

Technology Acquisition Kaizen

November 29, 2019

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Background and Opportunity Statement

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Background and Opportunity

- Software purchases greater than \$5,000 are acquired by the business owner through the Purchasing Division, often with no assistance or involvement by the Corporate Service Department, Information Technology Division (CS-IT) until installation is required.
- Issues, related to support and integration, often arise on hardware purchases due to the late involvement of CS-IT in assessing requirements. There are 10 to 12 requests of this nature per year (for both hardware and software).
- There is also a lack of clarity of the roles and responsibilities within the process, as well as visibility to timing and milestones when hardware like laptops or personal computers are being replaced on a lifecycle basis.

Opportunity Statement and Scope

The core team developed the following opportunity statement, while initiating a Kaizen to streamline and improve these processes and routines:

“Streamlining the process in the Region to acquire and deliver technology solutions into the Durham ecosystem.”

Scope

Start: User identifies technology need.

End: Solution is implemented/post warranty period.

There are to two key elements within the process to review:

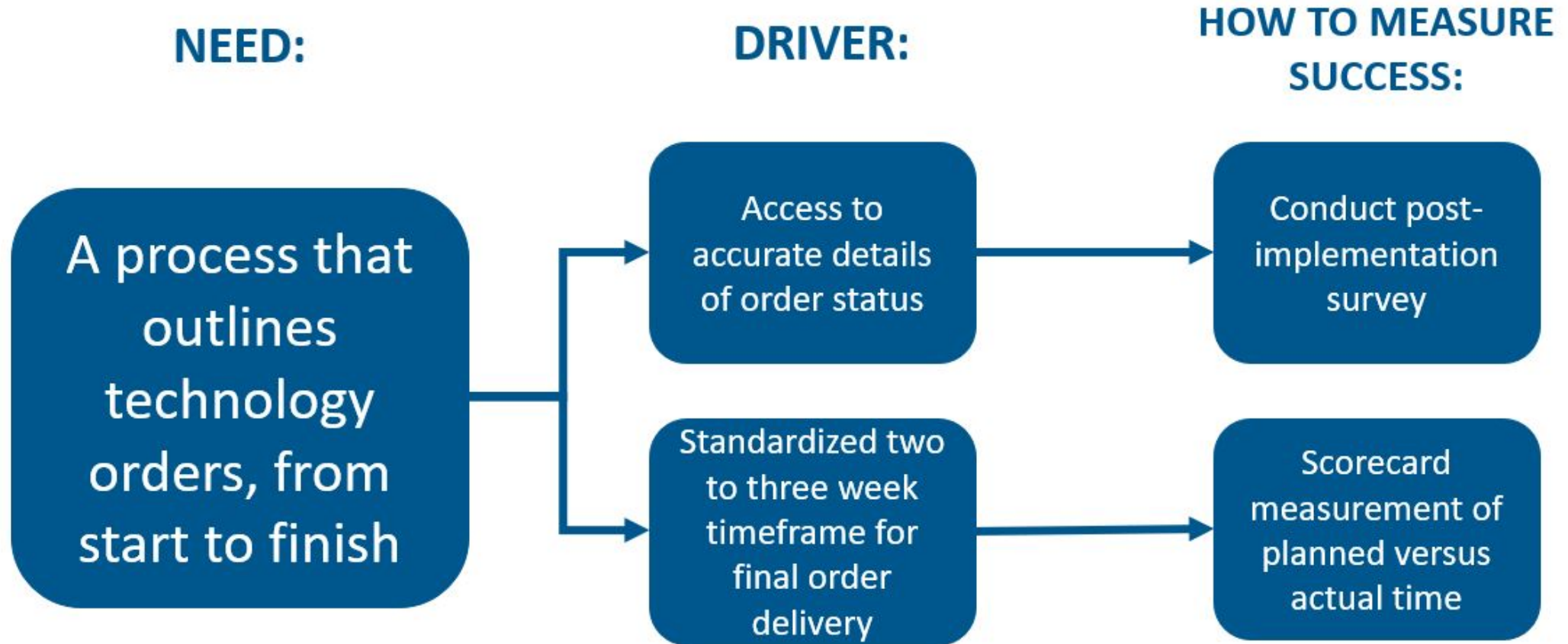
- Annual replacement/refresh of hardware and
- Ad hoc requests for software/hardware less than \$5,000 in procurement value.

SIPOC

The team completed a Supplier, Inputs, Process, Outputs, Customer (SIPOC) to better understand the stakeholder groups and details of transaction within the process.

S - Suppliers	I - Inputs	P - Process	O - Outputs	C - Customer
<ul style="list-style-type: none"> • Requesting group • Individual user • Corporate initiative 	<ul style="list-style-type: none"> • Help ticket • Email/meeting • Purchase request • Business plan • Other 	1. User identifies need for hardware or software	<ul style="list-style-type: none"> • User group awareness 	<ul style="list-style-type: none"> • User group • Requestor • Program manager
<ul style="list-style-type: none"> • Supplier • User • Procurement 	<ul style="list-style-type: none"> • Over \$5,000 competitive bid form • Supplier proposal • Legal & Risk recommendations 	2. User research & assessment	<ul style="list-style-type: none"> • Recommendation from Procurement • CS-IT • Legal & Risk recommendation of terms & conditions and insurance requirements • Sole source form 	<ul style="list-style-type: none"> • User group • Program manager
<ul style="list-style-type: none"> • Supplier • User • Procurement 	<ul style="list-style-type: none"> • Legal & Risk recommendations • One of three documents becomes the input: sole source, competitive bid or request for proposal • Statement of work (SOW) • Consulting services agreement (CSA) • Licensing • Data security assessment • Network & basic standards sign-off 	3. Identification, validation, consultation & procurement	<ul style="list-style-type: none"> • Signed CSA • Insurance finalized • Risk & Legal approvals • SOW has a high-level implementation plan • Notice of award in some situations 	<ul style="list-style-type: none"> • User • Program Manager • Vendor • Risk • Legal • Purchasing • Procurement • Council as required
<ul style="list-style-type: none"> • Program manager • User or business unit • Outsourced suppliers • Project manager 	<ul style="list-style-type: none"> • SOW • CS-IT service representative • Intake and project charter • IT help request • Project team • General resources 	4. Implementation of product	<ul style="list-style-type: none"> • Project management standard documents • Training documentation if relevant 	<ul style="list-style-type: none"> • User • CS-IT • Procurement if required

Voice of the Customer – Business User



In addition, the team worked with a representative customer base to determine customer requirements, and how to measure a successful process.

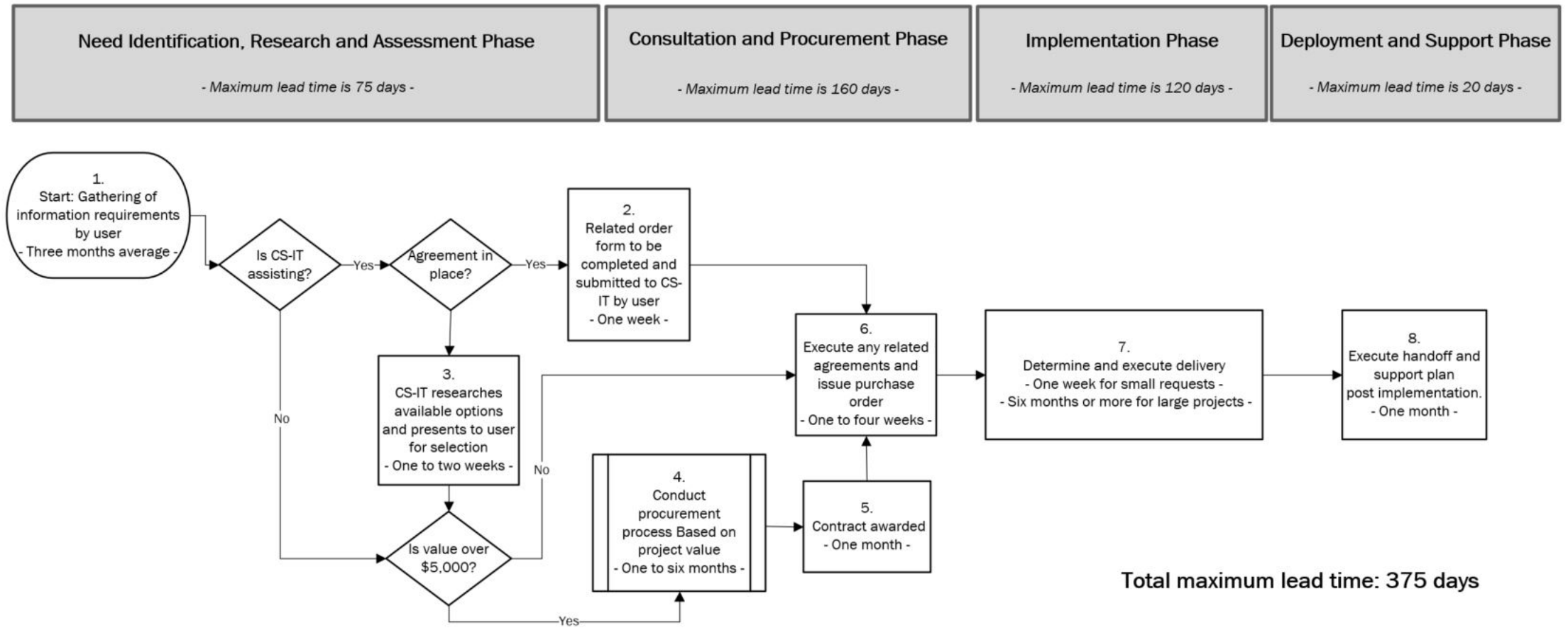
Current State

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Current State Process – CS-IT Requests



- Based on complexity and size, lead-times could be as high as 375 days.
- There is considerable variability in process cycle time.

Current State Process – CS-IT Replacement

Need Identification, Research and Assessment Phase

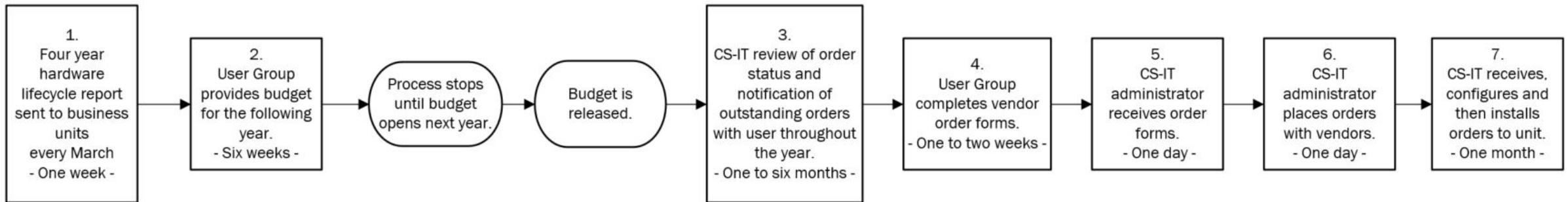
- Maximum lead time is 35 days -

Consultation and Procurement Phase

- Maximum lead time is 131 days -

Deployment and Support Phase

- Maximum lead-time is 20 days -



Total maximum lead time is up to 186 days across a one year timeline

Notes:

- Full process begins in September of previous year.
- Process is effectively stopped until budget is approved for upcoming year.
- Once budget is released, users can initiate orders.
- CS-IT is only advising and does not control when users orders are being placed after the budget is released.

- In the case of replacement hardware, the lead-times could be as high as 186 days across a one year time line.
- There is considerable variability in cycle time.

Current Process Challenges and Waste Identification – Page 1

- 22 challenges were identified by the team. They focused on three areas specific to software/hardware requests and hardware replacement.
 - No standard process to submit requests.
 - Lack of clarity of date and timelines.
 - Analysis within the business units take more time due to competing work tasks.
 - Inability for client or CS-IT to track projects to implementation.
 - Challenges identified are primarily within the defects and waiting waste type.

Number of Waste Points	Percentage of Total	Waste Type
9	40%	Waiting: associated with the lack of clarity within the process.
8	36%	Defects: create rework which delays the process.
3	14%	Inventory: slowing process down.
1	5%	Motion
1	5%	Excessing Processing
22		Total

Current Process Challenges and Waste Identification – Page 2

- **Request Process** - Users identifying their request needs, researching available options and making the final selection accounts for 20% of the total lead time.
- **Replacement Process** – Majority of the total lead time for the process is related to consultation for a user's replacement hardware.
- These were the two sections that were identified as the key challenges and will be the focus for areas of improvement within this project.

Technology Acquisition - Request Process Excerpt -
Need Identification, Research and Assessment Phase
<ul style="list-style-type: none">• Average maximum lead time is 75 days.• Total lead time for entire process is 375 days.

Technology Acquisition - Replacement Process Excerpt -	
Need Identification, Research and Assessment Phase	Consultation and Procurement Phase
<ul style="list-style-type: none">• Maximum lead time is 35 days.• Total lead time for entire process is 186 days.	<ul style="list-style-type: none">• Maximum lead time for is 131 days.• Total lead time for entire process is 186 days.

Future State Prototype

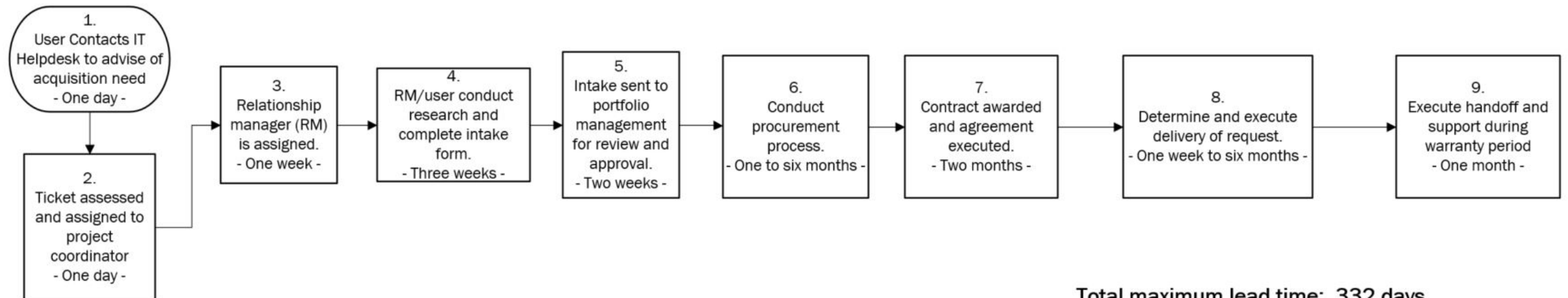
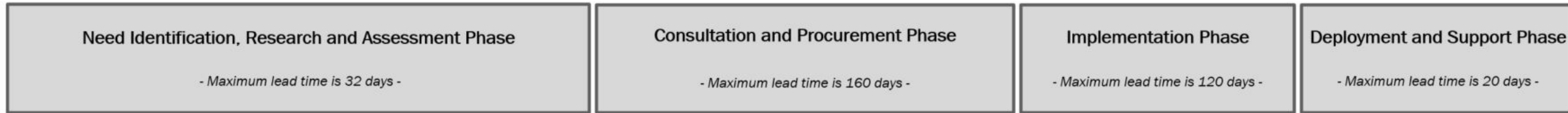
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Future State Prototype – CS-IT Requests

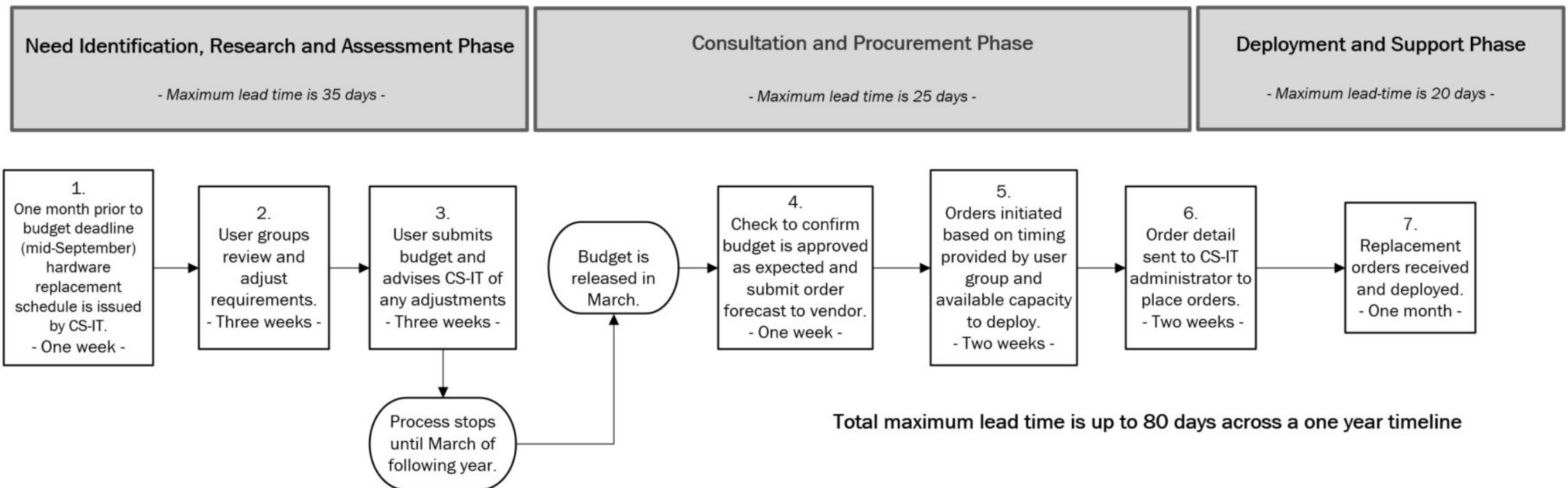
- In consideration of the identified challenges, a future state for the request process is proposed.
- The future state process focused on improvements to the need identification, research and assessment phase of the process.



Total maximum lead time: 332 days

Future State Prototype – CS-IT Replacements

- In consideration of the identified challenges, a future state for the replacement process is proposed.
- The future state process focused on improvements to the consultation and procurement phase of the process.

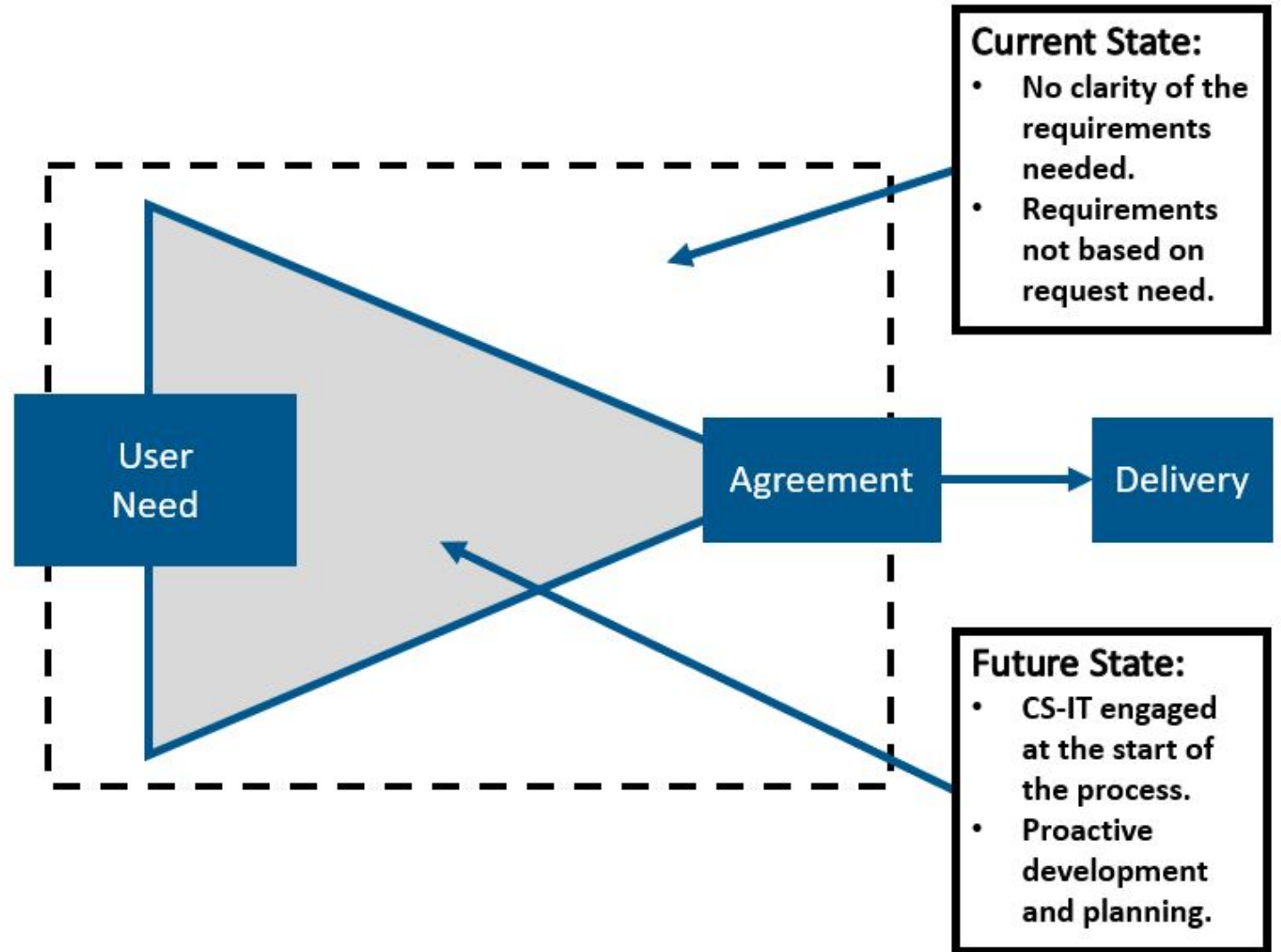


Notes:

- Full process begins in September of previous year.
- Process is effectively stopped until budget is approved for upcoming year.

Lean Thinking Deployed

- Lean Thinking allows for proactive involvement of CS-IT to ensure accurate and high-quality specifications for needs and for timely delivery of solutions. Benefits Include:
 - Increased communication.
 - Standardization of routines.
 - Workload balancing.
 - Triage for optimal request flow.
 - Deployment signal to initiate consultation with relationship manager.
 - To ensure forms and documents are free from errors, quality checks can be built into the forms.



Future State Benefits – CS-IT Request Process

CS-IT Request Process

- Standardized process across all requests:
 - All ad hoc requests to be initiated through a IT Helpdesk request via a ticketing process.
 - Request then triaged by a project coordinator to appropriate CS-IT contact (who becomes the request's relationship manager).
 - Relationship manager completes assessment with user group with a complete and accurate intake process specific to the user's need.
 - The finalized request is then is passed onto Procurement for execution.
- Increased accuracy and timeliness will reduce overall process lead time in the need identification, research and assessment phase from 75 days to 32 days.
- With an average of 10 ad hoc technology related requests per year, there is opportunity for large savings from a IT Helpdesk capacity standpoint that could be applied to another processes where it is needed.
- Tracking of all activity will allow for continued pro-active involvement by CS-IT, as well as trending and tracking for the end user.

Future State Benefits – CS-IT Replacement Process

CS-IT Replacement Process

- Standardized process for all replacement hardware and software:
 - Replacement needs will be led by CS-IT Service Delivery.
 - CS-IT will provide notification to business users on lifecycle management required for budgeting, as well as to pre-plan and advise on timely and accurate order placement across a yearly cycle.
- Delivery of replacement hardware will be managed by a third party through coordination of a CS-IT lead and user group lead to avoid bottlenecking of activity.
- These changes to the process should reduce overall lead time for the first two phases from a maximum of 166 days to 60 days. This is waiting time not required by the process anymore as the CS-IT lead is driving and directing actions earlier in the process.
- Detailed tracking could be leveraged by both CS-IT and the user for better tracking of key milestones.

New Tools to be Created

- Develop new ticketing routine for requests to assist IT Helpdesk.
- Development of a “technology request form” as a pre-intake function in order to gather the all relevant information early in the process.
- Refine replacement reporting to reflect yearly requirements with recommended ordering dates.
- Tracking for Requests:
 - Initial Phase - Develop short term Excel tracking sheet.
- Tracking for Replacements:
 - Initial Phase - Use ticketing, excel tracking sheet or perhaps work with vendor to provide visibility into order status.
- Develop a process scorecard for process health measurement.

Closing Remarks

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In Summary

- Through the Kaizen performed in relation to CS-IT's technology acquisition processes, areas of improvement and possible solutions have been identified for both the request and replacement processes.
- A key theme for both the existing request and replacement processes was a need for CS-IT to be involved in the process from the start in order to eliminate additional work effort later on in the process.
- Should the new process recommendations proceed, the key to implementing the new process is user awareness. Users will need to be informed of this through the various communication channels available.
- A secondary theme identified was the concept of a user being able to track the status of their request or replacement order which could eliminate unnecessary IT Helpdesk requests and increase end user satisfaction.