

IT ASSET MANAGEMENT



IT Asset Management



UNIVERSITY OF
WATERLOO

BACKGROUND (1/3)

- “Information Security Architecture Review” Audit, Finding #2 (High Priority):
 - » Observation:
 - Resources may implement insecure systems and mini-networks on the University network without the knowledge of IST.
 - Some may be Internet facing, and exposed to attack from the Internet.
 - No central asset management system to track all assets on the network.
 - » Implication:
 - Insecure systems may be compromised and used to attack the rest of the University network.
 - Without an effective asset management system, it is more difficult to determine the risks that affect the University network and understand which security controls to apply and where.



BACKGROUND (2/3)

- “Information Security Architecture Review” Audit, Finding #2 (High Priority):
 - » Recommendation:
 - Restrict applications and systems from connecting to campus network without security assessments, security controls and authorization. Develop and implement appropriate policies and procedures to enforce any extensions of the campus network.
 - Enforce centralized control of change management of the network.
 - Implement an asset management solution to keep track of systems on the trusted portions of the network, including DMZ systems (Internet facing) that are under the control of IST. These records should also maintain asset classification information for each asset.
 - » Management comments and action plan:
 1. Deploy a perimeter firewall with a default deny policy.
 2. Introduce a procedure where direct access to a system from the Internet requires a security assessment and appropriate authorization.
 3. Amend policies to explicitly address issues relating to extensions of the campus network.
 4. Implement an asset management system where asset classification information is managed for both security and disaster recovery.



BACKGROUND (3/3)

- RFI process completed last year
 - » Clear requirements finalized
 - » Decision to not use internal solutions as key requirements weren't met
 - » Three leading solutions chosen (CA, HP, IBM)
- Budget approved for this fiscal year

Item	Price
Software	\$130,000
1 Year Maintenance	\$40,000
Consulting	\$85,000
Training	\$50,000
Total	\$305,000



CURRENT STATE

- RFP was released on January 31
- RFP responses received by February 21
- 7 responses, HP did not respond
- 3 bidders were shortlisted:
 - Createch (IBM software)
 - KPMG (ServiceNow)
 - ZenFocus (IBM software)



THE ENGINEERING OPTION (AUDIT)

- Engineering has been very proactive in product improvements to meet requirements, many gaps have been filled

- | | |
|---------------------------|--------------------------|
| ✓ Functional API | ✓ Support for mobile |
| ✓ LDAP/Radius integration | ✓ Saved searches |
| ✓ Add custom fields | ✓ Database Import/Export |

- Erick Engelke will provide a demonstration



REQUIREMENTS SCORES

- Based on the RFP scoring methodology, here are the scores of the top three bidders plus Audit:
 - » Audit: 90.0%
 - » ZenFocus: 97.1%
 - » Createch: 98.2%
 - » KPMG: 98.3%



KEY REQUIREMENTS GAPS OF KPMG

Requirement	Gap	Impact
6.2.29 (Must): Permissions functionality to support federated IT function in place at UW. Granularity of permissions to include private equipment types, items and fields as well as granularity on who can view or update what items/schemas based on a function of department and privilege level	Partially Met: ACL rules work on object level; fields not known	May not give controls to the level of detail desired
6.2.31 (Must): Presence of an API to allow real time read/write interaction with the system for integration with other systems and data sources (e.g. existing Asset Management (AM), IT Service Desk, IPAM, and Procurement systems, etc.)	Partially Met: HTTP-based only	May limit options for integration
6.3.7 (Must): Web interface meets Ontario accessibility legislation (WAG 2.0)	Partially Met: designed to meet 508 compliance does not imply meeting 508 or WAG 2.0	Testing will have to be done to measure compliance, and additional work with vendor may be required



KEY REQUIREMENTS GAPS OF CREATECH

Requirement	Gap	Impact
6.2.2 (Must): Ability to automatically identify assets and collect required information with a high degree of accuracy for multiple hardware and operating system platforms across multiple management systems (through pull or push mechanisms)	Partially Met: Requires integration with external systems	May cost more to acquire and implement another tool
6.2.16 (Must): All common WWW browsers will be supported (e.g. IE, Firefox, and Safari), on common platforms (Windows, Mac OS X, Linux), without sensitivity to specific versions of client side software (e.g. the browsers, Java, etc.), other than it being reasonably modern. Identify which browsers and operating systems, including versions, are supported.	Partially Met: Internet Explorer and Firefox fully supported, Chrome and Safari work but are unsupported.	If users experience issues accessing with a browser other than IE and FF, there will be no support available.



KEY REQUIREMENTS GAPS OF ZENFOCUS

Requirement	Gap	Impact
6.2.16 (Must) All common WWW browsers will be supported (e.g. IE, Firefox, and Safari), on common platforms (Windows, Mac OS X, Linux), without sensitivity to specific versions of client side software (e.g. the browsers, Java, etc.), other than it being reasonably modern. Identify which browsers and operating systems, including versions, are supported.	Partially Met: Internet Explorer and Firefox fully supported, Chrome and Safari work but are unsupported.	If users experience issues accessing with a browser other than IE and FF, there will be no support available.



KEY REQUIREMENTS GAPS OF UW AUDIT (1/3)

Requirement	Gap	Impact
6.1.7 (Must): Support for zero, one or multiple IPv4 and IPv6 addresses used by assets, as well as related MAC address(es)	Partially Met: Audit relies heavily on ONA for permissions and network information, which doesn't currently support IPv6 and has an uncertain future. Supports IPv6 discovery through InfoBlox.	A potential gap and risk for managing networking devices and future network addressing. **UPDATE: Plans are now taking shape to implement IPv6 in ONA. Could be weeks or months to implement. InfoBlox provides IPv6 today.
6.2.2 (Must): Ability to automatically identify assets and collect required information with a high degree of accuracy for multiple hardware and operating system platforms across multiple management systems (through pull or push mechanisms)	Partially Met: Application inventory capability periodically misses software that should be reported by the OS. Has the ability to report every executable that is ever run on FreeBSD (Unix). Windows has an agent that monitors running applications every second. Installed applications are not tracked.	Linux and Unix devices and applications won't be automatically discovered unless they are executed, and are not managed. ONA is integrated to manage network devices. Either intense extended R&D effort to implement within Audit, or lose one of the key values of asset management (Campus-wide complex license control). More flavours of Unix are doable but may take a week each. Eg. Debian, Redhat, Ubuntu are all a bit different.



KEY REQUIREMENTS GAPS OF UW AUDIT (2/3)

Requirement	Gap	Impact
6.2.29 (Must): Permissions functionality to support federated IT function in place at UW. Granularity of permissions to include private equipment types, items and fields as well as granularity on who can view or update what items/schemas based on a function of department and privilege level	Partially Met: Current configuration is manual. The functionality needs to be investigated and well understood.	Hours of effort may be required to enable this functionality, implement federated model, test.
6.2.30 (Must): Presence of a dashboard/home screen that is customizable to user wants/needs (including default sort order, etc.)	Partially Met: Some customizations are available, but no dashboard per se.	User experience will be impacted, it could take longer to perform common functions. This would take 3 or 4 days to complete.
6.3.1 (Must): Detailed training documentation must be available	Not Met: No training documentation (only a video).	Extra effort by users for complex functions that are not well understood, especially if used rarely.



KEY REQUIREMENTS GAPS OF UW AUDIT (3/3)

Requirement	Gap	Impact
6.3.6 (Must): The user interface is easy to use; easy to navigate; minimal training required	Partially Met: Many staff find they already know the interface because it follows standards. Some operations are complicated (i.e. writing report queries like “?(MaintenanceContractEnds > now()) and (MaintenanceContractEnds < now() + 6 months)”) requiring support to configure on a case-by-case basis for users.	Challenging to get basic information from the tool for many users. Extra effort for daily activities. Any query can be made into a URL that is given to someone who needs to query without typing or clicking anything.
6.3.7 (Must): Web interface meets Ontario accessibility legislation (WAG 2.0)	Partially Met: Accessibility only addressed at the screen reader level, not full WCAG 2.0 requirements.	Additional work will need to be done to comply with regulations on an ongoing basis. Of course, this is true of EVERY web application we have.
6.4.1 (Must): There is technical support assistance available for the software	Partially Met: Support hours are M-F, 8:30-4:30, by email or phone. Only 2 resources are trained.	For after-hours security or asset incidents, there could be days of delay before work can be done. The risk will have to be assessed and mitigation options developed if required.



SUMMARY

- Requirements are 60% of the final score
- Will be looking at costs of all solutions
- Request to proceed with RFP process, and integrate new solution with Audit (and other tools) if desired

