PROTECT OUR POWER

Best Practices in Cybersecurity for Utilities:
Vendor Comparison Matrix Example

https://protectourpower.org/best-practices/pop-bp-vendor-comparison-matrix-example.pdf

Introduction:

This document supports Protect Our Power's[1] "Best Practices in Cybersecurity for Utilities Project"[2] – described in this Overview[3].

The Vendor Comparison Matrix is a central deliverable from the Educational Institutions – one of the total Work Products[4]. To enable some consistency across Educational Institution / Topic combinations – a standardized Vendor Comparison Matrix is used. This document is simply a short discussion of the Matrix to better describe its purpose and capabilities.

Discussion:

Rather than have each University develop a separate Vendor Comparison Matrix (VCM) with different vendor scoring mechanisms, different look-and-feel, etc. – Protect Our Power has developed a single Excel Workbook with associated Macros to be able to process each University's outputs into deliverables that are consistent across Universities/Topics.

This paper assumes the reader is somewhat familiar with the Project – so here are links to other documents that would be of assistance:

1. ***Criteria Discussion Document*** - https://protectourpower.org/best-practices/pop-bp-criteria-discussion.pdf *
2. ***Spreadsheet related to Common Criteria*** - https://protectourpower.org/best-practices/pop-bp-criteria-common.xlsm *
3. ***Spreadsheet related to Specific Criteria*** - https://protectourpower.org/best-practices/pop-bp-criteria-specific.xlsm

[1] See Protect Our Power website at https://protectourpower.org/
[2] See the section of the website dedicated to the Best Practices Project - https://protectourpower.org/bestpractices/
[3] See an Overview (general discussion) of the Best Practices in Cybersecurity Project - https://protectourpower.org/best-practices/pop-bp-overview.pdf
[4] See a discussion of the Work Products each University is producing for their associated Topic - https://protectourpower.org/best-practices/pop-bp-ei-work-products.pdf

4. ***Educational Institutions (describing role in Project)*** – https://protectourpower.org/best-practices/pop-bp-educational-institutions.pdf * - provide initially to Educational Institutions
5. ***Educational Institutions – Vendor Comparison Matrix Documentation*** - https://protectourpower.org/best-practices/pop-bp-vendor-comparison-matrix-documentation.pdf
6. ***Taxonomy (Topics with Vendors)*** – https://protectourpower.org/best-practices/pop-bp-taxonomy.pdf
7. ***Vendors (describing role in Project)*** – https://protectourpower.org/best-practices/pop-bp-vendors.pdf

Project Objectives

The 'Best Practices in Cybersecurity for Utilities Project' has two main purposes:

1. To accelerate the ***speed*** at which utilities are deploying cyber-protection of the grid.
2. To support and lead adoption of ***best practices***.

The VCM produced by a University directly addresses both of these objectives by shortcutting work a Utility would have to address, and by pointing to the Vendors that are more aligned with best practices.

The VCM (Matrix) is comprised of Vendors making up the rows, and Criteria making up the columns. The Vendors are those most aligned with being able to assist Utilities in the Topic addressed. The Criteria are the set of things a Utility would/should consider when selecting a Vendor. Each Topic (sub-set of cybersecurity) has its own set of Vendors and its own set of Criteria.

Example Vendor Comparison Matrix

The following Matrix uses a fragment of the larger Matrix that George Mason University is developing. More Vendors are being added and many more Criteria (columns) are being added. Just for clarification – each Topic in the Taxonomy will have its own Vendor comparison matrix – this happens to be 'Remote Access.' The overall VCM concept, calculations, and capabilities are evident in this smaller fragment:

Criteria Names >	*Vendor Score*	Authentication	Logging	Encryption	P Vaulting	Data Diode	Firewall	Alerting	RT Visibility	Audio Docs
Type >		Binary	Binary	Score	Binary	Binary	Score	Binary	Binary	Score
Weight >	*100.0%*	10.0%	5.0%	10.0%	15.0%	5.0%	25.0%	15.0%	5.0%	10.0%
Claroty	**6.3**	Y	Y	7.0	Y	N	9.0	Y	Y	8.5
Nextline	**6.0**	Y	Y	8.0	Y	N	8.0	Y	Y	6.5
Secomea	**5.7**	Y	Y	5.0	Y	N	8.0	Y	Y	7
ABB	**5.4**	N	Y	5.0	Y	N	8.0	Y	Y	9
Securelink	**5.4**	Y	Y	8.0	N	N	8.0	Y	Y	8.5
Broadcom	**5.1**	Y	Y	5.0	Y	N	5.0	Y	Y	8.5
Honeywell ICS	**5.0**	Y	Y	5.0	N	N	8.0	Y	Y	7
Cyberark	**4.8**	N	Y	6.0	N	Y	8.0	Y	Y	6.5
Macfee	**4.6**	Y	Y	3.0	N	N	7.5	Y	Y	7
Bayshore	**4.6**	Y	Y	5.0	N	N	6.0	Y	Y	8.5
Cyberx	**4.5**	Y	Y	6.0	N	N	5.0	Y	Y	8.5
Beyondtrust	**4.4**	Y	Y	7.0	N	N	5.0	Y	Y	7
Nozomi	**4.1**	N	Y	3.0	N	N	7	Y	Y	7.5
Total	**5.1**	**0.8**	**1.0**	**5.6**	**0.4**	**0.1**	**7.1**	**1.0**	**1.0**	**7.7**

The columns (starting in column 3) are different Criteria. These Criteria are fully defined in a supporting document; and the Row 1 headings are simply short-cut names. There are both 'Binary' Criteria (Y or N questions) and 'Score' Criteria where a number is shown.

The 'Weight' row (row 3) allows a Utility to indicate the overall importance of each Criterion in order to better align with the Utility's first-hand understanding of their present situation/need. This mechanism is key to the objective of supporting movement towards best practices that account for unique circumstances of various Utilities.

Finally, the Matrix shows a Vendor Score in column 2 which accounts for each Criterion appropriately weighted. If this were a real situation, the next step would be to pursue the top three Vendors (those with the highest Vendor Scores) as those that represent best practices.

The Total (being renamed to 'Average') Row at the bottom of the Matrix shows the mathematical average for each Criterion across all Vendors. For 'Binary' Criteria a Y=1 and a N=0 in the Matrix and the Total row is the mathematical average of these ones and zeros in the column.

Different Utilities face different cyber-challenges. All Utilities however will have access to the University/Topic Vendor Comparison Matrices and can use the Weights in row 3 to adapt the Excel Workbook (which will be downloadable from Protect Our Power at a minimum).

Finally, the above Matrix and calculations should for the purpose of this document should be considered meaningless and provided only as a demonstration. Also, there have been Vendors excluded and many Criteria excluded as well.

Contact
Erick Ford | Project Manager
eford@protectourpower.org