Windows Forensics

Dr. Phil Polstra
PhD, CISSP, CEH

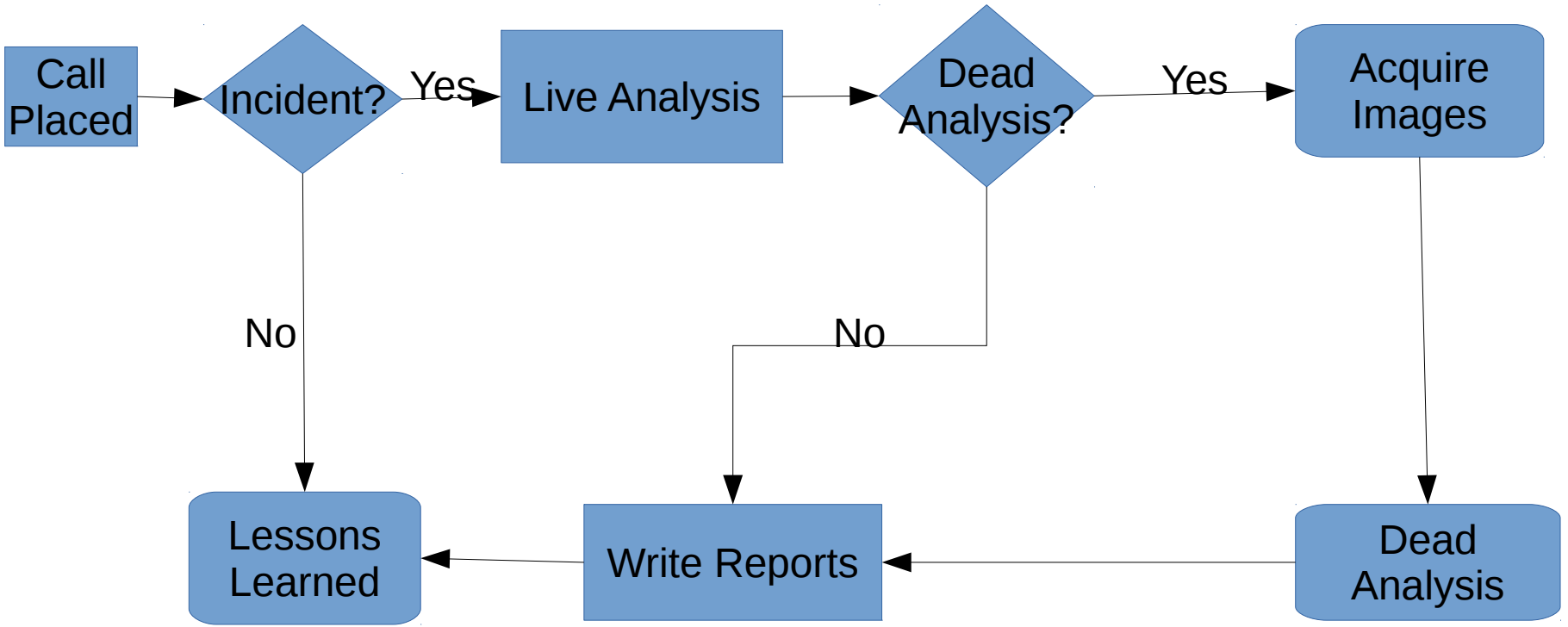
@ppolstra
http://philpolstra.com

Certifications:
http://www.securitytube-training.com

Pentester Academy: http://www.PentesterAcademy.com

Mounting Images: Extended Partitions

High Level Process



Extended Partitions

- Used with MBR-based drives with more than 4 partitions
- A primary extended partition stores logical partitions inside of itself
- Each logical partition is proceeded by an “MBR sector”
  - Offsets are relative to extended partition
  - Interpreted as a linked list
  - Normally only first two entries are used

Extended Partition MBR Format

Offset	Length	Item
0 (0x00)	446 (0x1BE)	Boot code (unused)
446 (0x1BE)	16 (0x10)	First partition
462 (0x1CE)	16 (0x10)	Second partition (if any)
478 (0x1DE)	16 (0x10)	Third partition (unused)
494 (0x1EE)	16 (0x10)	Fourth partition (unused)
510 (0x1FE)	2 (0x2)	Signature 0x55 0xAA

Partition Record Format

Offset	Length	Item
0 (0x00	1 (0x01)	Active flag (0x80 = bootable)
1 (0x01)	1 (0x01)	Start head
2 (0x02)	1 (0x01)	Start sector (bits 0-5); upper bits of cylinder (6-7)
3 (0x03)	1 (0x01)	Start cylinder lowest 8 bits
4 (0x04)	1 (0x01)	Partition type code (0x83 = Linux)
5 (0x05)	1 (0x01)	End head
6 (0x06)	1 (0x01)	End sector (bits 0-5); upper bits of cylinder (6-7)
7 (0x07)	1 (0x01)	End cylinder lowest 8 bits
8 (0x08)	4 (0x04)	Sectors preceding partition (little endian)
12 (0x0C)	4 (0x04)	Sectors in partition

Mounting extended partitions