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Lesson Learned - Security Device Refresh (2018)

	Phase	Category	Finding	Impact	Lesson/Recommendation	Classification
Work Stream: QRadar Refresh						
1	Phase 1: Inception	Contracting, Vendor performance	The plan was for the project to run from July to December 2018. IBM kicked this off on November 20.	Late start would mean late finish. This work stream ended on the first week of June.	Before the start of the fiscal year, ask Vendor Management to discuss planned projects with IBM in order to get commitment dates	What went badly
2	Phase 2: Elaboration	Contracting, Vendor performance	QRadar hardware was two months late.	Project delay	Ask Vendor Management to establish an SLA on procurement.	What went badly
3	Phase 2: Elaboration	Contracting, Vendor performance	Three unplanned activities were added to the project plan that pushed back the project by eight weeks.	Project delay	Ask IBM for thoroughness in planning.	What could be improved
Work Stream: IPS/IDS Refresh						
Work Stream: IronPort Refresh						
4	Phase 1: Inception	Contracting, Vendor performance	IBM started requirements gathering on the last week of December, and provided the project plan on March 6.	Cut-over was completed on June 21, almost six months after the original project end date.	Before the start of the fiscal year, ask Vendor Management to discuss planned projects with IBM in order to get commitment dates	What went badly
5	Phase 4: Test	Project management	The Implementation Readiness presentation to CCB was done on the same day of the first cut-over.	The cut-over CRs almost didn't make it.	Plan the Implementation Readiness Presentation at least a week from cut-over.	What could be improved
General						
6		Project management	Weekly calls with IBM	Better task management	Always arrange weekly status calls with IBM or any vendor involved.	What went well
7		Contracting, Vendor performance	Vendor Management team's help with following up IBM	Faster feedback from IBM	When the vendor is driving the project, get Vendor Management's involvement from start to end	What went well

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			Enterprise Project Management Office (EPMO) - Project Lessons Learned Knowledge Base Customer Self Service (CSS) & High School Driver Education (HSDE) - Phase 3 Summary of Sessions Completed: May - June, 2019		
ID	Phase	Category	Finding & Impact	Lesson Learned/Recommendation	Action Plan
1	All Phases	Communications	Projects are not taking minutes or tracking action items. Conversations had to be revisited, the purpose of tasks and their accountability were unclear. BTO SC, ESC and CCB meeting results were shared verbally, no written record of them.	Projects need to run effective meetings, with the right project team members and document action items and decisions. Upload on shared site (not email) for team reference and to refer to in the subsequent meeting.	EPMO: Develop a meeting reference guide for project managers (PMs), include measureable objectives that PMs are evaluated against. Consider adding EPMO review checks to provide feedback. EPMO: Review existing project plan template and the section on communications. Further detail the responsibilities of the PM to plan and share the project team communications (including meeting minutes/results). The project plan deliverable is to be completed by the PM in Phase 2 - Elaboration.
2	All Phases	Communications	Project terminology is tricky on projects with new infrastructure and business functionality. A lack of shared understanding within the project team causes confusion and extra time to verify and align on the items.	Ensure the project team is speaking the same language. Consider alignment through a data dictionary which grows within the project. Make the team aware of this and encourage them to check it regularly.	EPMO: Develop data dictionary template.
3	All Phases	Communications	Various visions for the project were mismatched between the executives, project leadership and the different departments. A lack of vertical alignment of project goals at the management level, especially when roles were replaced. Confusion with priorities, caused incorrect decision making and the need to revisit previous decisions thought to be final. This resulted in project changes and re-direction.	Ensure ongoing alignment and unity of the project's vision through the project stakeholders. When new executive level sponsors/OBC join a project consider walking them through the project at a medium level of depth, including history on how some of the key decisions are made. Consider regular check-ins with those members to ensure alignment is calibrated accurately.	EPMO: Training opportunity on keeping project vision awareness throughout the project lifecycle and on-boarding requirements. New process required for OBC/sponsor transition and on-boarding.
4	All Phases	Communications, Culture	Lack of communication regarding project purpose, role clarity and need for team building (feeling lost on project, underappreciated).	Promote communications and team building through kick-off meetings and during the project as necessary. The Stakeholder Kick-Off Presentation is a requirement in Phase 1: Inception. When the technical team, KMS, and QC&M is resourced, it's worth having a project team kick-off meeting. The meeting can cover scope, resourcing and timelines. This should be formalized with a presentation slide deck and the goal to bring the team and/or key stakeholders together to ensure alignment and promote how the team works together toward the project goals.	EPMO: Review existing project templates. Is there opportunity to include placeholders for project purpose. EPMO: Solicit input from the PMs and key project stakeholders on how we can obtain further team alignment on project purpose, focusing on priorities and team building - throughout the project lifecycle.
5	All Phases	Document Management	Challenges finding documents on SharePoint. Team members were not able to reference documents they needed to verify previous decisions.	Consider tagging and naming convention standards.	EPMO: Review existing metadata and naming convention standards to find opportunities for improvement.
6	All Phases	Project Management	Teams were not co-located which caused barriers with information sharing, decision making and team building.	Have the project team members in the same location or have cubicles in close proximity. Consider a dedicated project "war room" through the project. Having a close, unified and engaged team enables implementation success.	EPMO & BTO Leadership & Premises: At project start-up, review size of project and resources to consider options for co-location.
7	All Phases	Resourcing	Critical resources were lost on the project and not replaced. No assessment was performed and the project timeline was not adjusted. Caused issue in setting deadlines as they did not appear to be based on volume of work to be done or the resources available to perform the work.	Loss of resources should be a risk trigger. Identify the risk, document and raise further with project leadership through established meetings.	EPMO: Continued involvement of the EPMO resource manager at BTO SC meetings to hear resource status remarks. Continued involvement of resource manager in discussions with PM and coaching to raise risk. EPMO: Continue to enhance risk management process with Project Managers; applying stronger risk management when the issue is first identified.
8	All Phases	Resourcing	Resources were replaced which created skill gaps that were not addressed/considered. The new resources were unexperienced, needed time to ramp up on the project (background, planning etc.) and this caused a slow down in development deliverables that was not identified on the schedule.	Assess the impact of resource changes. Log risk or issue via existing process. Call out skill gaps in any role as a risk. Seek out additional training or mentorship to address gaps.	EPMO: PM training opportunity. Add skill assessment/gaps to resource forecast.
9	All Phases	Resourcing	(General Roles) Project team was unclear with team roles and responsibilities from operations to project, within the project and for leadership (both lateral and vertical roles were unclear). This caused confusion with project team members, gap in roles and not getting the right information from the right resources (incorrect info, trust issues).	Clarity required on roles and responsibilities and how they fit into the approval or escalation process.	EPMO: Review SP contact list to see if this can be enhanced with more detail on responsibilities. Promote introduction of teams and their contribution to the project in the project kick-off meeting and when new resources are added to the team.

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10	All Phases	Resourcing	(Specific Role) Operational Business Champion (OBC) role was not clear and they felt disconnected. For the OBC, projects are not a world they live in and are at the mercy of the project resources to provide them the right information.	Clarity required on OBC role and as it related to the complimentary roles of the PM, BRM and OCM leads.	Business Architecture with EPMO: Review existing OBC reference guide on the role and responsibilities. Consider further training and mentorship opportunities throughout the project lifecycle.
11	Phase 3 - Build	Resourcing	(Specific Role) Developers role on the project was unclear and the overall project goals. Was better when they had direct access to the BA. Didn't feel properly on boarded. This caused the Developers to struggle with direction/focus and assessing task priorities.	Project team members need dedicated onboarding through the PM, project team lead and self learning (or a combination of the three). This may occur at any point in the project lifecycle.	EPMO: Review responsibility with Project Managers. When someone joins the team, provide: -Links to key project documentation, such as the project charter, solution overview, WBS, ADD - Verbally communicate the goals of the project, and how you (the PM or lead) expect to utilize the resource. Explain what they are responsible for, and where their boundaries start and end -Regular check-ins -Determine if further mentorship is required
12	All Phases	Resourcing	Large technical team had no centralized leadership or representation. This caused diffusion of responsibility and ownership of the technical solution. There was a lack of representation at decision meetings. The OBC was making decisions without the full understanding of technical implications.	A technical lead is needed for the technical team. When technical teams reach a sufficient size (say 8+), then appoint a technical lead. This person's role will be half technical and half leadership/communication/project management. This should be accounted for as a portion of their workload. They should be able to lead scrums for the technical team, report to the project manager and be present at decision making meetings with the BRM, OBC, OCM etc. This role may be a technical architect, lead developer or senior systems analyst depending on the skill set required.	Technical Architecture, EPMO & HR: Discuss the recommendation and how it would work in practice. Involve HR business partner if new or updates required to existing job descriptions and for impacts to pay grade etc. EPMO: If approved, update existing project team roles and responsibilities. Review methodology for impacts.
13	All Phases	Value Management	Need to keep focus between the original value that the project is intended to bring as documented in the business case to the ongoing project delivery process. At times the lack of focus caused the project to keep their eye on delivery and not concerning themselves with were they delivering on the right and appropriate objectives.	Improve the quality cycle within the project. More reference to project objectives at the meetings and alignment of the work to those objectives.	EPMO & Value Management Office: Continued collaboration between the EPMO, VMO and the business from the business case development > approval > project. Leverage action plan from ID#4.
14	All Phases	Project Management	Leadership wants to firmly restrict multiple project constraints. This is not realistic and causes unnecessary stress on the project team (frustration) and impacts team morale.	Consider education on the traditional view of project constraints (the triple constraint of time, scope, cost) and that only one of the 3 can be firmly constrained. Alternatively educate on the more modern view of more constraints (resources, risk, quality and customer satisfaction).	EPMO: Provide awareness/education to leadership on project constraints and how they impact one another.
15	All Phases	Planning & Estimating	Too much focus on the formal deliverables and not enough on planning the actual work. The tasks took more time than the team thought because they didn t understand the extent of the work and who needed to be involved; increased risk.	More time required with planning and understanding the actual work that needs to be done, who needs to do it and when. Agile sprint planning may help with this.	EPMO: Training opportunity to review Work Breakdown Structures (WBS); invest and formalize this process and hold the PMs accountable. Manage up the expectation on the time it takes to complete a thorough WBS so it is not rushed (i.e. less accurate).
16	Phase 2 - Elaboration	Planning & Estimating	Approaches to estimating vary from project to project. Early rounds of estimates were fundamentally flawed and replanning was required (not an effective approach).	Standardize the estimating approach on all projects. A standard work breakdown structure (WBS) format and work package decomposition guidelines will help with this. The right people (roles) must be present for the estimating activity to be successful. An appropriate amount of time needs to be given to hit the desired level accuracy with the estimates (give PMs the time they need to do the WBS and increase their accuracy).	EPMO: See ID#15. Review existing estimating rules and procedures and determine what updates are required. Training and communication opportunity for PMs.
17	Phase 2 - Elaboration	Planning & Estimating	Some leaders/executives treat estimates to be 100% accurate. Leaders at various levels had different assumptions about the estimates.	Better communication by the PM/project team on the estimates and their level of accuracy throughout the various phases of the project. It is not a good use of time early in the project to complete detailed estimating. During inception the estimate range should be wide (say +/- 50%). This also reflects the effort committed to the estimates. If more time and detail is allotted, then the range can become tighter. Detailed estimating should happen (targeting an accurate estimate) after the requirements have been finalized. The same would be true in a change driven environment, but your scope would be smaller.	EPMO: Training opportunities for PM regarding estimating standards and communication to the team and leadership.
18	Phase 2 - Elaboration	Planning & Estimating	Changing or incomplete requirements led to issues determining how much development work is required or even what development work had to be done. Too much re-estimating required. Duplication of work.	Projects need an investigation phase which involved key roles to solidify requirements across the board and produce better estimates. Bring Technical and Architectural resources on to the project much earlier.	EPMO: Training opportunity to reiterate the existing gating process and use of the CR process.

#	Phase	Category	Observation	Recommendation	Action
19	Phase 2 - Elaboration	Planning & Estimating	Project team members did not see the full schedule. Schedule changes occurred week to week. Team members were asked to identify tasks we worked on and then added to the schedule (not timely). The schedule was more of a "history" than a schedule. Tasks were not captured at the right level. This all led to a lack of transparency and confusion as to milestone dates for the project.	Increase visibility of full schedule for project team. Get ahead of the schedule to avoid the "history" questions.	See: ID#15 & ID#16.
20	Phase 2 - Elaboration	Budget Management, Culture	Project capital budget was pre-determined before the project started. A lack of understanding by the business in the budgeting process and the business felt there was a decision not to include them in this process because of past experience (lack of knowledge of the new world). The estimation short falls cause unexpected additional budget request to be put forward to ESC and BOD to the tune of 1 million dollars.	Involve the business and collaborate on the budgeting approach and accuracy of the overall budget and refinement. The process needs to be interactive.	BTO Leadership: Review the process on how initial project scoping is determined and involve the business in the initial funding meetings to balance the voice/experience. Also: ID#13 (continued collaboration with EPMO, VMO and business).
21	All Phases	Decision Making	Technical team was not represented at key decision meetings. Decisions were made without considering if they were technically feasible within the project constraints.	A representative from the technical team must be present at decision making meetings. Decision makers need instant feedback on the feasibility of proposed solutions.	Same action as above for lesson learned #12. EPMO: Review and update applicable process documentation relating to roles & responsibilities and meetings. Consider the action required to document and communicate decisions more effectively.
22	Phase 4 - Test	Execution	Utilizing Team Foundation Server (TFS)/DevOps for SIT bug tracking was really effective and the preference of the development team. The team was able to turn around bugs quickly and track fixes to change sets.	Establish a standard for SIT (and possibly UAT and/or Production Warranty) bugs for all projects going forward.	EPMO: Working with the developers, create a procedure on how to use TFS (DevOps) for SIT bug tracking.
23	Phase 4 - Test	Execution	It is very hard for developers to triage bugs on specific mobile platforms. In many cases the simulation software would not replicate issues that the real hardware would. The team had to rely on trial and error, create new builds without confidence they would work.	Developers require access to the most common devices and are connected to our network to support unit testing in the build phase. Discussions have happened about farming out mobile testing - as the Corporation does not want to manage devices from year to year - but the access is essential.	Technical Architecture: Revisit earlier discussions.
24	Phase 4 - Test	Execution, Resourcing	Isolation of the UX Designer caused a lot of rework and confusion for the developers on the project. Many unchecked assumptions led the UX Designer towards solutions incompatible with the rest of the development process. This caused a lot of time to re-align the UX designer with the rest of the project team, including meetings and reworking portions of the code.	The UX Designer needs to be fully integrated into the project team and be part of design sessions and technical team meetings. This role needs access to the same source control repository as the other project developers.	Creative & Digital Engagement Services & Technical Architecture: Discussion and decision required, then communication with UX Designer on role & responsibilities within the project team. EPMO: Update existing project roles and responsibilities documentation based on decision.
25	Phase 4 - Test	Execution	UAT environments are not a close enough approximation of production, causing new environment issues to be discovered when deployed to the production environment. The team was impacted by stress, delays and extra work not accounted for in the project schedule.	Create new UAT environments that are clones (or more like) production.	Technical Architecture: Discuss & decision on new environment creation.
				Clone copies of the production servers which developers have full access to. These would be for staging deployments and validating the state of the servers; could be destroyed and created every month/week.	Technical Architecture: Discuss & decision on cloning production servers.
				Long term recommendation: revisit the IBM service level agreement (SLA) and look for ways to turn around a change more quickly than current state.	Vendor Management with Technical Architecture: Review IBM contract and discuss adjustment options to SLA.
26	All Phases	Execution	Current SLA with IBM makes it very hard (and slow) to troubleshoot issues in the UAT, Production and Production Support environments. Developers are handcuffed in their ability to diagnose issues. Very slow turn around to request information about a service or push out a fix.	Revisit the SLA and see if there are ways to improve our turn around time on Change Requests (CRs) for UAT, Production and Production Support servers. Technical architecture recommends using release pipelines in Azure DevOps and finding a better way to submit informational requests to IBM.	Technical Architecture > Daniel Kokan: Already working with management on using release pipelines. Same as above with Vendor Management working with Technical Architecture to review the IBM contract and discuss contract options regarding submitting information requests.
27	All Phases	Execution	Projects need to rely on heroic efforts near the end of projects to meet deadlines and overcome environment obstacles. Team members needed to put in extra efforts and extend themselves to keep project on track.	As a project is nearing completion, the PM needs to check resource task time remaining against actual allocation to ensure team members are setup for success. Do not rely on overtime or extra ordinary efforts as a means for success.	EPMO: Consider Earned Value metrics and/or the task hours remaining against allocation to ensure probability of success. When implemented this could lower the reliance on subjective status communication from PM.
28	Phase 4 - Test	Testing	Load and stress testing couldn't be completed by the project. The team didn't understand these items until we were in production and	Find methods to execute load and stress testing during SIT and UAT.	Technical Architecture: Further investigation and discussion required.

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#	Phase	Category	Issue	Recommendation	Response
			experiencing concurrency issues.	Build these methods into the test strategy. Ensure ownership of the test strategy is developed in collaboration with the right group.	EPMO: Add load and stress testing considerations into the Acceptance Test Strategy deliverable (Phase 3 - Build).
				Consider automated tools to perform load and stress testing.	Technical Architecture: Further investigation and discussion required.
29	Phase 5 - Implementation & Warranty	Transition to Operations and Production Support	(General) Operational Support Model (OSM) in our methodology is more about theory than practice. We satisfy the deliverable, but when execution begins it does not reflect reality as accurately as it should with regards to roles, responsibilities and hand-off.	The OSM needs to be accurately documented, approved and awareness required from all stakeholders involved in the model. The OSM needs to be a collaborative effort and include both business and technical support models.	Business Architecture, OCM & EPMO: Review OSM template and process to identify gaps and make improvements ensuring that technical and business is represented and the document is cascading down to everyone involved. Collect feedback from Business Architecture & OCM on how we can improve this process further; involve ESS as a key stakeholder.
30	Phase 5 - Implementation & Warranty	Transition to Operations and Production Support	(General) Our current support model does not work in the new online customer facing applications.	Operations is trying to support customers with new applications and they need to learn how to provide that support.	See: ID#29
31	Phase 5 - Implementation & Warranty	Transition to Operations and Production Support	(Specific Role) Contact Centre employees are to provide technical support to customers. They were not ready to take on new responsibilities and it is not in their skill set or pay grade. This requirement of the OSM was something the employees were not trained or paid to do.	Socialize OSM with stakeholders early and look to identify skill and/or job role gaps prior to go live. Continue the collaborative approach between the Business Architect and Organizational Change Management. Ensure once the approval of the document is completed, then the socialization occurs down to the working level. It may not be best to leave in the hands of the leaders, but rather have an operational team meeting to review the OSM. Continued involvement with HR Business Partners to review job descriptions and support as related to this new online business world.	See: ID#29
32	Phase 5 - Implementation & Warranty	Transition to Operations and Production Support	Default durations for warranty are not sufficient on all projects causing insufficient time for find all the production defects and address them.	Review warranty needs as the project moves along - discuss and obtain approval on what a reasonable warranty period is for your project. High risk projects need to consider a longer warranty period.	EPMO: Review the OSM and include a warranty component. Review methodology to consider an initial pass in the elaboration phase so it can be reflected in resource forecasting plans. The OSM approval is done in Phase 4: Testing which may be too late.
					EPMO: Consider a DR to change from the standard 10 days of warranty.
33	Phase 5 - Implementation & Warranty	Transition to Operations and Production Support	Unclear who owns the product after launch. This caused confusion about who makes the decisions on fixes (ESS or CCB). Direction and action was coming from two places which caused tension and confusion between the teams. PM getting direction from CCB and passing onto the Production Support team dealing with production issues; the Prod Sup team was working in accordance with ESS direction.	Have ESS take ownership of the solution immediately after launch day. Additional work on the OSM and completing the knowledge transfer to ESS before implementation will be key. Project team members can assist with production issues, but the ESS war room is best suited for handling high-priority production issues.	Enterprise Systems Support & BTO: Discussion and decision required to confirm ownership.

EPMO: Develop further check points for OSM development and knowledge transfer prior to Phase 5. Further training and collaboration opportunity between the PM, BRM and OCM; as well as the project and operational teams. |
34	All Phases	Methodology, Governance	Leadership did not have a clear understanding of the governance details and practices to help them associate it's value to the success of the project.	Improve project team and leaderships understanding of the overall role of governance as it relates to project delivery success. Review of the following processes to make more agile: -Decision Requests (DR) -Change Requests (CR) -Project Working Group (PWG) - too much time between meetings to get answers and approvals regarding business requirements; although generally if business requirements were less detailed, then the technical team can do more	EPMO: Governance process review. Communication/training opportunity to relate current governance to delivery success.
35	All Phases	Methodology, Culture	Customer facing projects come with a number of unique challenges and extra work we are not ready for. The challenges caused some gaps in project planning as our methodology hasn't been utilized for a lot of these type of projects. HSDE & CSS were trailblazing projects - system innovation versus systems of knowledge projects. Project team working on public facing websites versus internal systems. Our business and support model is changing. Our methodology needs to change as well.	Review the methodology to consider some additional elements for customer facing projects. For example: - Focus groups - Pilot program (HSDE had success with this) - Mobile development and testing considerations -Communications or KMS testing to ensure they understand how/what messaging is exposed to the customer - More work on the OSM; exercise the OSM ahead of time - Contact Centre and support staff need more attention during stakeholder management	EPMO: Methodology review.
36	All Phases	Methodology, Culture	Perception that there is too much "red tape" and project teams are not working closely with the business; impacting the success of the project team and the product delivery.	Need a level of documentation that we can fall back on for long term support. Need to change perception.	EPMO: Continued collaboration between BTO and business units. Review of existing methodology/templates to reduce red tape. EPMO re-branding initiative to promote projects and goal to delivery success.

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ENTERPRISE PROJECT MANAGEMENT OFFICE
Lessons Learned Database - Risk Registry Remediation (2018)

Project	Phase	Category	Finding	Impact	Lesson/Recommendation
2790	Phase 1 - Inception	Project Management	PM was assigned late to the project	Project documentation was not in place and planning wasn't complete. Not in adherence to EPMO methodology	PM assignments to be completed as per described in the EPMO process.
2790	Phase 3 - Build	Document Management	The working group Terms Of Reference was not followed. Therefore, document reviews and approvals were not effective.	Project timelines and resource efforts were impacted negatively	Create a process to enforce agreed upon terms of engagement. E.g. A person with veto power to resolve issues
2790	Phase 3 - Build	Document Management	Members of the working group had differing views of what the deliverables needed to have.	Project timelines and resource efforts	Need to clarify what type of approval we are looking for. E.g. ISO would be looking at a document differently than an IT manager.
2790	Phase 3 - Build	Document Management	Using email to collaborate on documents made it challenging to keep versions in sync	more effort to keep versions in sync and ensure no changes were lost	Have a centralized location for document collaboration with external vendors Determine if MPI is allowed to use IBM's Box cloud-based collaboration site
2790	Phase 5 - Implementation & Warranty	Project Management	No process in place to manage the difference between RFS timelines and project timelines. E.g. RFS extended beyond MPI fiscal year with project ending prior to end of RFS	Confusion on how to handle and hand-off project for next fiscal year. IBM not understanding our funding model	Incorporate a process for this type of scenario.
2790	Phase 5 - Implementation & Warranty	Transition to Operations and Production Support	Unclear delineation between project funding and ongoing operational funding	the investment and benefits already gained may be lost if ongoing operational funding is not secured to maintain what has been created	Some initiatives once established need ongoing operational funding to sustain it without having to create new business cases and projects to perform that function.
2790	Phase 3 - Build	Document Management	It was difficult getting approvers to review and approve documents within the allocated workflow window. The approvers tend to be the bottleneck due to having to approve documents for multiple projects	approvals were delayed causing dependent downstream activities to be delayed	In the TRM program delivery process, it should outline that after x amount of days the workflow is overdue, automatic approval is given. Another option is to have delegates that are authorized to perform the review and approval.

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Work Stream: IronPort Refresh						
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6		Project management	Weekly calls with IBM	Better task management	Always arrange weekly status calls with IBM or any vendor involved.	What went well
7		Contracting, Vendor performance	Vendor Management team's help with following up IBM	Faster feedback from IBM	When the vendor is driving the project, get Vendor Management's involvement from start to end.	What went well

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Lessons Learned - Security Risk Management (2018)

ID	Title	Lessons Category	Priority	Type of Lesson Learned	Author/ Creator	Team	Date Logged	Description	Consequence	Notes for Future	Manual Status	Project Code	Project Name	Program	Initiative
1	Requirements Details and Traceability	Requirements Management	(2) Normal	Best Practice	Langlois, Diane	Business Architecture	4/23/2018	Requirements need to be more detailed and specific		This will provide better traceability for project and meeting objectives and measuring success	Complete	2717	Information Security Risk Management - 2017	Technology Risk Management	Security Risk Management
2	PM Toolkit Template Deliverables	Resources	(2) Normal	Best Practice	Langlois, Diane	Project/Program	4/25/2018	PM Toolkit does not provide all of the deliverable templates required for project delivery	Project managers and team spend considerable time looking for acceptable formats	Have BTO or PMO provide templates for all deliverables identified in Project Delivery Control Log	Complete	2717	Information Security Risk Management - 2017	Technology Risk Management	Security Risk Management
3	Vendor Configuration Requirements Matrix	Requirements Management	(2) Normal	Best Practice	Langlois, Diane	Project/Program	4/25/2018	Vendor was unable to provide configuration requirements in a template or matrix format. They knew what they wanted but could only articulate through demonstrations.	Multiple discussions, different levels of details, delay in getting configurations input into the tool	Ensure Vendor provides a configuration requirements document before they begin any workshops on site. A matrix would have meant the team could have provided concrete direction for configurations	Complete	2717	Information Security Risk Management - 2017	Technology Risk Management	Security Risk Management
4	Reporting Requirements	Requirements Management	(2) Normal	Best Practice	Langlois, Diane	Project/Program	4/27/2018	All reporting and SQL technical requirements should have documented and approved.	Requirements were being documented in testing phase of Pilot. Not clearly understood requirements and may result in rework of reporting testing and data collection	Reporting and technical requirements to be documented and approved in Elaboration phase	Complete	2717	Information Security Risk Management - 2017	Technology Risk Management	Security Risk Management
5	Alignment with Data Governance Strategy	Requirements Management	(2) Normal	Best Practice	Langlois, Diane	Project/Program	5/23/2018	The Titus requirements should have been aligned with Data Governance rollout and strategy.	Would produce better adoption across organization if all in alignment	Next project to work collaboratively with Data Governance and Security to plan rollout and alignment	Complete	2717	Information Security Risk Management - 2017	Technology Risk Management	Security Risk Management
6	Project Phases and Deliverables	Schedule	(2) Normal	Best Practice	Langlois, Diane	Project/Program	5/23/2018	Project should not progress along phases until deliverables are approved in sequence.	Created delays in project	To be noted for future projects	Complete	2717	Information Security Risk Management - 2017	Technology Risk Management	Security Risk Management
7	Project Sponsor Alignment	Scope	(2) Normal	Best Practice	Langlois, Diane	Project/Program	5/23/2018	To ensure that Sponsors are in alignment, the Project manager needs to schedule and conduct regular steering committee meetings and provide consistent updates on progress of project.	Delay in project	Schedule committee meetings early and often	Complete	2717	Information Security Risk Management - 2017	Technology Risk Management	Security Risk Management
8	Clearly documented Requirements	Requirements Management	(2) Normal	Best Practice	Langlois, Diane	Project/Program	5/23/2018	To assist in the preparation of the Implementation strategy it is beneficial to have clearly documented requirements	Delay in project	Requirements should be clearly documented, measurable, traceable and approved	Complete	2717	Information Security Risk Management - 2017	Technology Risk Management	Security Risk Management
9	Project Scope and Objectives Definition	Scope	(2) Normal	Best Practice	Langlois, Diane	Project/Program	5/23/2018	Clear scope, objectives for the project will provide all stakeholders with a good understanding of what is to be delivered and the expected outcome.	Cannot measure success and define and document schedule	Review and confirmation of understanding of project with stakeholders	Complete	2717	Information Security Risk Management - 2017	Technology Risk Management	Security Risk Management
10	Success Criteria for Project	Requirements Management	(2) Normal	Best Practice	Langlois, Diane	Project/Program	5/23/2018	Clear definition of success criteria for project	Not know if project is successful or not, with no measurables defined	Document project success criteria for measurement	Complete	2717	Information Security Risk Management - 2017	Technology Risk Management	Security Risk Management
11	Involvement of IBM during Project Scope Presentation	Resources	(2) Normal	Best Practice	Langlois, Diane	Project/Program	6/11/2018	Project scope presentation should have included representation from IBM so that they could speak to the alignment with DLP Egress Strategy IBM prepared.	Not clear alignment with DLP Egress Strategy	Ensure strategies that integrate with project are aligned	Complete	2717	Information Security Risk Management - 2017	Technology Risk Management	Security Risk Management
13	Scope Creep	Scope	(2) Normal	Best Practice	Langlois, Diane	Project/Program	6/11/2018	Scope creep – need to have consistent management of scope and scrutiny	Impact to budget and project schedule	Ensure CRs are raised for all scope increases	Complete	2717	Information Security Risk Management - 2017	Technology Risk Management	Security Risk Management
14	Change in Project End Date	Scope	(2) Normal	Best Practice	Langlois, Diane	Project/Program	6/11/2018	Project end date was modified and moved up, with little planning and scoping.	Impact to budget and project schedule	Better communication to stakeholders, project team on scope changes	Complete	2717	Information Security Risk Management - 2017	Technology Risk Management	Security Risk Management
15	Training Materials		(2) Normal	Best Practice	Langlois, Diane	Project/Program	6/11/2018	Training material deliverables require better definition within the scope of the project	Difficult to prepare training materials when format and content not clearly d		Complete	2717	Information Security Risk Management - 2017	Technology Risk Management	Security Risk Management
17	Clear definition of affected business group and business objectives		(2) Normal	Best Practice	Langlois, Diane	Project/Program	6/11/2018	Clearly define and document who the project benefits and what business objective was to be met – to measure success	Difficult to measure success when target business group and business objectives are not clearly defined	Determine who is the deliverable for? Make this clear, for a team or for the corporation. Were the right people the right approvers assigned based on business need	Complete	2717	Information Security Risk Management - 2017	Technology Risk Management	Security Risk Management
25	Communication strategy		(2) Normal	Best Practice	Langlois, Diane	Project/Program	6/13/2018	Need to determine communication information requirements early on in the project and project sponsor support communication methods and implementation Need for information to be determined up front as opposed to reacting as we go. If phase two goes forward (or for other future projects), it will be extremely important to have a cohesive, strategic communications plan in place with all of the pertinent information and audiences considered from the start.	Negative impact on accomplishing project objectives	Communication plan and strategy identified early in project	Complete	2717	Information Security Risk Management - 2017	Technology Risk Management	Security Risk Management
29	SharePoint		(2) Normal	Best Practice	Langlois, Diane	Project/Program	6/14/2018	Project SharePoint site setup and management of documents is not clear or easy to use	Difficult to locate documents in SharePoint as metadata is not well understood or consistently applied	Communicate SharePoint hierarchy so metadata is properly applied.	Complete	2717	Information Security Risk Management - 2017	Technology Risk Management	Security Risk Management
31	Project Control log documents for inclusion of Vendor Documents	Project Artifacts	(2) Normal	Best Practice	Langlois, Diane	Project/Program	6/14/2018	Project Control Log should be updated to accommodate Vendor equivalent documents If Vendor is to deliver artifacts, delivery log should accommodate Vendor equivalent documents, not to just copy and paste into MPI format.	Time wasted doing data entry of vendor documentation when using the vendor's document would suffice.	If content is equal, don't spend money to copy paste. If a Vendor document is sufficient, then don't redo documentation	Complete	2717	Information Security Risk Management - 2017	Technology Risk Management	Security Risk Management

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35	Change of Project Name Midstream	Communication	(2) Normal	Best Practice	Langlois, Diane	Project/Program	6/14/2018	Determine and keep naming convention throughout whole project, don't change names mid-stream Keeping consistent naming convention of the project from beginning to end	Creates confusion for project team and vendors		Complete	2717	Information Security Risk Management - 2017	Technology Risk Management	Security Risk Management
37	Involvement of external vendors	Resources	(2) Normal	Best Practice	Langlois, Diane	Project/Program	6/15/2018	Involvement of external Vendors for their expertise in gathering requirements for their managed products eg QRadar. We should have engaged IBM for expert analysis of all QRadar logs for further breakdown of requirements	Would be more efficient to use vendor's expertise		Complete	2717	Information Security Risk Management - 2017	Technology Risk Management	Security Risk Management
44	ALM Usage	Tools	(2) Normal	Best Practice	Langlois, Diane	Project/Program	6/18/2018	Better training and understanding of ALM as a requirements tool for BA on project team. ALM – not clear on usability, appropriateness of product, where is user documentation, training, operational support model	Much time wasted on redoing, retyping and reconfiguring content of requirements when it should have been signed off at beginning of project, not spending hours editing and reformatting at end of project		Complete	2717	Information Security Risk Management - 2017	Technology Risk Management	Security Risk Management
46	Feedback from pilot group	Communication	(2) Normal	Best Practice	Langlois, Diane	Project/Program	6/18/2018	Positive feedback received on functionality of tool from Pilot Group Engage Vendor Management SMEs on the project for the Pilot. Product itself is stable and they like the product	Well organized training gave pilot group a good start with the application		Complete	2717	Information Security Risk Management - 2017	Technology Risk Management	Security Risk Management
47	Engagement of operations group	Operational Readiness	(2) Normal	Best Practice	Langlois, Diane	Project/Program	6/18/2018	Engaged operations early and they were involved in understanding the product and its capabilities	Early involvement gave the operations group a good understanding of what their involved would be	Engage operations at beginning of project	Complete	2717	Information Security Risk Management - 2017	Technology Risk Management	Security Risk Management
48	Management of configuration changes in Tool	Requirements Management	(2) Normal	Best Practice	Langlois, Diane	Project/Program	6/20/2018	Better management of expectations during setup of application. Too much time spent on changing configurations rather doing the install. Missing requirements, timing of activities, should have not done configurations in initial setup	Changes were released in ad hoc fashion	Define plan for configuration changes and stick to the plan	Complete	2717	Information Security Risk Management - 2017	Technology Risk Management	Security Risk Management
50	Resource management	Resources	(2) Normal	Best Practice	Langlois, Diane	Project/Program	6/20/2018	In-consistent resources on project. Too much resource change on the project, multiple project managers, multiple architects, etc.	The turnover of people on the project had a significant impact on the project timeline		Complete	2717	Information Security Risk Management - 2017	Technology Risk Management	Security Risk Management
51	Pilot vs Proof of Concept	Scope	(2) Normal	Best Practice	Langlois, Diane	Project/Program	6/20/2018	Pilot would have been better done as a POC	Starting as a POC would give a better idea of the application's functionality and impacts prior to implementation		Complete	2717	Information Security Risk Management - 2017	Technology Risk Management	Security Risk Management
52	Project Manager's Meeting Minutes	Project Artifacts	(2) Normal	Best Practice	Langlois, Diane	Project/Program	6/20/2018	Clearly captured what issues were discussed and what decisions were made	Decisions clearly documented		Complete	2717	Information Security Risk Management - 2017	Technology Risk Management	Security Risk Management
54	Weekly Work Package Reports	Project Artifacts	(2) Normal	Best Practice	Langlois, Diane	Project/Program	6/20/2018	Good way to keep track of what is being worked on and items that may be falling behind schedule			Complete	2717	Information Security Risk Management - 2017	Technology Risk Management	Security Risk Management
55	Weekly status meetings	Communication	(2) Normal	Best Practice	Langlois, Diane	Project/Program	6/20/2018	These meetings are really necessary to keep everyone informed as to what is going on			Complete	2717	Information Security Risk Management - 2017	Technology Risk Management	Security Risk Management

ENTERPRISE PROJECT MANAGEMENT OFFICE

Lessons Learned Database - Windows Server Vitality ▬▬▬▬ (2018)

Project	Phase	Category	Finding	Impact	Lesson/Recommendation
2786	Phase 3 - Build	Communications	Power Designer - Portal app not working - installed viewer	Communication and timelines - installed the web application on servers and communicated to stakeholders to use it and then had to remove and deploy the viewer.	More rigorous performance testing on the web-based application and the client-based viewer would have reduced rework. Using a pilot group to use the web-based application prior to deployment to all users would have been beneficial.
2786	Phase 2 - Elaboration	Contracting, Vendor Performance	PowerDesigner - Licensing cost savings	Get more users for the same price all licensing in one pool and a lot less work to install and maintain	By investigating the licensing and purchasing packages for PowerDesigner, MPI got a better deal by combining all licensing in one package
2786	Phase 2 - Elaboration	Contracting, Vendor Performance	PowerDesigner (SySam) - Licensing server incompatibility with new version of PowerDesigner	Needed to be CR'd to change scope and timing	Allocate more time for planning to allow deeper analysis on licensing impacts
2786	Phase 3 - Build	Change Management	Business Objects - Resources not familiar with working with IBM and the time needed to work through	Schedule timelines; delays in completing deliverables	The Business Analytics team would have benefited from training on the Change Management process (e.g. lead times) and Remedy (e.g. how to submit a CR).
2786	Phase 3 - Build	Change Management	Change Management process not fully understood	Implementation delays of changes; CRs requiring to be expedited	Improve onboarding process of new PMs to include training on the Change Management process so that plans can include these activities in the schedule (e.g. CR lead times, CAB meeting attendance).
2786	Phase 3 - Build	Design & Development	SRF process has no formal approval on both IBM and MPI sides	Delays in completing server builds due to IBM SMEs not reviewing the specs prior to work beginning	Better review process required by IBM & MPI so when they action the build in the SRF there are no delays. Incorporate an approval of the SRF into the process.
2786	Phase 3 - Build	Execution	Database team was very good	no impact with any database requirements	No issues with database requirements; Team very responsive to issues and requests.
2786	Phase 2 - Elaboration	Execution	Business Objects - Alternative implementation plans could have been investigated	Potentially could have reduced the time to implement	Allow for a longer planning cycle to investigate the different options of migration. Consider impacts of performing database and application upgrades in parallel.
2786	Phase 5 - Implementation	Execution	Winter Tire Program - On implementation day the IBM resource assigned did not have access to the servers. Also, an MPI resource assumed the implementation would	Implementation was at risk of not completing within the outage window	Ensure that on implementation day resources are available during the entire change window and that access is tested prior to implementation day
2786	Phase 2 - Elaboration	Requirements definition	SnoPass - Review of solution was beneficial as an alternative was determined to be more cost effective while satisfying the business requirements	Reduced operation costs and effort during implementation	Review business requirements/use cases of the solution and determine if it still meets them when considering upgrades.

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2786	Phase 4 - Test	Project Management	SharePoint - Lead times for planning application Disaster Recovery testing insufficient due to availability of UAT environments	Delays to disaster recovery testing and project timelines	Planning of DR failover testing needs to occur earlier to ensure availability of test environments. Planning must take into account corporate priorities and the sharing of the testing environments.
2786	Phase 3 - Build	Execution	There is no formal review and approval of firewall changes prior to implementation	Potential issues with firewall changes when implementing	Implement a formal review and approval of firewall changes
2786	Phase 2 - Elaboration	Project Management	The creation of workstreams in the schedule and management of team meetings by workstream provided time efficiencies	efficient meetings and use of team members time	By creating different stages/workstreams for each application and only having team members attend team meetings until the discussion of their workstream was complete made managing and tracking the project more efficient.

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Lessons Learned - Workstation Security Enhancement (2018)

	Phase	Category	Finding	Impact	Lesson/Recommendation	Classification
Work Package: Advanced Threat Analytics						
1	Phase 2: Elaboration	Project management	Advanced Threat Analytics is a complex and non-standard marketing term with no standard definition.	Scope was initially unclear.	Clarifying the actual scope and meaning was important.	What went well
2	Phase 4: Test	Testing	The Symantic Endpoint Protection (SEP) upgrade introduced a number of new features that satisfied the business.	A control activity resulted to confirm how the business case requirements are being met currently. The need to find another tool was removed from scope.	Review what we currently have.	What went well
3	Phase 5: Implementation / Warranty	Contracting, Vendor performance	The SEP vendor was engaged to review the security baseline (detailed configuration settings).	A number of changes were made to improve security posture. This was also established as an annual procedure.	When possible, engage the vendor.	What went well
Work Package: ISPIM						
4	Phase 1: Inception	Project management	There was no detailed plan or execution of the next phase plan, partly due to the many technical problems and lack of operational readiness.	Lack of direction.	PAM is a long-term endeavor and requires a program, multi-phase approach in itself.	What went badly
5	Phase 1: Inception	Project management	Indicators of progress were not defined and measured.	Progress was difficult to determine.	Set KPIs at the start.	What went badly
6	Phase 1: Inception	Methodology (non-PM)	There was insufficient product due diligence and market analysis. Product selection was based on the IGA Gartner product segment	As it turned out, the product did not meet MPI's objectives.	Meet with key stakeholders and define tool selection criteria.	What went badly
7	Phase 2: Elaboration	Estimating	The requirements management approach and effort was under-estimated. PAM engagements often begin with a detailed credential scan and analysis.		Discuss requirements with key stakeholders to establish realistic estimates.	What went badly
8	Phase 2: Elaboration	Requirements definition	A detailed inventory of current IAM related practices, interfaces, and legacy practices/automation was not proactively collected to better understand constraints, prioritization, and to develop short and long term migration plans. The implementation strategy had some of these elements but not all.		Establish a clear baseline by taking stock of current IAM practices and conducting the required assessments.	What could be improved
9	Phase 2: Elaboration	Requirements definition	A detailed needs assessment of privileged credentials was not performed as timely input to the broader IAM strategy, requirements, and product selection.		Establish a clear baseline by taking stock of current IAM practices and conducting the required assessments.	What could be improved

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10	Phase 2: Elaboration	Requirements definition	Some of the more detailed technical requirements related to functions, protocols, authentication methods, and target interfaces were understated in the requirements. Some of the requirements appear to be based on a larger IAM set of components but did not exist or materialize.		Meet with ISO and technical architect to understand technical requirements.	What could be improved
11	Phase 2: Elaboration	Requirements definition	There are some impacts to existing practices were not inventoried. Some of the legacy IAM practices should not be treated as requirements since they are not aligned to best practices and may be subject to reengineering and change.		Establish a clear baseline by taking stock of current IAM practices and conducting the required assessments.	What could be improved
12	Phase 2: Elaboration	Stakeholder engagement	There was a lack of engagement of impacted operational stakeholders starting in the elaboration phase.	This eventually manifested itself as missing requirements, solution gaps, and a lack of operational acceptance.	Engage key stakeholders at the start.	What went badly
13	Phase 2: Elaboration	Requirements definition	An IAM skill gap for some of the security models such as unix was not identified and addressed.		Meet with ISO and technical architect to understand technical requirements.	What could be improved
14	Phase 2: Elaboration	Requirements definition	Process capacity needs were not identified.	This may have an impact of the extent on the operational process coverage. For example, more effort is required in the analysis of access requirements/role definitions, access validation, and realization of least privileged.	Establish a clear baseline by taking stock of current IAM practices and conducting the required assessments.	What could be improved
15	Phase 3: Build	Design and development	The PAM component may have been sub-optimized due to other components/automation and integrations in the IAM architecture that were not deployed	This resulted in an overly manual administration process and features not present.	Meet with ISO and technical architect to understand technical requirements.	What could be improved
16	Phase 4: Test	Change management	There was insufficient PAM education and awareness for core team and the stakeholder working group. The concepts ("Why PAM?") may not have been understood		Engage key stakeholders at the start.	What could be improved
17	Phase 4: Test	Testing	Technical configuration management controls have created roadblocks, most notably in the UAT environment, that have persisted for two years.		Meet with ISO and technical architect to understand technical requirements.	What went badly

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18	Phase 4: Test	Testing	There was a lack of test management defect tracking during the build and pilot. There were no documented non-functional tests such as those that may be related to high availability		Meet with ISO and technical architect to understand technical requirements.	What went badly
19	Phase 5: Implementation / Warranty	Stakeholder engagement	There was an implementation strategy, but no one owned it.		Engage key stakeholders at the start.	What could be improved
20	Phase 5: Implementation / Warranty	Execution	The process trigger to start and direct privileged credential enrollment was weak. The procedure and guidance regarding prioritization and scope of privileged credentials is unclear. The prioritization criterion is further complicated with technical constraints.		Meet with ISO and technical architect to understand technical requirements.	What could be improved
21	Phase 5: Implementation / Warranty	Execution	Some of the procedures related to upfront analysis such as performing credential revalidation, performing access requirements analysis, and maintaining an privileged credential inventory are not clearly defined		Meet with ISO and technical architect to understand technical requirements.	What could be improved
22	Phase 5: Implementation / Warranty	Execution	The process did not explicitly consider control analysis and compensating controls in the event there were limitations		Meet with ISO and technical architect to understand technical requirements.	What could be improved
23	Phase 5: Implementation / Warranty	Project management	The objectives of the pilot were not understood.	There was minimal basis for agreement on pilot outcomes in achieving regarding operational acceptance.	Set clear objectives of the pilot and define success criteria at the start.	What could be improved
24	Phase 5: Implementation / Warranty	Transition to Operations and Production Support	The resulting operational support model is complex with complications stemming from configuration management issues.	This has been a challenging fit.	The support model requires well documented build and runbook procedures that are needed to be performed by the IBM SO teams	What went badly

Work Package: Local Admin

#	Phase	Category	Observation	Detail	Recommendation	Status
25	Phase 1: Inception	Stakeholder engagement	Installing a tool into the environment without proper deployment plan didn't meet the goal.	Key stakeholders (operational teams taking this over after product deployed) were not at the table to help define what is "completed" for the project. This meant there was an expectation on operational resources to deploy a product without leadership buy in from areas, without a proven track record for deploying and without setting expectations for delivery dates. These operational teams are not equipped to manage organizational change such as this, they are more geared to supporting the technology side of things.	Having key operational stakeholders at the beginning of the project to help to define the end deliverables of the project. (Not just high-level leaders for the area, but the folks who will support the deployment and operations of the product at the end).	What could be improved
26	Phase 2: Elaboration	Requirements definition	Requirements were well defined.	Review of business need, products we had, etc. lead to selection of a top product that needs the need.	Ensure that business requirements are reviewed by key stakeholders.	What went well
27	Phase 2: Elaboration	Requirements definition	The selected tool delivered what was expected.	Stakeholders are happy with the tool and willing to implement and support it.	Ensure that tool satisfies business requirements	What went well
28	Phase 3: Build	Design and development	Many challenges encountered during setup.	Needed some hand-holding with the vendor.	Buy the recommended appliance, instead of manually setting up	What could be improved
29	Phase 4: Test	Contracting, Vendor performance	Beyondtrust was quick to respond to concerns.	Contributed to the smooth implementation	Ensure that vendor proposals are reviewed by both Vendor Management and Product Owners	What went well
30	Phase 4: Test	Contracting, Vendor performance	KeyData engineer provided excellent work.	Contributed to the smooth implementation	Ensure that vendor proposals are reviewed by both Vendor Management and Product Owners	What went well
31	Phase 4: Test	Contracting, Vendor performance	Vendor training was excellent. Materials were well laid out. Instructor knew what he was talking about.	Contributed to the smooth implementation	Ensure that vendor proposals are reviewed by both Vendor Management and Product Owners	What went well