

Microsoft System Center Configuration Manager

(SCCM)

What is SCCM?

- ▶ A system management tool from Microsoft
- ▶ Controls software, updates, and security
- ▶ Manages many devices from one place

What Can SCCM Do?

- ▶ Install applications
- ▶ Deploy Windows operating system
- ▶ Send updates and patches
- ▶ Monitor system health
- ▶ Generate reports

How it Works?

- ▶ Server – the brain
- ▶ Database – stores information
- ▶ Clients – the computers being managed

Benefits:

- ▶ Saves time and effort.
- ▶ Keeps systems updated and secure.
- ▶ Manages thousands of devices easily.

What is a Stand-Alone Primary Site?

- ▶ 'Stand-alone' means it works independently (without a Central Administration Site or child sites).
- ▶ It is the top-most site in the hierarchy.
- ▶ Best suited for small to medium organizations (usually up to 150,000 devices).
- ▶ Example: If your company has only one HQ and no branches, you just need one Primary Site to manage everything.

Planning a Stand-Alone Primary Site

Before deploying, you must plan for:

- ▶ Server Requirements: Windows Server (SCCM site), SQL Server (database), Disk, RAM, CPU
- ▶ Networking: Define boundaries (IP ranges, AD sites), Site code (3-character, e.g., ABC)
- ▶ Roles: Management Point (MP), Distribution Point (DP), Software Update Point (SUP)
- ▶ Security: Accounts, permissions, Active Directory integration

Deploying a Stand-Alone Primary Site

Steps (high level):

- ▶ 1. Prepare environment: Install Windows Server, SQL, IIS, .NET, WSUS
- ▶ 2. Install SCCM: Run setup, choose Primary Site, select Stand-Alone option
- ▶ 3. Configure Site: Site code, name, database, roles (MP, DP, SUP)
- ▶ 4. Add Boundaries: Define client groups
- ▶ 5. Deploy Clients: Install SCCM client agents
- ▶ 6. Start Deployments: Push software, updates, OS images, compliance policies

Managing Computers and Devices in the Enterprise

- ▶ Managing devices in an enterprise involves strategies and tools to ensure security, efficiency, and compliance.
- ▶ This covers provisioning, security, remote management, updates, and user access control.
- ▶ Popular platforms like Microsoft Intune and IBM MaaS360 enable Unified Endpoint Management (UEM) and Mobile Device Management (MDM).

Organization Handle

- ▶ Standardization and Unified Management
- ▶ Security and Compliance
- ▶ Remote Management and Support
- ▶ Device Lifecycle Management
- ▶ User Management
- ▶ Tools and Technologies
- ▶ BYOD (Bring Your Own Device) Considerations



Preparing the Management Infrastructure to Support Desktop Desktop Devices

Management infrastructure = tools & processes for managing desktops

Goal: Ensure desktops are **secure, reliable, and efficient**

Helps in smooth functioning & better productivity

Key Components



Hardware & Software Inventory

Track all devices & apps



User & Device Policies

Access control, passwords, permissions



Network & Security

Firewalls, VPN, antivirus, patching



Remote Management Tools

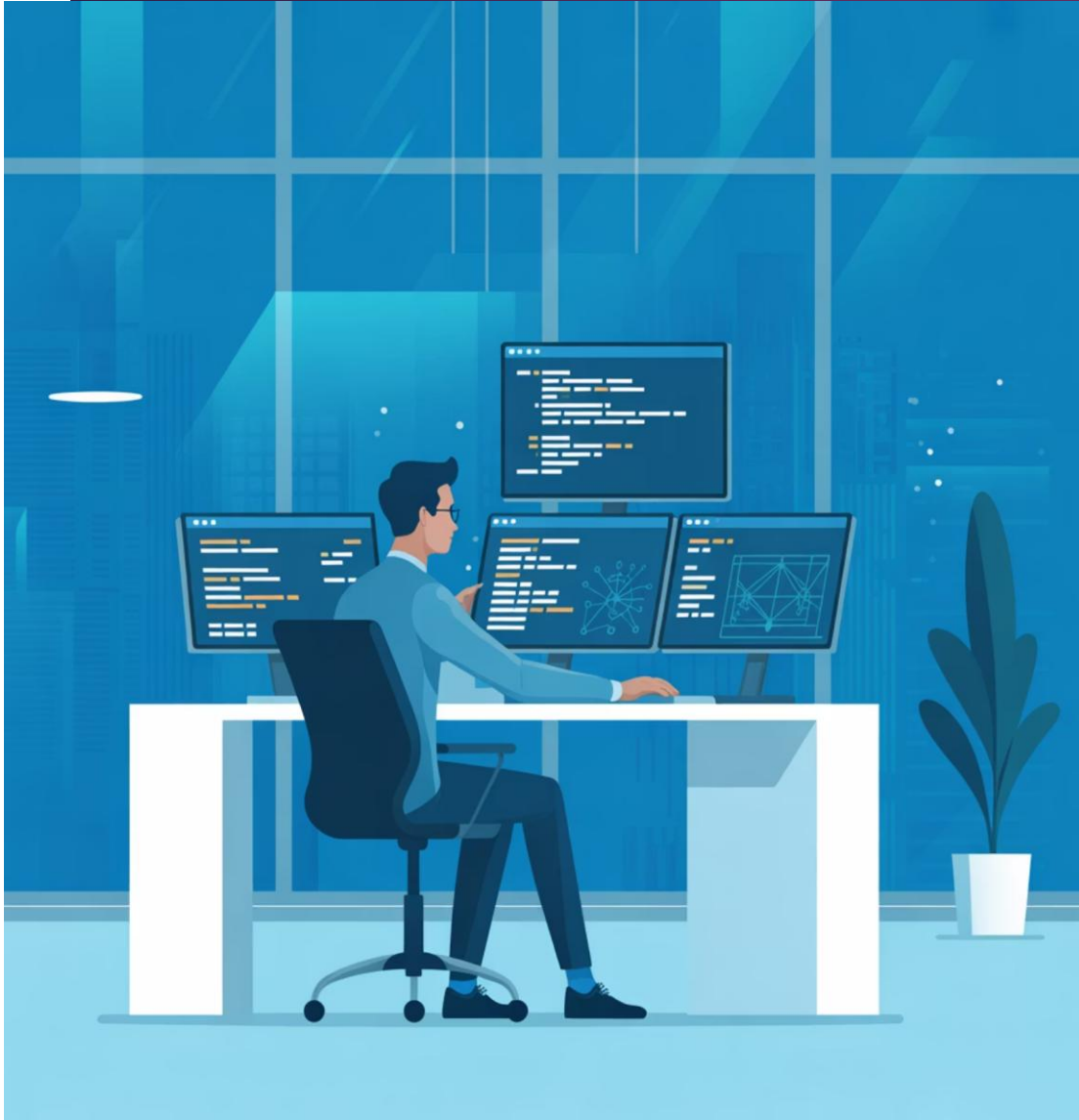
Remote troubleshooting & updates updates



Backup & Recovery

Prevent data loss, disaster recovery

Benefits



Centralized control of all desktops



Improved security & compliance



Easy troubleshooting and software deployment



Less downtime → higher productivity



Scalable for future needs

MSIX Technology Fundamentals with Architecture

- ▶ MSIX is Microsoft's modern packaging format that combines the best features of MSI, AppX, App-V, and ClickOnce into one unified solution.
- ▶ Works for both modern apps (UWP) and traditional apps (Win32/.NET).

KEY FUNDAMENTALS:

- ▶ Universal format
- ▶ Container-based installation
- ▶ Declarative model
- ▶ Digital Signatures

MSIX Architecture (high-level):

- ▶ MSIX Package
- ▶ MSIX Installer
- ▶ App Container
- ▶ Virtual File System (VFS) & Registry
- ▶ Update/Uninstall Engine

WHAT IS MSIX & KEY BENEFITS of MSIX1

WHAT IS MSIX

- ▶ Modern Windows application packaging format.
- ▶ Combines the best of MSI and AppX.
- ▶ Clean installation, updates, and uninstallation.
- ▶ Supports Win32, .NET, and UWP apps.
- ▶ Provides security with digital signing and containerized execution.

KEY BENEFITS of MSIX:

- ▶ Reliable Install/Uninstall – Ensures no leftover files or registry entries.
- ▶ Improved Security – Digitally signed packages and containerized execution.
- ▶ Simplified Updates – Supports differential (delta) updates.
- ▶ Enterprise Deployment – Works with SCCM, Intune, Microsoft Store, and Azure.
- ▶ Consistent Experience – Predictable behavior across all windows devices

Why MSIX ?

- ▶ Reliable & Clean Installation – No leftover files or registry entries.
- ▶ Improved Security – Digitally signed packages and containerized execution.
- ▶ Easy Updates – Supports differential updates to save time and bandwidth.
- ▶ Enterprise Deployment – Works seamlessly with SCCM, Intune, and Microsoft Store

Current Limitations:

- Limited Backward Compatibility → Older Windows versions have partial support.
- Complex Conversion → Converting existing MSI/EXE apps to MSIX is not always smooth.
- Third-Party Tool Support → Some enterprise tools and legacy systems don't fully support MSIX.
- Driver & Service Limitations → Apps requiring kernel drivers or certain services may not work well.
- Customization Restrictions → Limited flexibility compared to MSI for advanced installation scenarios.
- Adoption Challenges → Not yet widely adopted across all industries and vendors.

Microsoft MSIX Packaging Tool

- ▶ A free tool from Microsoft (available in Microsoft Store)
- ▶ Used to convert existing installers into **MSIX packages**
- ▶ Provides a **GUI wizard** for easy packaging
- ▶ Supports **repackaging, editing, and updating** MSIX apps
- ▶ Very useful for IT pros who are moving from MSI/App-V to MSIX

Common Uses

- ▶ Convert a legacy .exe installer (like WinRAR) into MSIX
- ▶ Add/remove files or registry entries in an MSIX package
- ▶ Digitally sign the MSIX package for enterprise deployment
- ▶ Test the installation before deploying with Intune or SCCM

Other MSIX Editors / Tools

- ▶ Advanced Installer
- ▶ Raypack Studio
- ▶ Pace Suite
- ▶ MSIX Hero