



**Hewlett Packard
Enterprise**

Viewpoint

Capitalize on the opportunity to change from Windows Server 2003 End of Service





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Executive summary

What are your organization's expectations when faced with the Windows Server 2003 End of Service situation? Are you expected to avoid the ever-increasing Microsoft WS2003 support costs, avoid reduced service levels, and risk business disruption, while also avoiding reduced industry regulatory compliance and related business penalties and costs?

WS2003 will require a specific program of work to deal with these issues in a timely and comprehensive manner. The program will need to provide predictable outcomes, engage necessary stakeholders, and manage their expectations appropriately. This type of large program, in a large organization, will need a business-level sponsor that can influence and manage the organization across the many teams and core processes, such as risk and compliance management, budgeting, governance processes, business processes/events, project portfolio planning, and application lifecycle planning.

In general, addressing WS2003 only within an IT scope will not generate adequate benefits/ savings or include enough of your organization's related risks. The most compelling case is generated when all stakeholder needs are considered, and when the industry risks of WS2003 (non-compliance) are recognized. It is worth noting that while WS2003 is an asset controlled by IT, many decision points involved in the removal of WS2003 sit outside the IT team.

When reducing complexity, you should focus on rehosting and retirement approaches, thus avoiding functional changes. This approach will typically cater to 80 percent of the WS2003 fleet. Spending your budget on changes that do not directly contribute to removing WS2003 should be an exception. Where a common approach has to be applied many times, possibly with a skill set not worth establishing in-house and at lower cost, it is worth considering if an offshore factory approach is viable.

“Having the big picture in mind enables us to overcome the day to day routines that attempt to distract us from pursuing our dream.”

– Assegid Habtewold, *The 9 Cardinal Building Blocks: For Continued Success in Leadership*

Dealing with WS2003 will require you to reconsider already allocated budgets, project priorities, and what your people should work on next. The WS2003 remediation plan will force consideration on many levels and in many domain areas, as it cuts across application lifecycle planning, enterprise standards, and business as usual (BAU) support. The reality in most organizations is that all the necessary information is not held in one place, and many groups will need to contribute information or be involved to discover the information.

Some of the issues can be dealt with by retiring systems that use WS2003, by advancing application lifecycles, or by the business accepting reduced service levels. Longer-term strategies, such as redefining standards used in projects, will take too long to implement using traditional refresh cycles. WS2003 will challenge your organization's budgets, your governance processes, and project portfolio planning approach. It requires more immediate action and outcomes than some organizations are comfortable with.

Hewlett Packard Enterprise (HPE) can provide services to both advise on and deliver outcomes. Additionally, HPE is able to provide experienced offshore factory teams that enable application remediation to occur at a lower cost and at scale. HPE's Application Transformation Methodology involves a multi-step process to gather the necessary information, understand what is required, and then migrate and place the application back into an operational state.

Deciding on an approach that meets the scale of the problem is not a trivial task. Do you address one Operating System Instance (OSI) at a time, or address the whole fleet? Do you work by business unit or work across the enterprise? This paper discusses why a fleet-based approach provides a better outcome and how a valid business case can be used to promote it within a large organization.

Windows Server 2003 End of Service

On July 14, 2015, Microsoft discontinued support for Windows Server 2003 (WS2003).

This means that support is still available, but at a premium price, with the price escalating significantly year on year. At some point, now or in the future, the cost and related risks of retaining WS2003 will not make sense. In organizations that are seeking to reduce costs, ignoring such situations (and the practices that led to them) is not a sustainable approach.

Contribute to business success

The benefits of adopting a pro-active approach to removing WS2003 include:

- Avoiding the ever-increasing Microsoft WS2003 support costs
- Avoiding reduced service levels and risk of business disruption if you can't afford WS2003 support from Microsoft
- Avoiding reduced industry regulatory compliance and related business penalties and costs
- Creating efficiencies in the application lifecycle planning process, through reconsidering if the "sweating of assets" approach is the most appropriate strategy for operating system (or other) components
- Adopting a modern toolset that is easily and cheaply maintained for the affected part of the applications fleet. Such toolsets may improve business services and reduce BAU costs. Examples include cost-effective backup and DR solutions, improved system availability, improved productivity of support staff, and improved security models
- Avoiding the need to retain specific skillsets for this legacy technology
- Potential for application portfolio renewal, through a revisiting of the "necessity" of related legacy business applications
- Generating savings and economies of scale through sharing of WS2003 remediation approaches across large multi-business unit organizations

Engage support through your core processes

Preparing a WS2003 plan requires you to engage several processes including:

- Risk and compliance management—Deal with the business impact at industry levels due to WS2003 remediation approaches (or lack thereof)
- Budgeting—A reallocation of priorities and funds is required, if budgets have not considered WS2003 work
- Governance processes—Speed of decision-making and acting quickly is important
- Business processes/events—To identify suitable outage windows for remediation activities
- Project portfolio planning—Project priorities, project inter-dependencies and risks need to be reviewed
- Application lifecycle planning—The additional cost of dealing with WS2003 may change the business value of applications, thus affecting timing and investment

Make the change via a multi-team effort

These core processes cut across different organizational entities and involve different stakeholder groups. You might think that WS2003 is a technical issue, but that view underestimates what is fully involved. In particular, deciding that the IT team can solve it alone is a high-risk approach. While IT has the job of retiring or replacing WS2003, the decision rights needed to make the changes resides with other roles in the organization, and the activities in any remediation plan require knowledge and skills from many non-IT groups.

Each business application could have multiple approaches to remove WS2003. Each approach has different pros and cons, as well as different cost and time impacts. The decision of which approach to take is not one to be made lightly, or in isolation, nor without relevant stakeholder agreement. To identify stakeholders, it is important to understand what decisions are involved in each approach and in the related business case for change.

Table 1 shows some of the decision rights and affected domains. Note that while WS2003 is an asset that is controlled by IT, many decision points that are involved in the removal of WS2003 sit outside the IT team.

Table 1: Decision rights affect outcomes

CONTEXT	OWNER	DECISION RIGHTS	AFFECTED DOMAINS
Strategic	Business	<ul style="list-style-type: none"> • Application investment • Consumer/customer interactions • Revenue stream impacts • Cost apportionment • Staff structures and responsibilities • Business capability/functionality • Business outages 	<ul style="list-style-type: none"> • Business strategy • Business architecture • Organizational design • Business processes • Application functionality
Tactical	IT	<ul style="list-style-type: none"> • IT procurement • IT cost profile • IT service level agreements (SLA) • Technology standards • IT operational standards 	<ul style="list-style-type: none"> • Application operations • Application hosting • IT outsourcing • Device selection • Device access/security

The business stakeholders have to be involved. The IT team can't do it "to" the applications or business owners; they have to do it "with" them. All groups will need to have confidence in the plan, and that the information the plan is based on is current and accurate.

When migrating a large number of applications and WS2003 instances, it will be necessary to define a plan that involves move groups. A move group is a set of applications and their dependent assets that should be moved at the same time. The move groups are defined to minimize business outages, to prioritize applications, and to optimize the migration timing and resources needed. Agreeing to such a plan can be a lengthy and complex exercise.

The reality in most organizations is that all the necessary information is not held in one place, and all groups will need to contribute information, or be involved, to discover the information. The effort to coordinate the information held by each group is necessary to address WS2003. Figure 1 highlights the scope of the ecosystem involved.

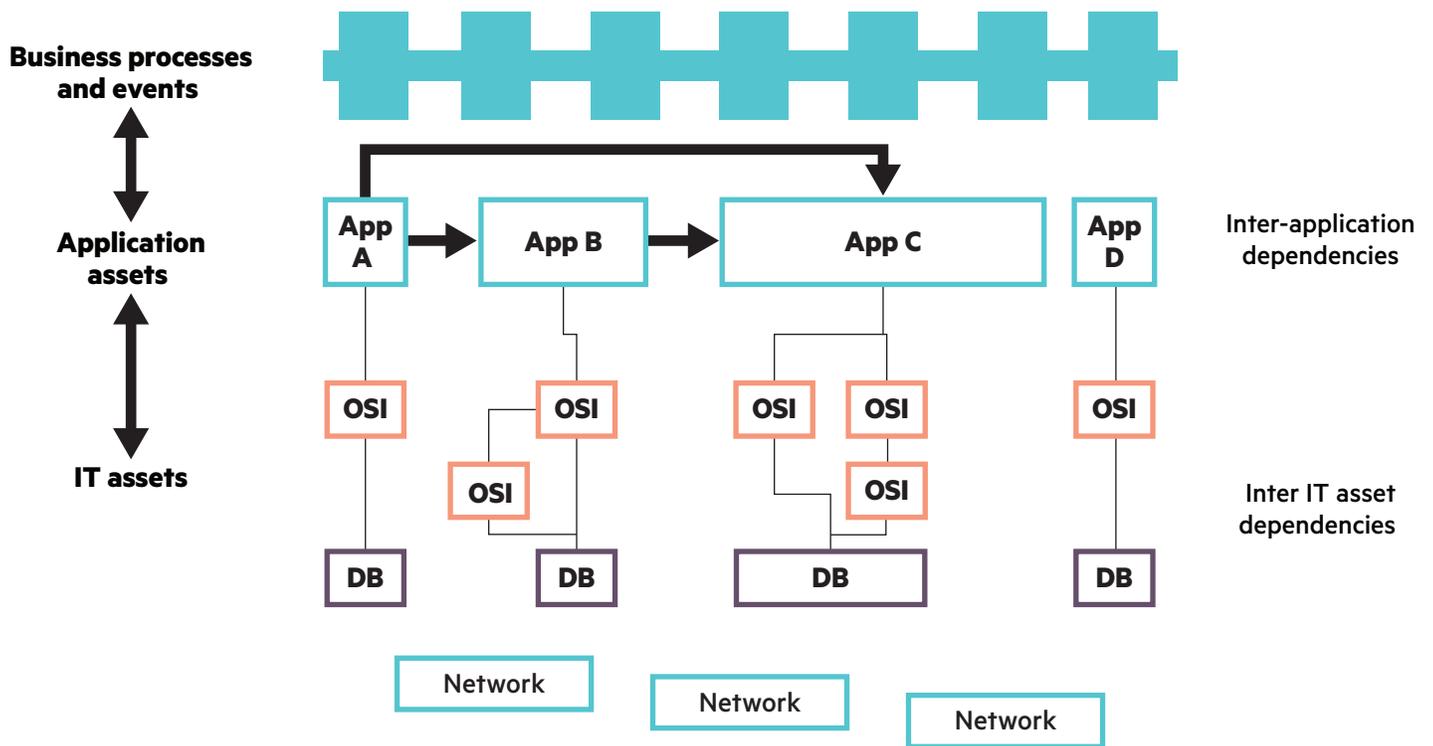


Figure 1: Migration move group dependencies occur within/across all tiers of the enterprise

Decide what you care about

The issue being addressed is WS2003. However, WS2003 is an operating system, which is just a technical component of the larger entity that is of real importance to the business. It is important to recognize that the asset we have to be careful not to break is the business application. Often this requires many nonbusiness or nonapplication roles to modify their thinking about what is important, who actually can make decisions, and how their role enables business outcomes.

Follow a proven methodology

The best plans are informed by current and valid information. A good plan will set realistic expectations, avoid rework and business outages. HPE's Application Transformation Methodology involves a multistep process to gather the necessary information, understand what is required, then migrate and place the application back into an operational state.

Performing a discovery at the portfolio level provides the ability to maximize outcomes and implement the most efficient (lowest cost) approach. Figure 2 shows the end to end methodology used by HPE to optimize outcomes. The time taken to assess the portfolio up-front will reduce overall risk and allow a more effective allocation of funds and resources.

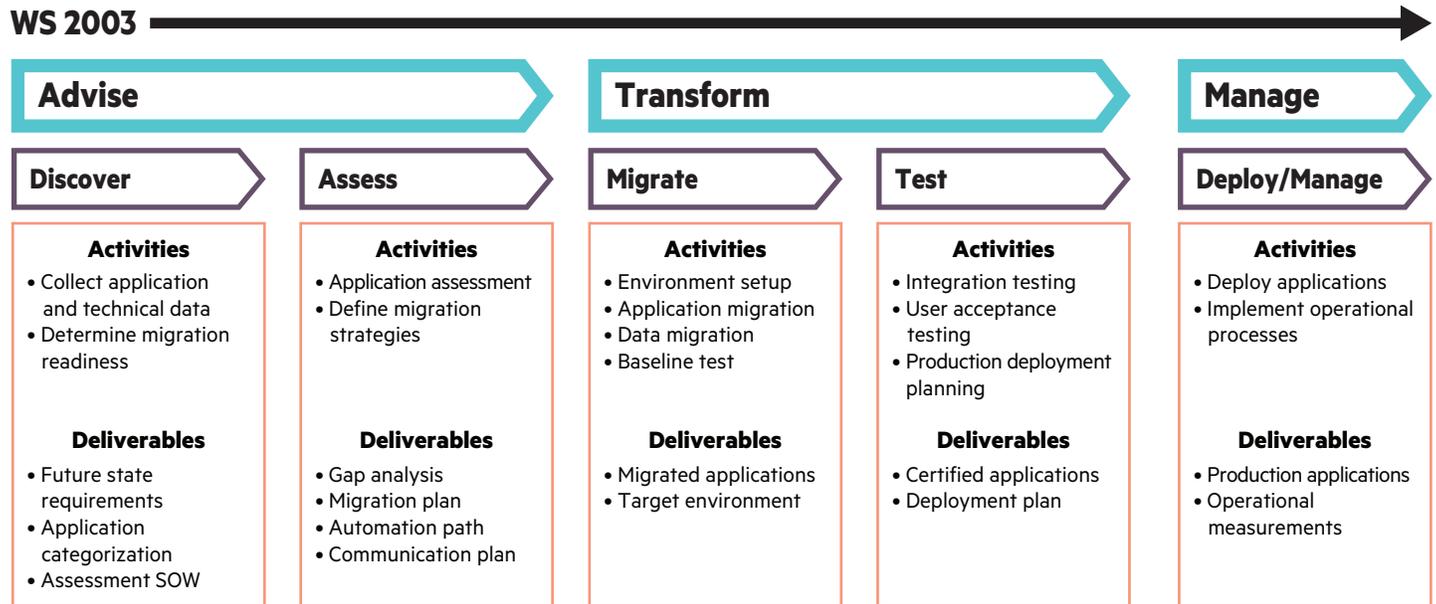


Figure 2: The three-step process: Advise, Transform, Manage

Table 2 below shows some of the risks associated with an ad-hoc approach and why a holistic view will provide better outcomes.

Table 2: Risks of not taking a holistic approach

EVENT	OUTCOME	RISK MANAGEMENT APPROACH
Applications are assessed and migrated sequentially	<ul style="list-style-type: none"> Long timeframe to migrate all applications Unable to forward plan so as to benefit from common approaches/efficiencies Best practice approaches are developed in a costly and time consuming manner User engagement and change management is ad-hoc and disruptive Budget variations have to be continually considered on an application basis, as discoveries are made, which does not align to governance events 	Perform a holistic application portfolio assessment and adopt a factory migration approach
A new discovery in the latest application affects the migration direction/intent	<ul style="list-style-type: none"> Previous work may have to be reword or revised Some objectives may no longer be achievable, for example, work may get to the last application in a rack and find it can't be moved. Hence, the rack has to be retained and the other applications on the rack might as well not have been moved or could have been deprioritized. 	Perform a holistic application portfolio assessment and create a migration plan
Only an infrastructure asset view of migrations is considered	<ul style="list-style-type: none"> Needs of other stakeholders are ignored Dependencies with business events cause the migration plan to break business applications End-user change management does not occur 	Perform a holistic assessment that includes the needs of all related stakeholders
Each application is assessed in isolation	<ul style="list-style-type: none"> Only cost-effective applications are migrated, leaving a residual of legacy technology, for which there is unlikely to be funding to remove The "poor business case" applications are not migrated, impacting the program goals 	Manage the migration budget at the portfolio level and provide funding for the necessary applications that fail a business case
Each application's BAU team performs the migration	<ul style="list-style-type: none"> Reduced/no capacity to implement business changes Migration can be delayed or stopped to meet critical BAU activities – loss of continuity on the task Every team must learn independently – little re-use of learning Migration skills are not generally skills required post migration, so learning is for a redundant skill Inter-application dependencies create cascade impacts between BAU teams on migration activities, increasing impacts and delays Lack of visibility among projects, applications, IT, and vendors creates scheduling nightmare with increased costs, risks, and schedule delays 	Take a more holistic approach and leverage the "Factory" method, with dedicated migration resources run as part of a program independent of BAU teams

Be well informed

Part of HPE's Application Transformation services is an application discovery exercise. This discovery is normally the first step in any transformation and can be performed across an application portfolio, or for specific applications.

The information sought during such an activity will vary based on project objectives. An application move to achieve a technology refresh (without functional change) considers a different set of information than an application rationalization or transformation.

For a re-hosting or technology refresh outcomes (which WS2003 is), the information sought can be characterized as shown in Table 3 below:

Table 3: Information typically required

CONTEXT	INFORMATION SOUGHT
Application portfolio	<ul style="list-style-type: none"> • Application inventories • Information showing application inter-dependencies
Per application	<ul style="list-style-type: none"> • General questions to collect information around business criticality, testing, change frequency, stability, documentation, etc., which are at an application level and would not change at an individual component level. For example: <ul style="list-style-type: none"> – Level of vendor support in a virtualized environment – Level of hardware dependencies – Existing technical concerns to address before transition occurs – Bandwidth and latency requirements – Completeness of documentation, e.g., application design, operational, build and installation, interfaces, configuration, software development life cycle (SDLC), environments and testing – Business criticality – Operational stability – Upstream and downstream applications – Timing of new releases – Level of regression testing needed – Level of test automation – Application architecture categorization – Technical and business owners – In-flight or planned projects to upgrade this application • Server profile (e.g., configuration, name, and IP address) for servers used in each environment, such as development, test, and production • Server operating system and version information • Common off the shelf (COTS) packages and third-party software that is used by the application. Additionally, information pertaining to the level and nature of customization done to the products • Any custom developed components of the application • Each of the languages used in the application • Information about the databases (size, version, number of instances, number of objects) • License arrangements
Infrastructure	<ul style="list-style-type: none"> • Asset information • Change Management Database (CMDB) data • Installed software products • Network topology

Note: The information indicated shows the general nature of the information required. During an application discovery exercise, more specific information may be sought based on the scope of the transformation strategy and desired outcome.

Focus on the WS2003 issue

Each business application may have its own design and technologies that require unique solutions. If you are fortunate, common application architectures and technologies have been used, allowing the reuse of WS2003 remediation techniques to reduce cost and accelerate activities. Such a circumstance lends itself to a factory approach, which can provide cost, time, and quality advantages.

Figure 3 shows the full spectrum of application transformation options. Dealing successfully with WS2003 requires you to focus on approaches that have minimal impact, minimize cost, and take the least time.

There is often pressure to use the opportunity of removing WS2003 to implement other changes, upgrades, or enhancements to an application or its environment. However, caution is advised when attempting to take advantage of the occasion to enhance the overall business case or to secure additional funding. Using a WS2003 project as a guise to deal with non-WS2003 issues can be a flawed strategy, and result in unplanned and additional cost, complexity, and risk. A short, focused project to deal with WS2003 is recommended, as this places the least impact on BAU and other priority projects. Simply note any non-WS2003 aspects and remedy them in the future environment.

As you are trying to reduce complexity, an aim should be to focus on re-hosting and retirement approaches, avoiding functional changes. This approach will typically cater to 80 percent of the WS2003 fleet. Spending your budget on changes that do not directly contribute to removing WS2003 should be an exception.

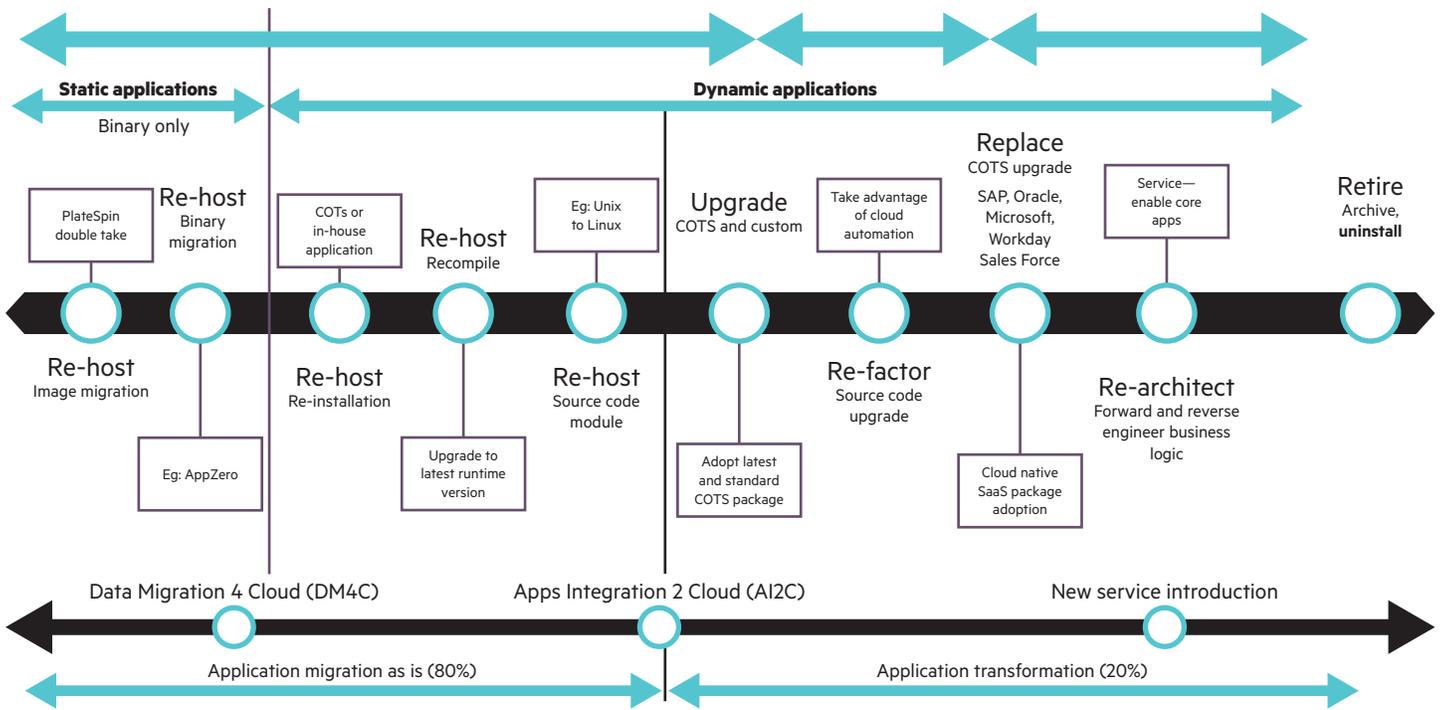


Figure 3: Spectrum of application transformations

Reduce the use of WS2003

When hundreds of WS2003 OSIs are involved, it is important to sequence remediation work based on each business application's risk profiles. While the steps below may reduce the scale to be addressed, the key benefit is that you obtain more time to address the critical applications, while implementing viable delaying tactics to those applications that can sustain such delays. Any program has to ensure that scarce resources are applied as efficiently as possible to provide timely and maximum benefit.

Step 1: arrest the growth of the WS2003 issue. Define new standards for new work and ensure they are implemented.

Step 2: minimize the size of the WS2003 fleet, based on what is actually needed. Some of it won't be required.

Step 3: consider the risk imposed by WS2003 to see if reduced SLAs are an option until an application is retired. Accelerating such retirements is also a good idea. Reduced SLAs are options for systems that have low security requirements.

These steps assume that you have a goal to remove all WS2003 usage in a defined timeframe, and any delays are within such a timeline.

Table 4 provides a commentary on a variety of approaches that can be relevant.

Table 4: Ways to minimize the impact of WS2003 end of service

Theme	Approach	Comments
Standardize	Mandate an enterprise standard for Windows Server OS that is a later version (with lower/acceptable support costs).	Good for new applications. Stops the problem growing.
Migrate	Migrate critical applications to WS2008 or WS2012 ASAP.	Unplanned budget needed. Compatibility of the application to the target environment needs to be considered.
Service level	Negotiate lower SLAs for specific applications (leaving these applications on WS2003 until retirement).	Business owners may push back. Not viable where security is paramount.
Retire	Retire applications that are not needed (and turn off their infrastructure).	Could also just decide to leave them as-is and declare a new SLA. This avoids unplanned budget/effort.
Retire	Advance application lifecycles to retire applications earlier.	Requires an accelerated investment/effort for application consolidation/replacement projects.
Rationalize	Remove excess usage of WS2003.	Rationalize the number of environments/instances using WS2003, that is, fewer development/test/pre-production/etc., environments). This may impact SDLC processes and release cycles/timing.
Competency	Build a WS2003 support competency in-house.	<ul style="list-style-type: none"> Investing in a legacy skillset is a "throwaway" investment. This is a short-term tactic only. Being able to build an internal skill level equivalent to Microsoft is unlikely and cost prohibitive.
Selective support	Only pay WS2003 support for production and DR environments.	SDLC processes (and application releases) could be impacted if issues occur in development/test/preproduction environments. This only addresses support costs and does not help with the removal of WS2003.

Remove WS2003

Figure 4 shows several methods that remove the use of WS2003. Each addresses a specific use case and provides specific benefits.

To rapidly remove WS2003, the aim is to minimize changes made during the migration. You should champion like-for-like migrations, avoiding functional enhancements to applications. A tools-based migration (a binary lift and shift of the application) will move the application off WS2003 onto a supported version of the operating system. This approach has the advantage of meeting all the success factors involved, as well as catering to a large percentage of the applications involved (see Table 5).

The other like-for-like options may be used to address requirements to upgrade related COTS products or to address application incompatibilities within the target environment. The most suitable approach for each application is identified in the Analysis step of the Application Transformation methodology.

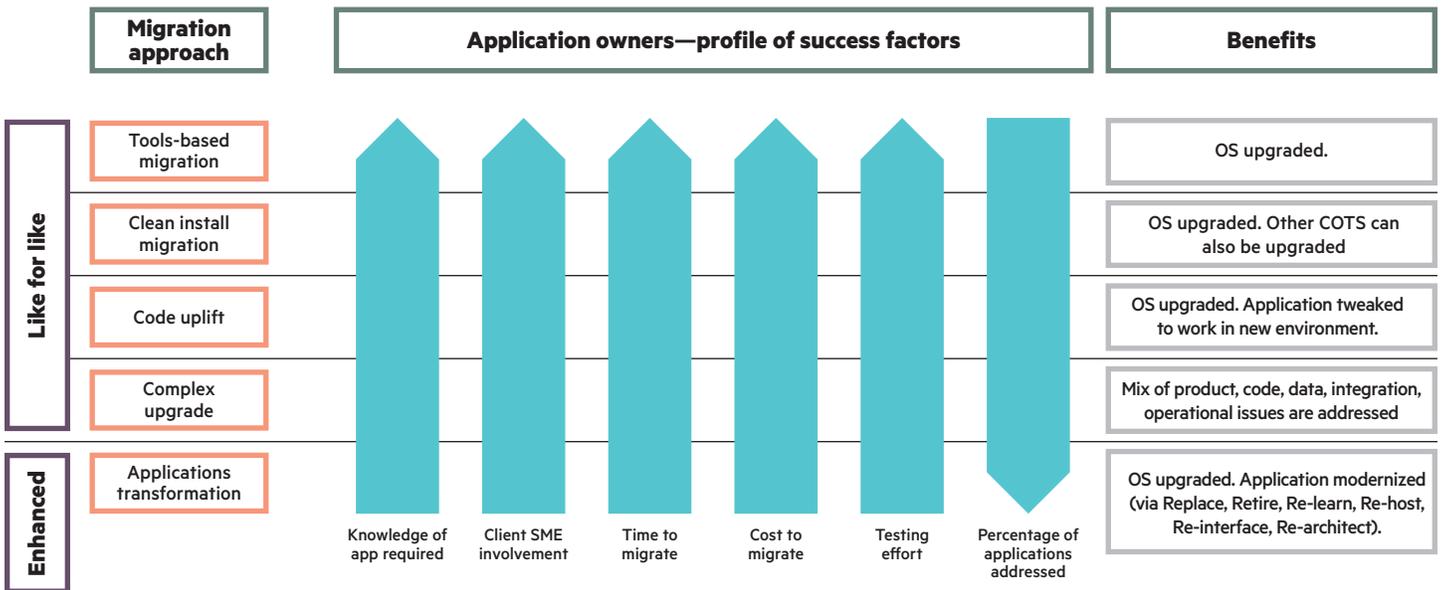


Figure 4: Approaches to migrate applications off WS2003

Work fast, scale up quickly

While each application supported by WS2003 needs a remediation approach, the application portfolio needs a plan that generates efficiencies across like technology types or like migration approaches. Where a common approach has to be applied many times, possibly with a skill set not worth establishing in-house and at lower cost, it is worth considering if an offshore factory approach is viable.

An offshore factory brings in a low cost, skilled workforce that is familiar with the process and can be scaled up or down as needed to provide quality remediation and migration outcomes. Such teams can be readily integrated into your project structures. The factory can work with existing application support vendors, their processes, and tools. In this way, the factory is able to cater for the resource spike and provide necessary skills required to deal with the WS2003 issue in the desired timeframe.

Factories suited for WS2003 projects have been implemented as part of HPE’s Industrialized Delivery System (IDS), which transforms islands of excellence into a globally integrated expertise network.

Table 5: Factory benefits

METRICS AFFECTED	CHANGE
Time to retire legacy	▼
Business risk	▼
Like for like	▲
Quantity of legacy retired	▲
Compliance	▲
Standardization	▲
Simplification	▲
Rework	▼
End user productivity	▲
Provisioning and configuration effort	▼
Staff costs	▼
Office space requirements	▼

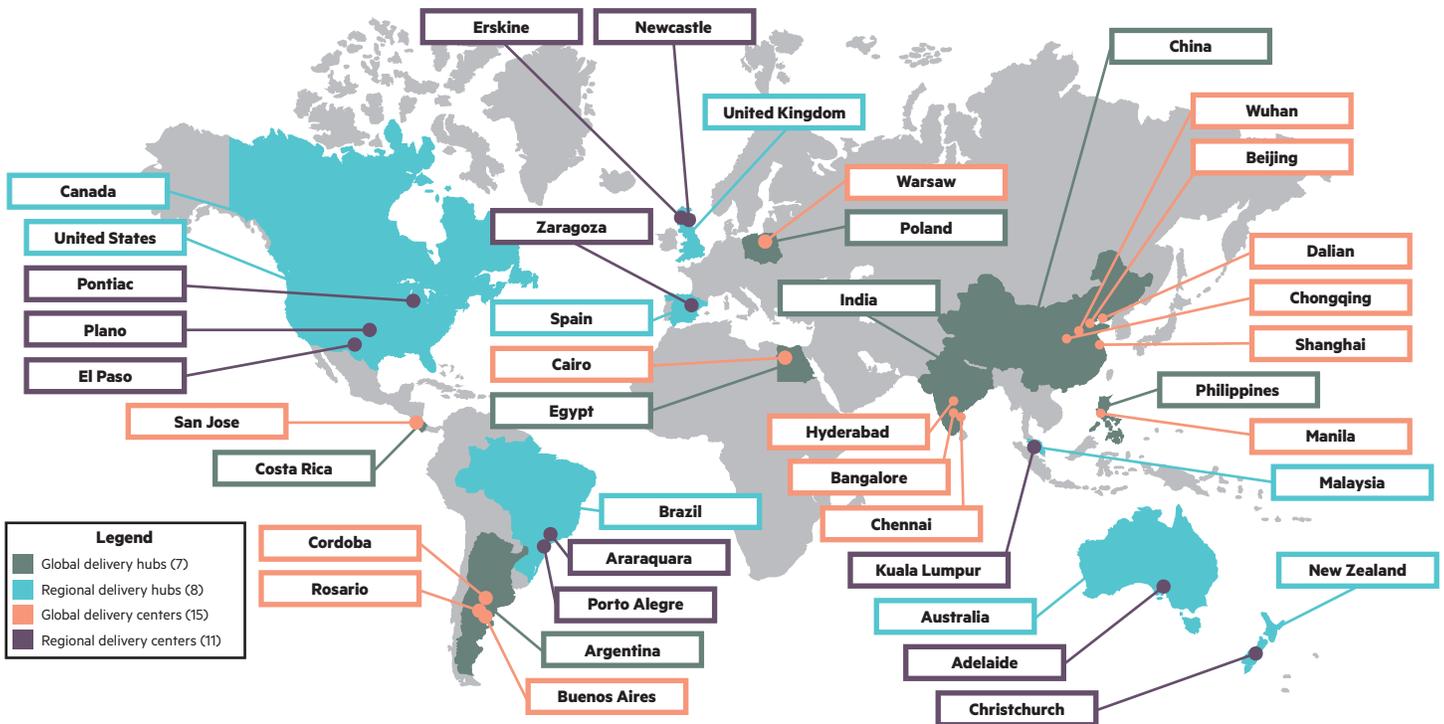


Figure 5: Global and regional delivery hubs and centers

IDS provides a blended resource model—with onshore, regional, and offshore components—that allocates work to teams based on delivery cost and expertise. IDS uses a comprehensive approach that addresses short-term issues of expense pressure and skills availability, and long-term concerns of sustainability and competitiveness in an ever-changing marketplace. It connects the experience of 41,000-plus applications professionals in IDS center hubs, spokes, client sites, and remote work locations across the globe. This professional network delivers the next generation of secure, seamless, context-aware applications using globally consistent processes, methods, tools, and accelerators contained within the IDS (see Figure 5).

Regional delivery centers (RDC) are included in the model, to manage risk and ensure quality. RDCs address any concerns regarding loss of control or reduction in quality from using offshore teams. By taking end-to-end responsibility for the actual delivery, they oversee the offshore work. RDCs provide the link between offshore and customer-facing teams, and perform technical oversight by leading offshore developers who perform code reviews and quality audits.

With IDS you obtain access to predictable high-quality delivery, on-demand capacity, expertise in emerging technologies, and an ability to significantly improve business solutions' speed to market. IDS enables Applications Services to provide secure, seamless, and context-aware experience to you.

The journey needs a leader

A large program in a large organization should have a business level sponsor who can influence and manage the organization across the many processes and teams who need to be involved. Such a business sponsor should:

- Own the “whole of business” benefit and champion the business case, ensuring it has a scope that is viable.
- Take a macro view above the many business units involved, to ensure they all see the bigger picture and participate as needed.
- Engage those groups who are indifferent to the project, to sell to them and enforce enterprise mandates.
- Ensure that any domain areas that don't see a direct benefit are actively involved. Internal compensation or relief on metrics for such groups may be necessary.
- Work to the strengths of the organizational, cultural and governance models and cater for any shortcomings.
- Lead the preparation and socialization of an appropriate approach through governance processes and political resistance.
- Adjust policies and standards or influence changes to budgets to allow the project to be viable.
- Develop any needed partnerships quickly, avoiding lengthy processes and delays.

Navigate your organization

Every major change requires a valid business case. Generally, addressing WS2003 only within an IT scope does not generate adequate benefits/savings or include enough of the organization's related risks. The most compelling case is generated when all stakeholder needs are considered and when the industry risks of WS2003 (non-compliance) are recognized.

Hence, it is important to approach the problem from a nontechnical, compliance based perspective that:

- Respects the important role that compliance plays in the industry
- Engages business sponsorship and support
- Uses existing governance processes (and a flow-down effect) to communicate and prioritize across the wider organization
- Provides the maximum scope to contribute to the business case



Figure 6: Elements for a successful program

Elements for a successful program

A specific program of work to address WS2003 across the enterprise is a necessary approach to deal with the issue in a timely and comprehensive manner. Programs, by their nature, have a set of success factors that have to be built in to their design and implementation. Figure 6 links relevant success factors to business outcomes related to WS2003.

Measure success

A WS2003 remediation plan will be measured on several metrics, potentially including:

- Improved industry compliance ratings
- Optimal decision-making across the enterprise. Leading to:
 - Reduced costs for future operations BAU activities
 - Lowest average remediation cost per WS2003 OSI
 - Integration into project portfolio and BAU activities

The way that the WS2003 EOS is approached has significant impact on the level of success that can be achieved. Hopefully, this point of view has provided some insights that will lead to a successful WS2003 outcome.

Leverage the expertise of partners

HPE has the experience to directly assist in both the planning and execution to deliver on WS2003 remediation outcomes.

HPE can provide services along all points of the application transformation process to both advise on and deliver outcomes (see Figure 7). Additionally, HPE is able to provide experienced offshore factory teams to allow application remediation to occur at low cost and at scale.

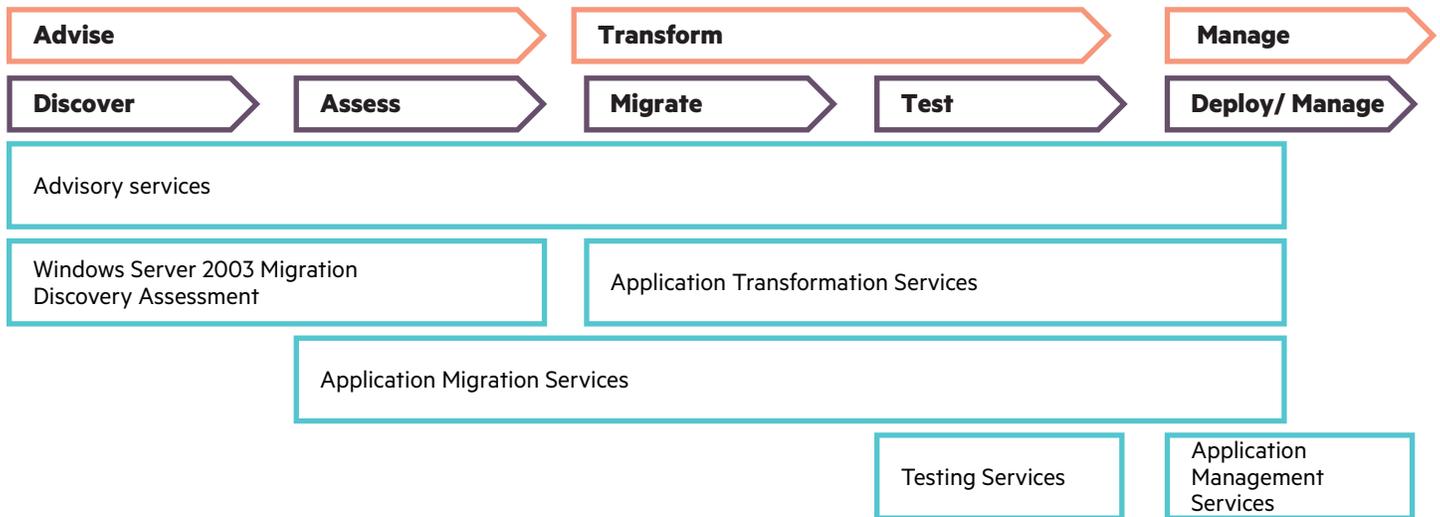


Figure 7: HPE's capabilities span the migration process

Next steps

Dealing with the WS2003 issue is a huge task, but definitely an achievable one. Acting now is your best chance of success. Being indecisive or allowing past behaviors to dominate, allows the increasing cost of WS2003 support and the risks of noncompliance to eat away at budgets, efficiencies, and business success. As this paper has outlined, a focused approach that balances priorities and risk can be used to create an affordable and practical plan.

We recommend performing an inventory of WS2003 usage in your organization to know the scale of the issue at a technical level. A further step of understanding the business dependencies on WS2003 will expose the true impact of touching WS2003 assets; however, it may be premature to predict what effort and risk are involved.

Now is the time to discuss your situation with HPE, and to explore the type of assistance that is relevant and appropriate. HPE's consultants will work directly with you to understand the issues and the steps required to solve your WS2003 issues.

While every customer is different, and every transformation has a unique starting and ending point, Hewlett Packard Enterprise has the experience and skills to deliver an outcome that best meets your business environment and future needs.

Learn more at

<http://www8.hp.com/us/en/products/servers/windows2003eos.html>

About the author

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Russell Graham is a consultant in the HPE Transformation Consulting Practice, based in Sydney, Australia. His extensive experience in enterprise architecture and program management, combined with an MBA from Macquarie University and certifications including The Open Group Master Certified Architect, TOGAF, and PMP provide him with a broad, sophisticated view from a business and technology perspective.



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