CompTIA
CySA+

Calculating the CVSS Score

VULNERABILITY MANAGEMENT

CVSS Score

- How is the Base Score calculated?

CVSS Base Score

10.0 (CVSS2#AV:N/AC:L/Au:N/C:C/I:C/A:C)

$$Exploitability = 20 \times AccessVector \times AccessComplexity \times Authentication$$

$$Impact = 10.41 \times (1 - (1 - ConfImpact) \times (1 - IntegImpact) \times (1 - AvailImpact))$$

$$f(Impact) = \begin{cases} 0, & \text{if } Impact = 0 \\ 1.176, & \text{otherwise} \end{cases}$$

$$BaseScore = roundTo1Decimal(((0.6 \times Impact) + (0.4 \times Exploitability) - 1.5) \times f(Impact))$$

Exploitability Score

CVSS Base Score

10.0 (CVSS2#AV:N/AC:L/Au:N/C:C/I:C/A:C)

$$Exploitability = 20 \times AccessVector \times AccessComplexity \times Authentication$$

Exploitability = 20 x Network x Low x None

Exploitability = 20 x 1.000 x 0.710 x 0.704

Exploitability = 9.9968 => 10.0

Impact Score

CVSS Base Score

10.0 (CVSS2#AV:N/AC:L/Au:N/C:C/I:C/A:C)

$$Impact = 10.41 \times (1 - (1 - ConfImpact) \times (1 - IntegImpact) \times (1 - AvailImpact))$$

Impact = 10.41 x (1- (1 – Complete) x
    (1 – Complete) x (1 – Complete))

Impact = 10.41 x (1- (1 – 0.660) x
    (1 – 0.660) x (1 – 0.660))

Impact = 10.0

Base Score

CVSS Base Score

10.0 (CVSS2#AV:N/AC:L/Au:N/C:C/I:C/A:C)

$$BaseScore = roundTo1Decimal(((0.6 \times Impact) + (0.4 \times Exploitability) - 1.5) \times f(Impact))$$

$$f(Impact) = \begin{cases} 0, & \text{if } Impact = 0 \\ 1.176, & \text{otherwise} \end{cases}$$

BaseScore = (((0.6 x Impact) +
            (0.4 x Exploitability)
            – 1.5 x f(Impact)

BaseScore = (((0.6 x 10.0) +
            (0.4 x 10.0)
            – 1.5) x 1.176)

BaseScore = 9.996 => 10.0

Why is a Base Score important?

CVSS Base Score

10.0 (CVSS2#AV:N/AC:L/Au:N/C:C/I:C/A:C)

- Numerical ratings are used by the vulnerability software to categorize vulnerabilities

CVSS Base Score	Risk Category
< 4.0	Low
> 4.0 and < 6.0	Medium
> 6.0 and < 10.0	High
10.0	Critical

- Risk factor: Critical