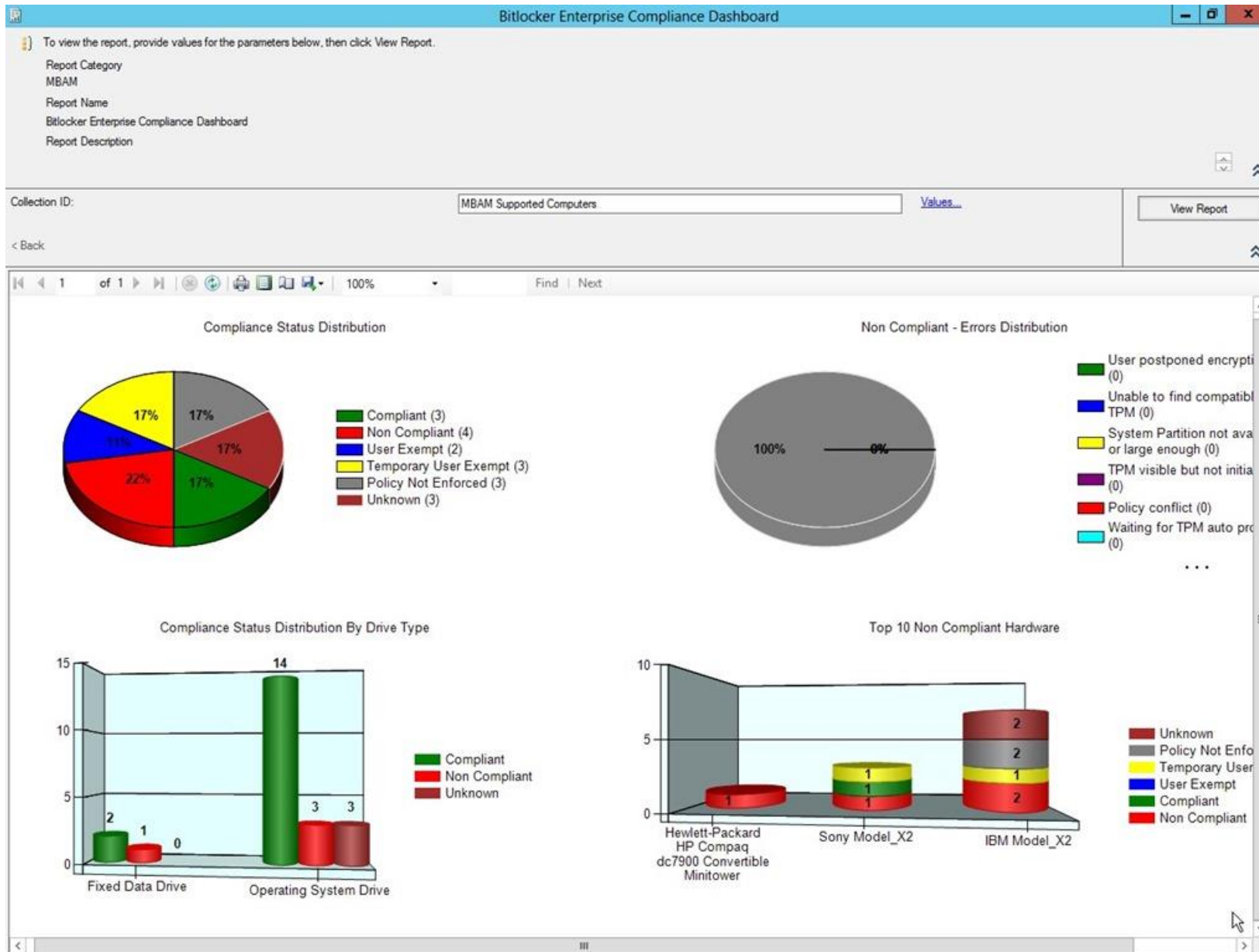
**Reduce support costs:** By making it easier for end users to quickly support themselves MBAM will reduce costs by minimizing the burden on IT and support staff. Using the Self Service and Helpdesk recovery portal, users and authorized help-desk staff will find it easy to support recovery scenarios if they run into issues. Also by automating pre-BitLocker setup steps and making it easy for end users to perform basic tasks such as starting the encryption process and managing their BitLocker PIN, your IT staff has more time to help drive your business forward. MBAM's integration into System Center Configuration Manager also helps reduce costs by enabling you to deploy MBAM within the infrastructure that you've already deployed.

## What's New in MBAM 2.0

### Integration of System Center Configuration Manager with MBAM

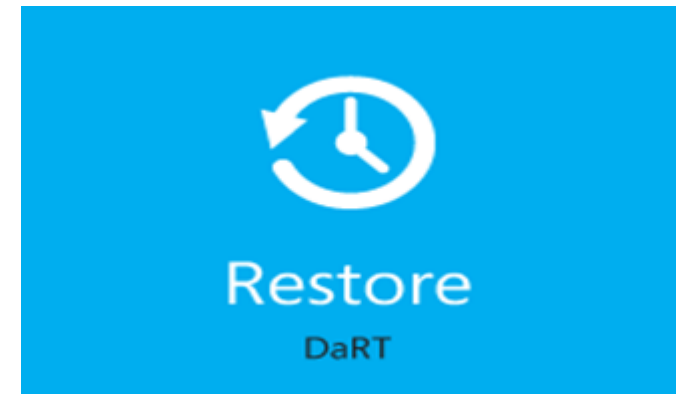
*“MBAM now supports integration with System Center Configuration Manager. This integration moves the MBAM compliance infrastructure into the native environment of Configuration Manager. IT administrators who use Configuration Manager in their enterprise can now view the compliance status of their enterprise in the Microsoft Management Console and drill into reports to view individual computers.”*

- Hardware Compatibility is Available Only in the Configuration Manager Integration Topology.
- Ability to Upgrade the MBAM Client
- Ability to Upgrade the MBAM Server from Previous Versions
- MBAM Support for BitLocker's Enterprise Scenarios on the Windows 8 Platform
- Ability to Automatically Resume BitLocker Protection from a Suspended State
- Fixed Data Drives Can Be Configured to Automatically Unlock Without a Password



# DaRT

Diagnostics and Recovery Toolset



Microsoft Advanced Group Policy Management is an add-on to Group Policy Management Console that provides change management control over Group Policy Objects

# What is DaRT?



- Microsoft Diagnostics and Recovery Toolset provides powerful, intuitive tools that help administrators recover PCs that have become unusable and easily identify root causes of system and network issues



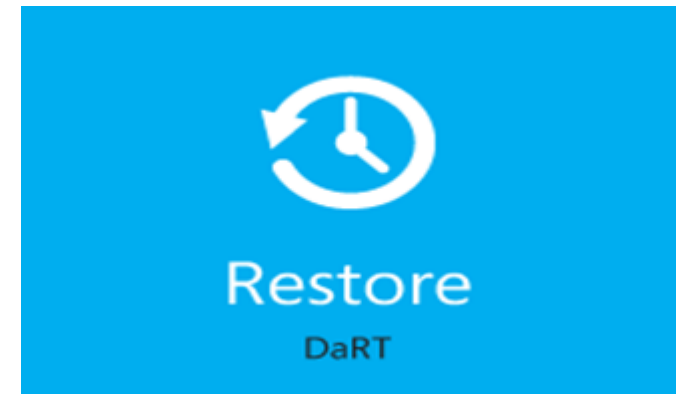
# When do I use DaRT?



- Microsoft Diagnostics and Recovery Toolset can save significant time and reduce the headaches associated with repairing and troubleshooting common system failures.
- System administrators may now run powerful recovery tools on unbootable systems and can quickly restore failed systems with minimal manual effort—in much less time than is required when restoring PCs from backup or reinstalling operating systems

# Advantages

- Rapid recovery
- Flexible recovery options
- Unique tools
- Cost savings

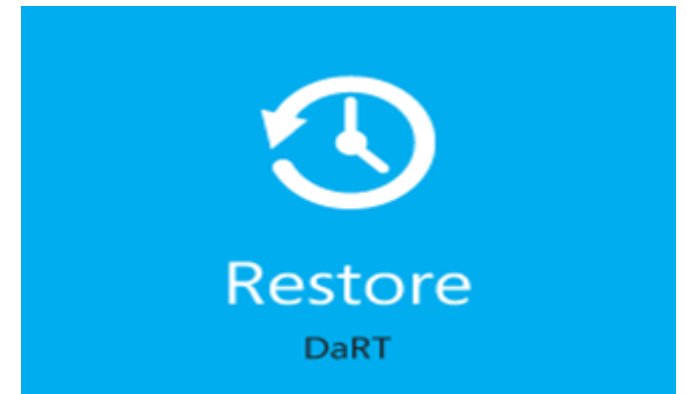


# DaRT Technology Explained

- WinPE/WinRE Basics
- DaRT Requirements
- DaRT Interface
- DaRT Interface Tools
- DaRT Admin Tools
- DaRT Network Tools
- DaRT System Tools
- Online Tools



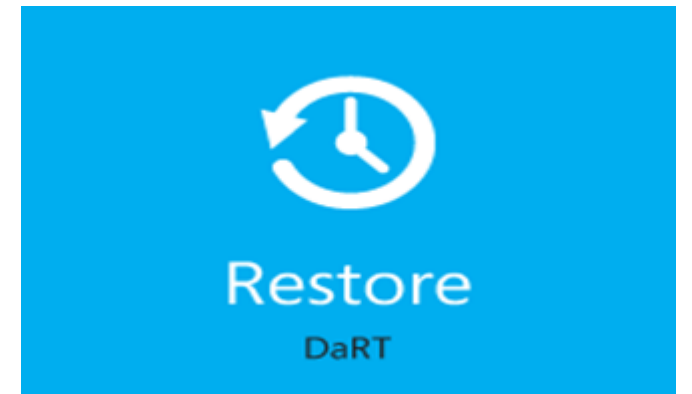
# WinPE/WinRE Basics



- Windows PE was designed to allow Windows® setup or a 32-bit imaging program to run on a PC even with no version of Windows installed.
- Integrates the different components of setup into one solution so that a simple boot CD could provide a minimal environment that would let setup run
- WinPE/WinRE now support 64 bit environments

# DaRT 6.0 Requirements

- Windows client
- Windows Server 2008/2012
- Localized in 9 languages
  - Chinese-simplified
  - Dutch
  - English
  - French
  - German
  - Italian
  - Japanese
  - Korean
  - Spanish
- 1 GHz 32-bit (x86) or 64-bit (x64) processor
- 512 MB of system memory
- A CD drive
- BIOS support for booting from a CD drive



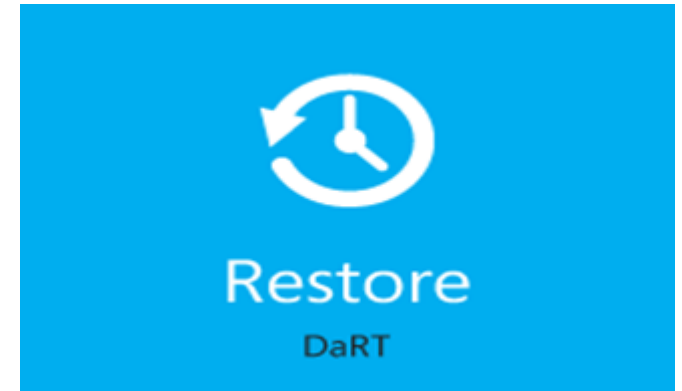
# DaRT Requirements



- Windows 2008/2012
- Windows client (x86 versions)
- Windows Server 2008/2012 (x86 versions)
- A minimum of 515 MB (1GB recommended) of system RAM
- An Intel Pentium (or compatible)
- A CD drive
- BIOS support for booting from a CD drive

# DaRT 6.0 Interface (ERD Commander)

- DaRT provides an extension of the WinRE functionality with additional tools for diagnosing, troubleshooting, and repairing workstations
- Can be connected to the local Windows installation



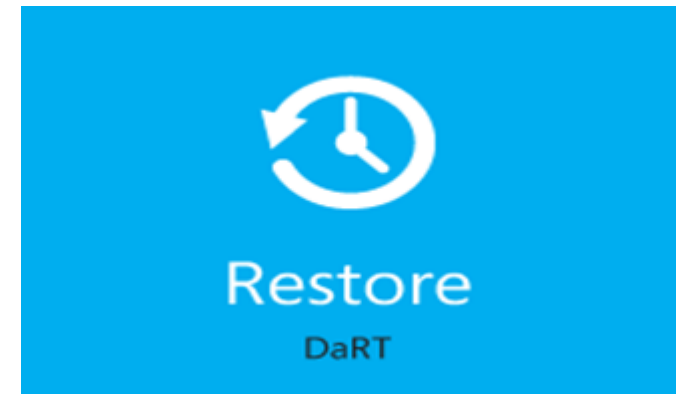
# DaRT Interface (ERD Commander)



- DaRT provides a GUI extension of the WinPE functionality with additional tools for diagnosing, troubleshooting, and repairing workstations
- Can be connected to the local Windows installation
- Looks like Windows client



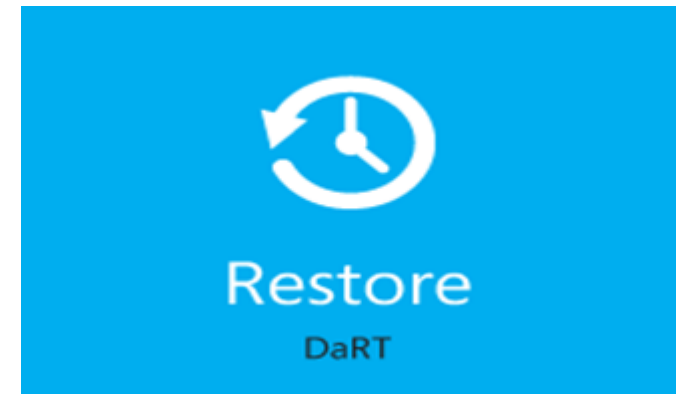
# DaRT 6.0 Interface tools



- Startup Repair (WinRE tool)
- System Restore (WinRE tool)
- Bitlocker Unlock (WinRE tool)
- Windows Complete PC Restore (WinRE tool)
- Windows Memory Diagnostic Tool (WinRE tool)
- Command Prompt (WinRE tool)
- Microsoft Diagnostics and Recovery Toolset (DaRT tools)

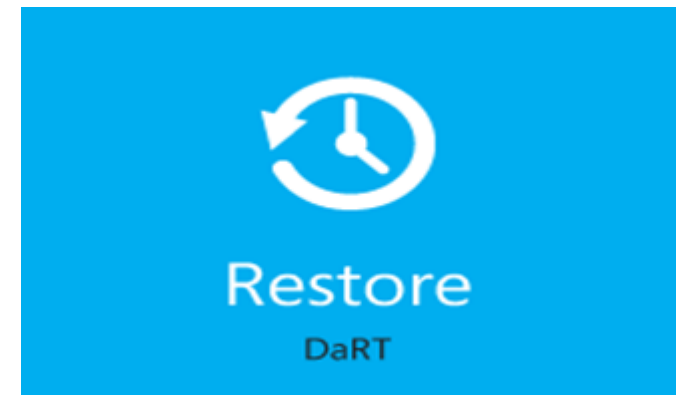
# DaRT Interface tools

- Command Prompt
- Explorer
- Notepad
- Search
- Solution Wizard
- Help



# DaRT Tools

- ERD Registry Editor
- Locksmith
- Crash Analyzer Wizard
- Disk Commander
- File Restore
- Disk Wipe
- Search
- Explorer
- Computer Management
- TCP/IP Config
- Hotfix Uninstall
- SFC Scan
- Standalone System Sweeper (DaRT 6.0 only)



# “Power Links” MDOP

- <http://channel9.msdn.com/Events/TechEd/NorthAmerica/2012/WCL303>
- **Course 10247** e-learning “preparing to deploy windows 7 business desktop”
- <https://www.microsoft.com/en-us/windows/enterprise/products-and-technologies/mdop/default.aspx>
- <http://blogs.technet.com/b/mva/archive/2013/07/10/latest-mdop-microsoft-desktop-optimization-pack-user-experience-virtualization-overview.aspx>
- <http://technet.microsoft.com/en-us/virtuallabs>
- <http://www.microsoftvirtualacademy.com>

*Gracias*

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**CERTIFIED**  
*Technology  
Specialist*