

**Upgrade Preparation**

GOAL	The goal of the preparation phase is to review the latest Windows update, determine what features you will enable or disable, and then prepare an environment for users to test critical applications.	
WORKSTREAM	DESCRIPTION	WHAT CAN BE AUTOMATED
<b>Configure Test Devices</b>	Configure test devices (usually virtual) that IT staff members can use to evaluate the latest Windows features.	Architect the virtual lab such that test machines can be spun up on demand and loaded with applications without requiring manual intervention by the engineering team.
<b>Update Group Policy</b>	Each feature update includes new group policies to manage new features. These updates must be installed and applied as users are upgraded.	Apply Group Policy to users automatically based upon their deployment schedule.
<b>Configure Servicing Tools</b>	Ensure your engineering team is prepared to deploy the update via a servicing tool such as Endpoint Configuration Manager, Intune, BigFix, Ivanti, or Altiris.	Connect the servicing tool with your work management platform so that deployments are automatically initiated based upon the project schedule.
<b>Test Feature Updates</b>	Deploy the updates to test machines and ensure there is a structured process to solicit and review feedback.	Automate the deployment of updates to test machines and use a work management or ticketing platform to capture signoff and/or feedback.
<b>Finalize what will be included in the update</b>	Based upon testing results, come to a consensus on which new features will be deployed as part of the servicing upgrade.	Centralize feedback to facilitate decision making.
OUTCOME	Features in the latest Windows update have been evaluated and the team has come to consensus on what will be included in the upgrade.	

**Application Evaluation**

GOAL	The goal of the Application Evaluation phase is to determine which applications require formal testing prior to the upgrade and then to perform that testing.	
WORKSTREAM	DESCRIPTION	WHAT CAN BE AUTOMATED
<b>Assemble an Application Inventory</b>	Use your CMDB, servicing platform, CASB, identity management systems and other inventory tools to assemble a list of both locally installed as well as hosted applications. Be aware that this is often more difficult and time consuming than it seems at first.	Use connectors to automatically collect information from different systems into a central location and then use a work management platform to remove duplicates, clean data, and rationalize information into a usable list.
<b>Prioritize Applications</b>	Organize your applications into three tiers: mission critical (have to be formally tested), important (have to be piloted), and safe (will not be tested or piloted).	Determine application priority automatically based on the percentage of people in any department that use an application, total number of people that use it, VIP usage, or known criticality.
<b>Test Business Critical Applications</b>	Prepare test machines and have business users formally sign-off on the functionality of business critical applications prior to upgrade.	Automate every element of the testing process including communications to testers, scheduling, test machine creation, escalations, signoff, and issue reporting.
<b>React to Feedback</b>	Ensure there is a formal feedback process so that testers can flag issues and signal that an application is not ready for the upgrade.	Use a work management or ticketing platform to capture signoff and/or feedback.
<b>Make Application Replacement/ Upgrade/Decommission Decisions</b>	Applications that fail testing or that are nearing end of life will require upgrade or decommission prior to deploying the Windows update. A goal of the program should be to reduce the application count as much as possible.	Centralize feedback to facilitate decision making.
OUTCOME	All business critical applications have been tested prior to a broad deployment of the upgrade.	

Hardware Evaluation		
GOAL	The goal of the Hardware Evaluation phase is to determine which hardware needs to be replaced prior to, or as part of, the upgrade.	
WORKSTREAM	DESCRIPTION	WHAT CAN BE AUTOMATED
<b>Assemble Hardware Inventory</b>	Use your CMDB, servicing platform, or asset system to assemble a list of hardware that will be upgraded. Note whether the system is in the office or at home as this may affect your deployment strategy. Also remember to inventory machines in storage which have not yet been deployed.	Use connectors to automatically collect information from different systems into a central location and then use a work management platform to remove duplicates, clean data, and rationalize information into a usable list.
<b>Assemble Hardware Lease Cycle Information</b>	If the hardware is due to be replaced soon you'll likely want to deploy a new machine and not worry about an upgrade.	Lease information is often not in the same system as inventory information. Use automation to collect this data and match it with your system inventory.
<b>Identify Excluded Devices</b>	Special purpose devices such as those used to control factory or medical equipment or run ATMs require a stricter, less frequent update cycle. They should be excluded from the standard servicing process.	Excluded devices should be flagged in your work management platform so they are never accidentally deployed.
<b>Assemble User List</b>	Use your identity management platforms and CMDB to assemble a list of users to receive the upgrade. Collect their contact information as well as department, manager, and physical location to help plan the deployment later.	User information is often spread across multiple systems including identity management, facilities, and HR. Use automation to collect that data into a master list which can drive the upgrade.
<b>Establish User to Machine Affinity</b>	It is essential to be able to map a machine back to a user in order to control the upgrade. Utilize your CMDB or servicing platforms to make this connection. Assign a primary point of contact for kiosks, training machines, and other shared devices. It is also useful to determine which machine is the user's primary machine as you may only want to upgrade one at a time.	Users will come and go throughout the duration of the upgrade. Use automation to track which users are assigned which hardware at any given time.
<b>Determine which hardware will be replaced</b>	It is likely that a sizable percentage of hardware will be replaced as part of the regular lease cycle or because it is end of life. Flag those machines now so they can be managed with a separate workflow.	Use automation to determine hardware compatibility & hardware end of lease then place those devices into a replacement workflow.
OUTCOME	Hardware has been divided into two groups: 'Systems that will be replaced' and 'Systems that will be upgraded'.	

**Scheduling**

GOAL	The goal of the scheduling phase is to maximize the rate of deployment while not overwhelming the business or the support staff.	
WORKSTREAM	DESCRIPTION	WHAT CAN BE AUTOMATED
<b>Prepare Communication Plans</b>	The key to managing a large upgrade is to properly communicate to the end users and let them know what is happening, why it is happening, and what it means to them.	Use workflows to automatically send out the appropriate communications based upon where a user is in the upgrade process. Use automated messaging to solicit feedback from users in order to correct any misinformation such as location, department, or primary device.
<b>Build Pilot Rings</b>	The deployment will be broken into rings or waves. The first set of rings, the pilot rings, should be used to pilot the upgrade to a representative group of users that will validate each application that hasn't been formally tested.	Use automation to determine which users are required for the pilot. Utilize self service to have pilot users opt in. Utilize workflow automation to add them to your pilot deployment ring.
<b>Build Deployment Rings</b>	After the pilot rings you will want to segment the rest of your users based upon properties such as VIP status (do VIPs last), business unit (don't upgrade an entire business unit in one night), or geography (don't upgrade an entire office in one night).	Use automation to segment users based upon risk profile and have them automatically added to the correct deployment ring.
<b>Schedule Specific Upgrade Times</b>	While users will be grouped into rings, their specific upgrade times should be scheduled in advance so the user can be prepared, support teams are not overwhelmed, and the upgrade continues at the required pace. Note that remote users will require a different scheduling cadence than in-office users.	Eliminate administrative overhead by offering users the ability to self-schedule.
<b>Develop Rollback and Reschedule Plans</b>	Most organizations experience a high rate of reschedules. A process should be in place to allow a user to postpone the hardware upgrade/replacement.	Build automated rollback and reschedule workflows that don't require human involvement.
OUTCOME	The schedule is optimized for speed and risk.	

Deployment		
GOAL	The goal of the deployment is to upgrade endpoints with minimal disruption to the business.	
WORKSTREAM	DESCRIPTION	WHAT CAN BE AUTOMATED
<b>Push the upgrade to users and their machines</b>	Based upon the agreed schedule, machines are added into the deployment ring on the servicing platform so that they upgrade can be deployed.	Utilize a work management platform to automate the orchestration of every facet of the deployment including communications, user scheduling, system management commands, rollback, and reporting.
<b>Report on Results</b>	You will likely need to report on percentage complete based upon geography, department, and forecasted completion date.	Use a work management platform to generate automated, real-time reports based upon what is actually occurring in the field.
OUTCOME	Endpoints are up to date and in compliance.	