



Innovation or Confusion?

How will High Tech industries impact Electronic Security Systems?

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ADT- Advanced Integration

&

ASIS International Physical Security Council

Chairman 2008-2009



Technology and Information Trends...

1. High Definition Imaging Capture/Display
2. Dash boarding and Data Visualization
3. Remote or Portal Video Monitoring / Recording
(Software as a Service; SaaS)
4. PoE / PoE High Power / Ethernet over Power line /
Ethernet over Coax
5. Hardware and Systems – Video Analytics and Analysis
6. Next generation DVMS / Rules-based retention
7. Systems - Physical Security Info Mgt
8. Communication advances and impact on security and
life safety
9. Credential management
10. GIS and impact and application

#1 High Definition Imaging Capture/Display

- Megapixel cameras enable greater viewing area and detail
- New data compression algorithms like H.264 video compression enables extremely high content video to stream over networks
- IP networks can be rated up to handle large data loads
- Viewing capture size available today is largely constrained to less than 20 megapixels
- DHS technology goal is for development of a 100 megapixel camera – so there is a milestone to prepare for



Grandeye
3 Megapixel 360



Axis
3.1 Megapixel PTZ



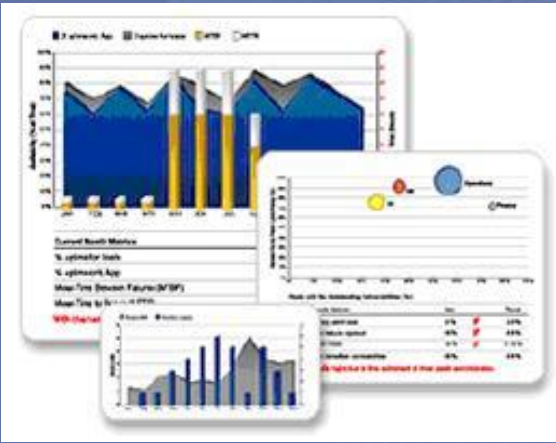
iMove Immersive
360 Megapixel camera array



Arecont
5 Megapixel camera

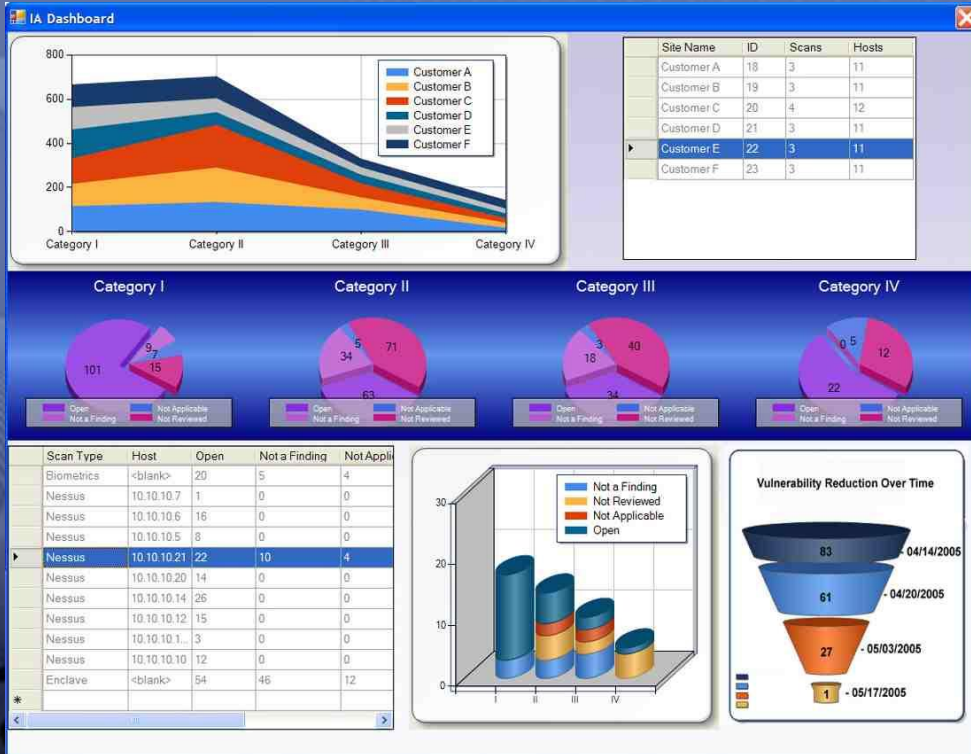
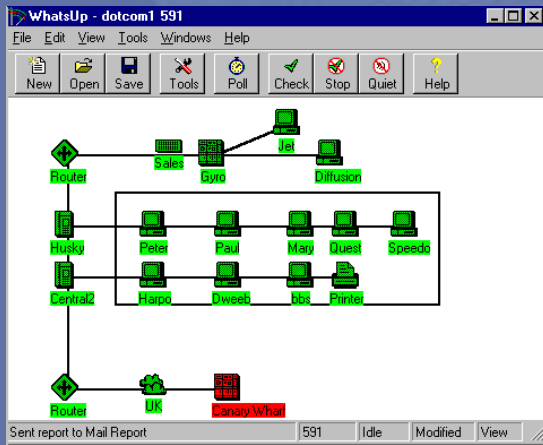
And many others

#2 Dash Boarding and Data Visualization



- Develop decision-making metric models from your routine data
- Organize information types into categories
- Codify metrics in narrative and mathematical forms
- Strive to automate collection and analysis of data (e.g. counters, meters, event detection, etc.)
- Simplify viewing to increase understanding of most important data
- Examples of collectable data:
 - Denied access events
 - Calls for assistance
 - Speed in parking lots
 - Cars in lots
 - Visitors passing through lobby, or currently in lobby
 - Loss profile events count
 - security cost per square foot;
 - the dollar amount of losses per square foot;
 - the average cost of security per security event;

#2 Dash Boarding and Data Visualization

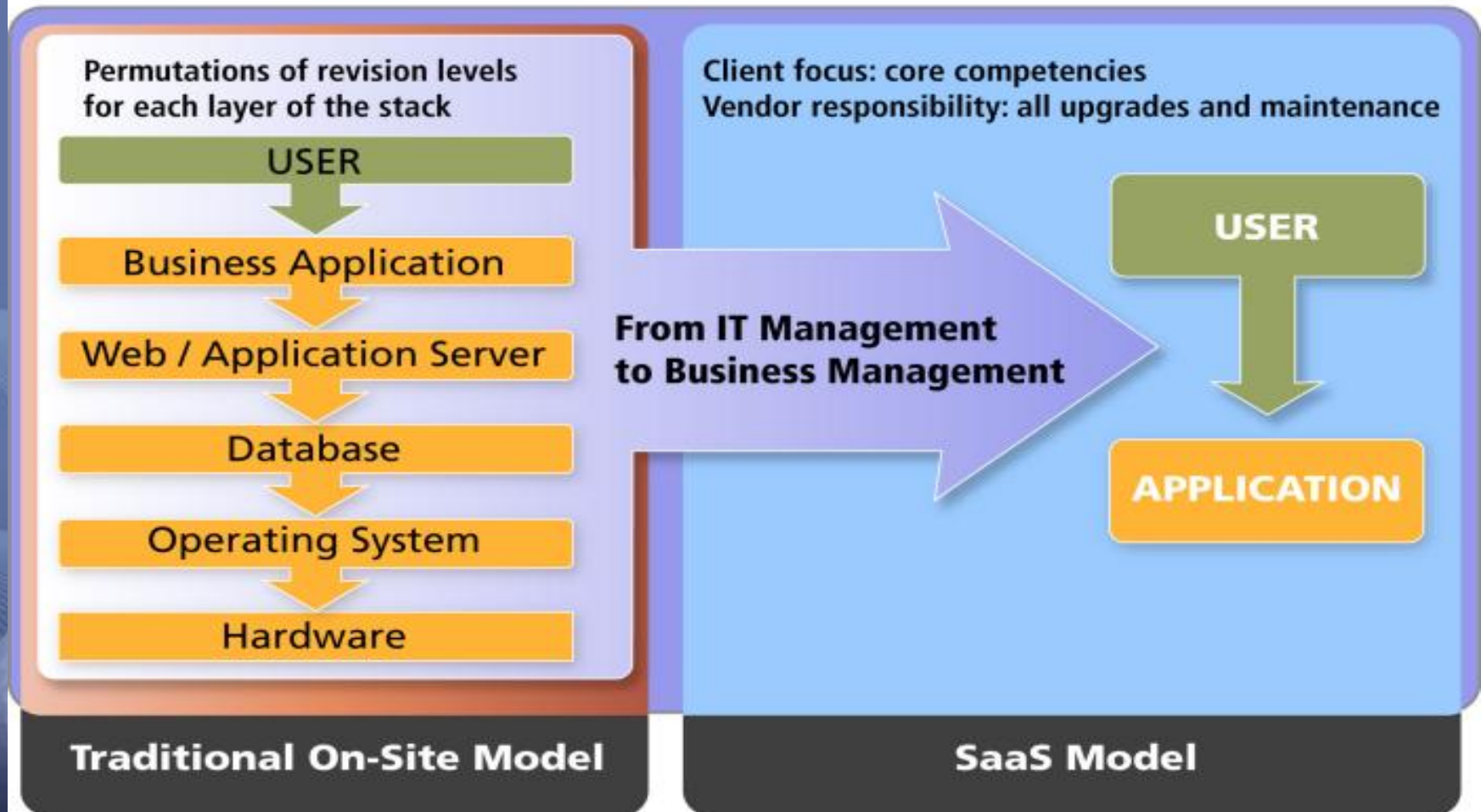


Stacked screenshots of security dashboards and reports:

- Site Scan Report:** Shows details for a scan on 05/17/2005. It includes a table for 'Opening & Closing' with columns for 'Opening' and 'Closing' times for various protocols like POP3, IMAP, SMTP, etc.
- Vulnerability History:** A table listing scan dates, types, and details. For example, '2005-05-17 11:00:42:34' with type 'Full' and details about detected vulnerabilities.
- cinario Dashboard:** A complex dashboard with multiple widgets, including pie charts, bar charts, and status indicators. It shows various security metrics and trends.

#3 SaaS – Software as a Service

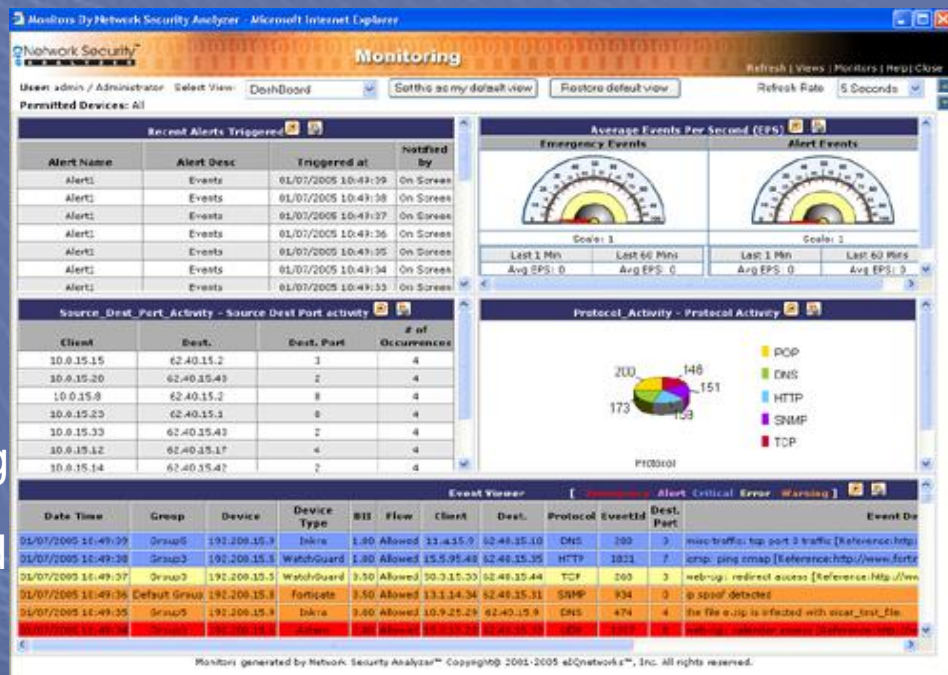
Ownership Responsibilities for Traditional On-Site vs. SaaS Implementations



Source: http://www.ecommercetimes.com/images/article_images/58774-chart1.png

#3 SaaS – Software as a Service

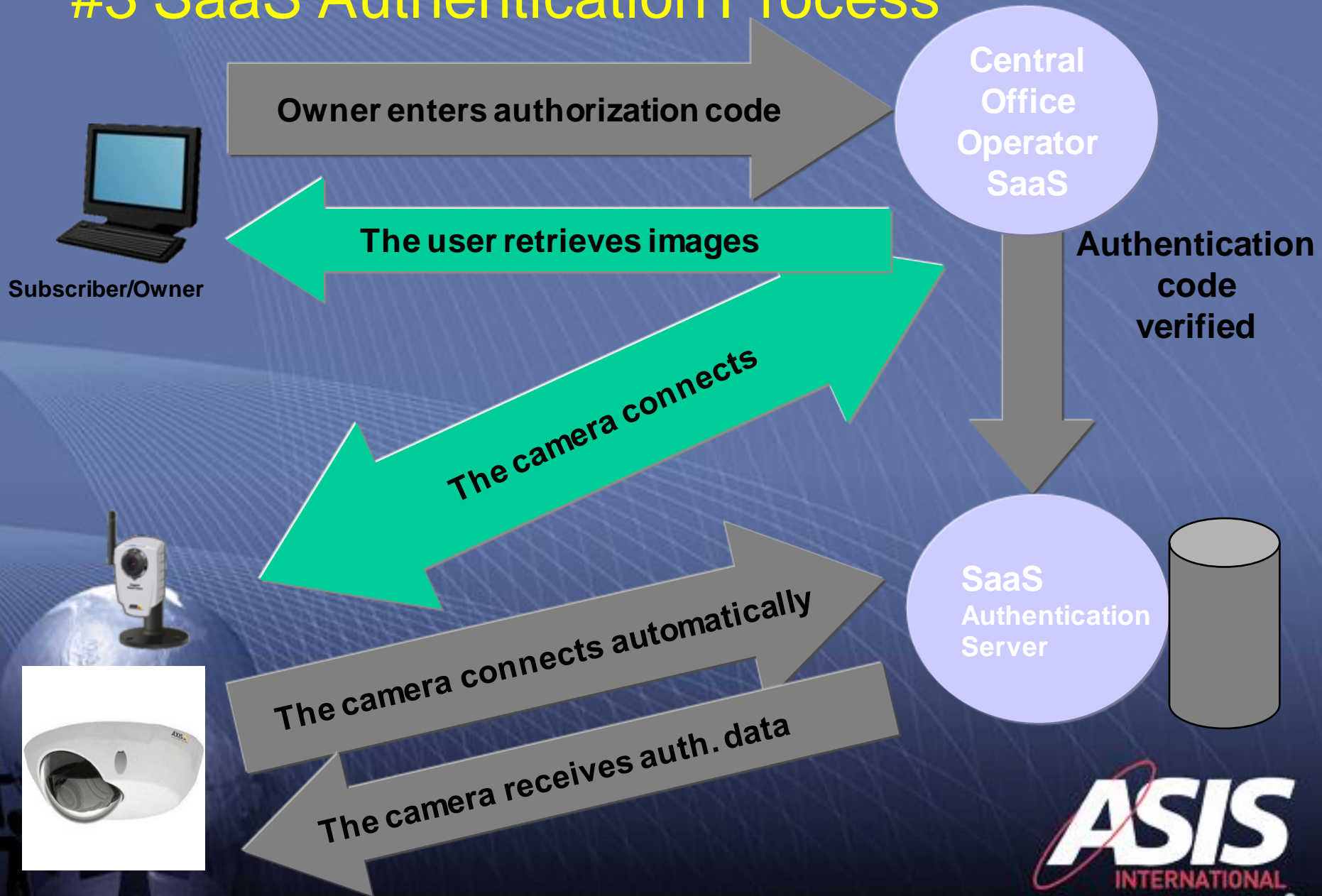
1. SaaS models feature Internet hosted security services such as alarm, camera, and condition monitoring
2. Typically the hardware for the services is hosted at the SaaS central station, not the end-users site
3. Online services for monitoring video and other sensors are being rolled out in niche markets from Do-It-Yourself (DIY) to specialized niche markets
4. Anticipate greater expansion of SaaS models as IP cameras become more user friendly and widely used



Security Industry Examples

- Network Security
- Call and Contact Centers
- Alarm Central Stations
- Video Hosting Centers
- Remote toll gate operations
- Other business services

#3 SaaS Authentication Process



#4 Infrastructure

- A successful wiring plant begins with infrastructure
- PoE High Power can provide up to 30W and backward compatibility with 802.3af
- Combined Environmental Sensors combined with Network Switches

#5 Video Analytics

- Users are finding that Analytics require qualification by trained Systems Integrators
- Initial deployment may be different than accuracy claimed on specs: false positives false negatives
- Manufacture needs to be intimately in the deployment process to provide intensive training:
 - Application and SI Qualification
 - Deployment method
 - Correction & resolution of processes
 - Re-deployment – testing- verification

#5 Edge/Intermediate/Server: where should you spend the Video Analytics money?

- **Server – Lower Costs, Sophisticated Processing**
- **Distributed appliances**
 - Take some of the load off servers
 - Additional opportunities to monitor camera devices
 - Those not capable of running an algorithm
 - Analog cameras (via video “blade” servers or encoders)
 - **Edge camera analytics**
 - Represent a growing opportunity for device-agnostic partners
 - Algorithms and Analyzers tailored for maximum success for a given application and fast response



#5 Distributed Video Analytic: Edge Device (Camera) and Server

Delivers the Algorithm or "Agent" to the video



1 0 0 1 1 0 0 1 0 0 1 0 1 1 0 0 0 1 0 1 0 1 1 0 0 1 0 1 0 1 0 1 0 0 0 1 1 0 1 0 0 0 1 0 0 0 1 1 1 0

Video Agent streams "feature data" at 10-40kbs

Detection Algorithm

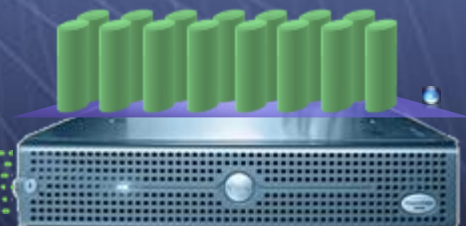


Analysis is done on *Live* Uncompressed Digital Video from Some IP Cameras

Licensed Behaviors/algorithms

Scalability: 100+ Sources with All Behaviors

Low bandwidth feature data

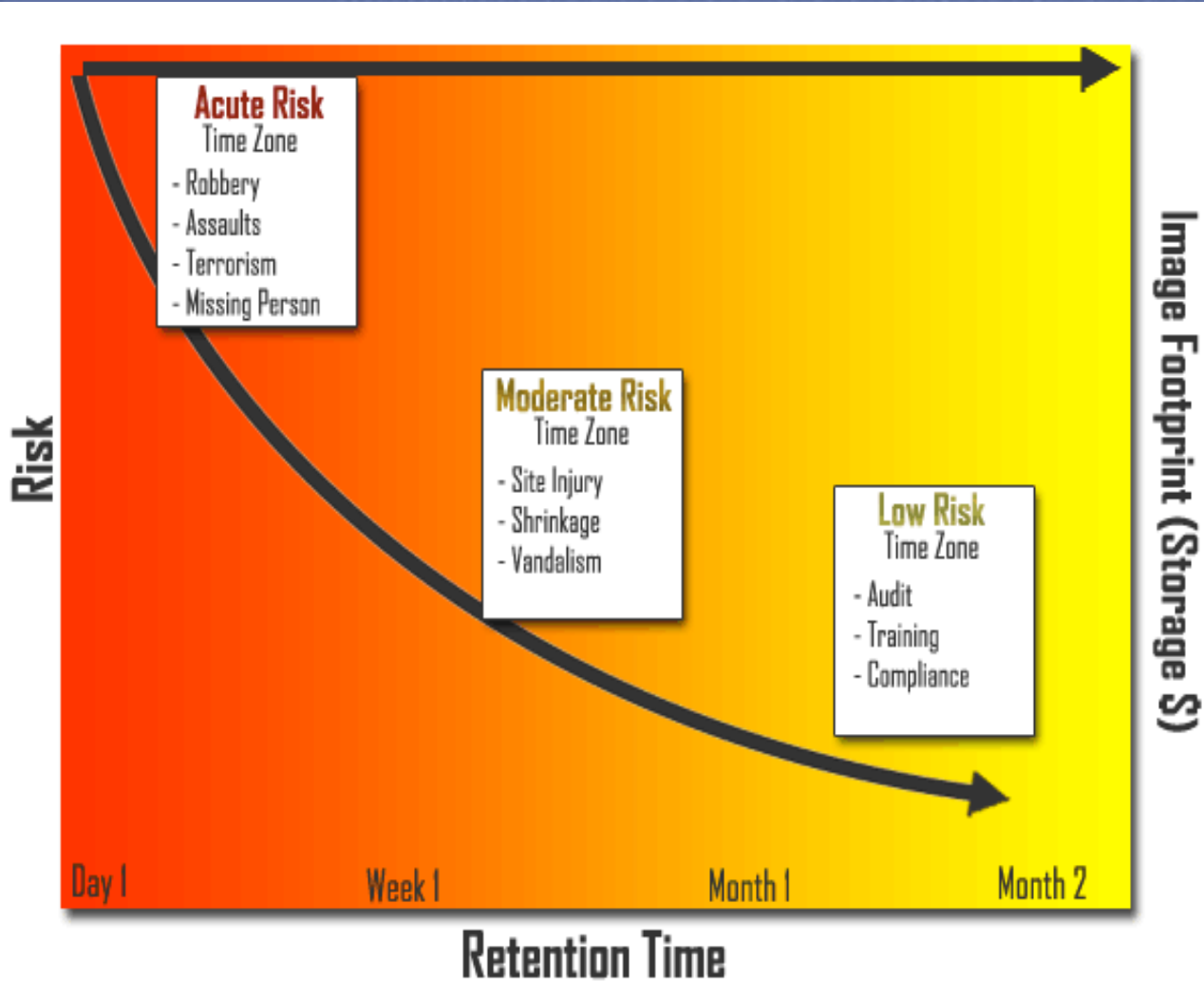


Analysis of the "feature data" is done on the server

#6 DVMS – Rules-based Retention



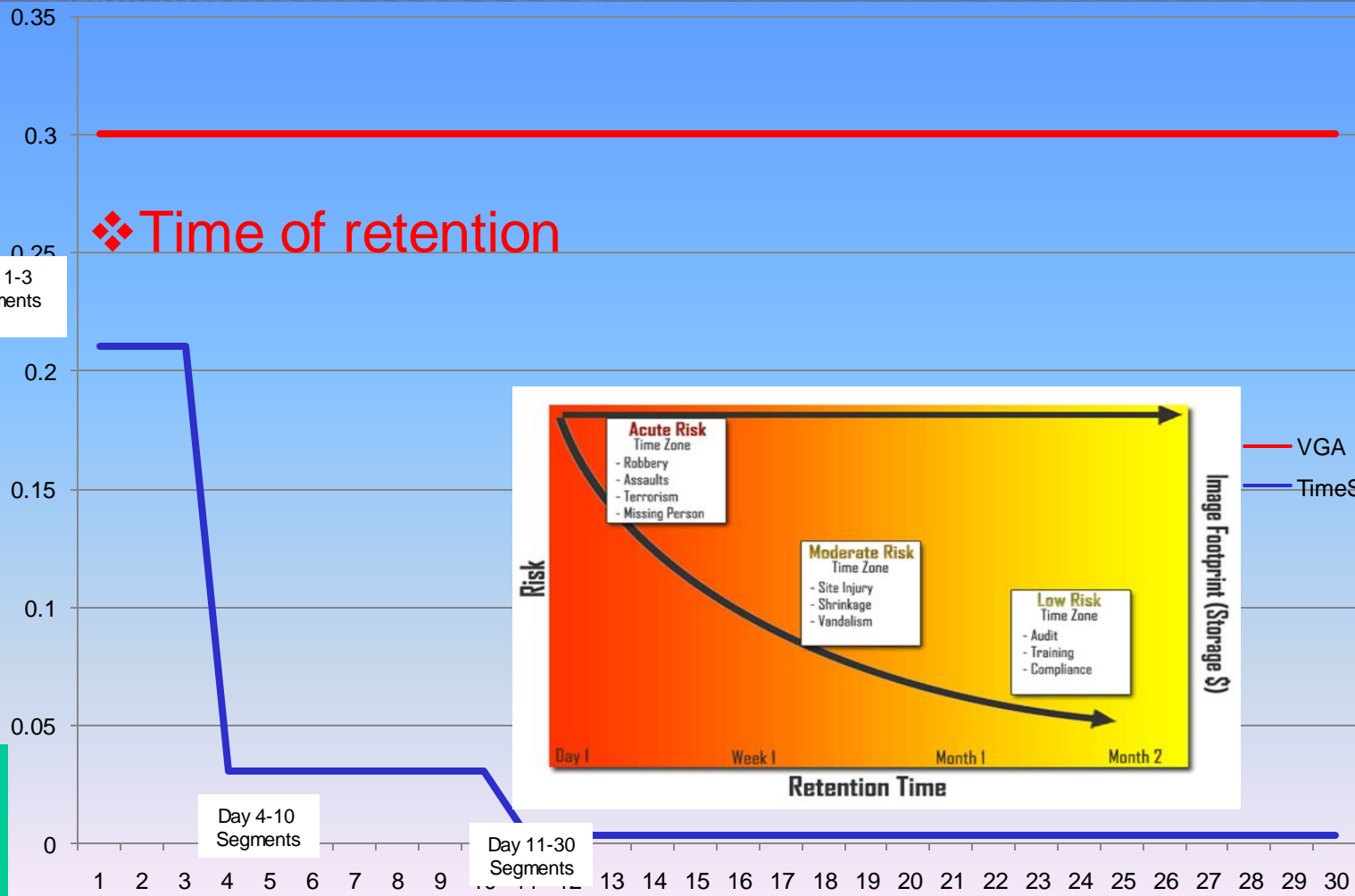
In Texas, and 45 other states, plaintiffs have up to 2 years to file a personnel injury or Slip and Fall claim. Slip and fall refers to the injury that occurs after a dangerous or hazardous condition causes a person to slip, trip or fall while on someone else's property. **(Low to Moderate Risk)**



#6 DVMS – Rules-based Retention

❖ Time of retention

Day 1-3 Segments



— VGA
— TimeSight

Video Segment Size

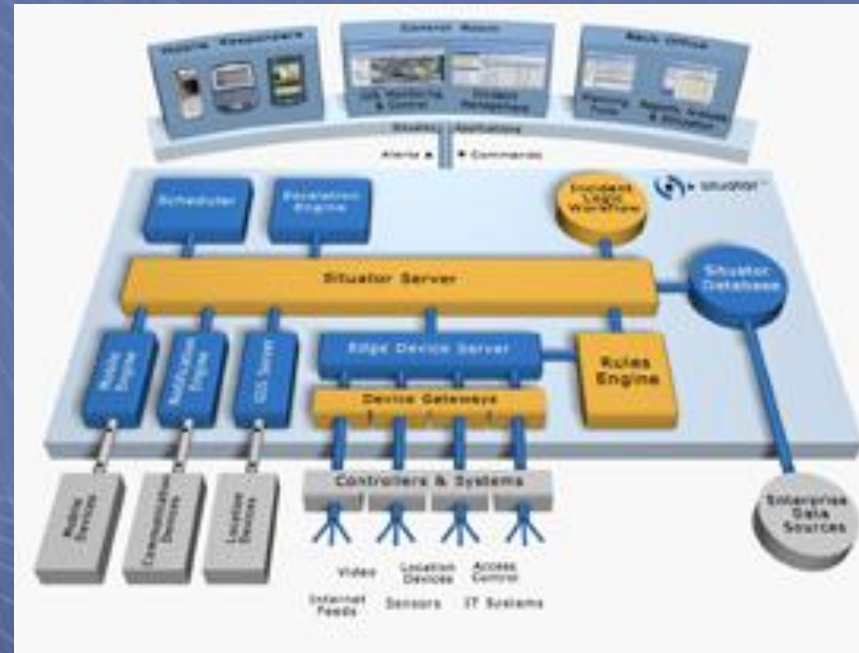
Day 4-10 Segments

Day 11-30 Segments

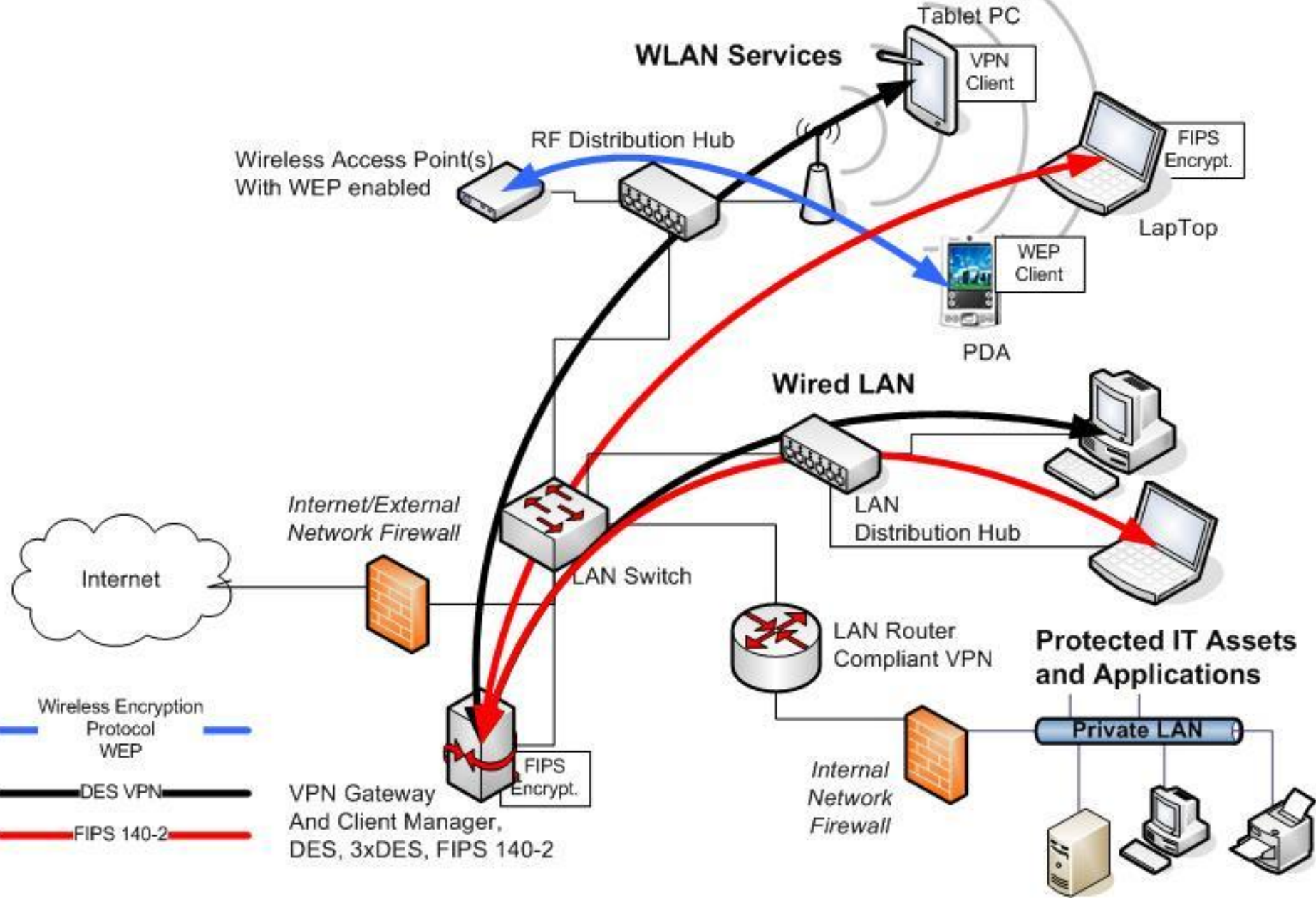
DAYS

#7 Physical Security Information Mgt

- Acts as a gateway for multiple subsystems
- Can aid the Central Command Center monitoring multiple systems, multiple sites



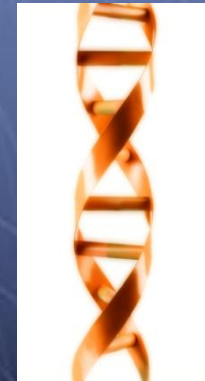
#8 Communication Advances



#8 Communication advance impacts

- Indoor and out door conditions
- Long range applications
- Tele robotics
- Tracking with our expectations for wireless net work applications.
- Wireless communication Developments
 - Impacting all types of sensing devices
 - Alarm sensors, control panels, video, access controls, locks , readers, Elevator camera systems.
 - Evacuation and mass notification systems
 - Providing reliable remote video and access verification
 - Potential reduced costs to deploy

#9 Credential Management



#9 Credential Management

- Remote and Local Capture of images
- Advances in ID printer technologies
- Biometric template capture and storage
- Smart Card memory advances and legacy compatibility
- Future I D check methodology

#10 GIS

- A geographic information system (GIS) integrates hardware, software, and data for capturing, managing, analyzing, and displaying all forms of geographically referenced
- Impacting many areas
 - Transportation
 - Shipping
 - Emerging Services
 - Security applications: mapping, alarm management
 - Modeling and development of procedures based on virtual locations and emergency events
- Lots of realignment
 - Open Mobile platforms emerging
 - Nokia- Symbian- Linux-Google Android
 - Costs are down

10 GIS

CellOpt

Map View

z:\Data\Selected_Sectors_Histograms.tdf

Sum of all counts

C/I

CO134-1
CO134-2
CO134-3

Inner_city_NE_1
Inner_city_NE_10
Inner_city_NE_17
Inner_city_NE_18
Inner_city_NE_19
Inner_city_NE_2
Inner_city_NE_20
Inner_city_NE_21
1/0/SV
1
Inner_city_NE_22
Inner_city_NE_23
Inner_city_NE_24
Inner_city_NE_25
1/0/SV
1
2/0/SV
1
3/0/SV
1
Inner_city_NE_26
1/0/SV
1/0/SV
1
Inner_city_NE_27
1/0/SV
1
2
Inner_city_NE_28
Inner city_NE_29
Inner_city_NE_1
Inner_city_NE_1
Inner_city_NE_1
Inner_city_NE_1

antenna / beamw /

site	latitude	longitu	secto
antennatype: 730376			
beamwidth: 65			
Inner_city_NW	42.7	23.296	2/0/S
Inner_city_NW	42.7	23.296	2/0/S
Inner_city_NW	42.7	23.296	3/0/S
antennatype: 736 855-1			
beamwidth: 90			
Inner_city_NE_1	42.689	23.326	1/0/S
Inner_city_NE_1	42.698	23.330	1/0/S
Inner_city_NE_1	42.689	23.331	1/0/S
Inner_city_NE_1	42.692	23.333	1/0/S

Radio Selection

antenna / beamw /

site	latitude	longitu	secto
antennatype: 730376			
beamwidth: 65			
Inner_city_NW	42.7	23.296	2/0/S
Inner_city_NW	42.7	23.296	2/0/S
Inner_city_NW	42.7	23.296	3/0/S
antennatype: 736 855-1			
beamwidth: 90			
Inner_city_NE_1	42.689	23.326	1/0/S
Inner_city_NE_1	42.698	23.330	1/0/S
Inner_city_NE_1	42.689	23.331	1/0/S
Inner_city_NE_1	42.692	23.333	1/0/S

CellOpt

KPI Builder for the Network Quality of Service Analysis

Here you create new key performance indicator types for use in QoS analyses. Add one of the four main types by clicking on one of the four Add buttons, after making the appropriate selections in the fields on the right of the button. Then click Close to return to the previous page with the modifications in place.

Untitled - ArcScene - ArcInfo

File Edit View Selection Tools Window Help

3D Buildings Layer: QuateMileBut_10000w

3D Analyst Layer: lan_ground

Scene Layers

- D:\CityCenter_DataSer\an\CITY_CENTER_DA
- lan_389535
- D:\CityCenter_DataSer\lan
- QuateMileBut_10000w\SantaMonica
- FlonBUD
- 0.000000 - 0.250000
- 0.250001 - 0.500000
- 0.500001 - 0.750000
- D:\CityCenter_DataSer\an\CITY_CENTER_DA
- lan_ground
- Elevation
- 496.458 - 598.450
- 436.458 - 496.458
- 372.503 - 434.456
- 310.521 - 372.503
- 248.539 - 310.521
- 186.557 - 248.539
- 124.574 - 186.557
- 62.532 - 124.574
- 0.000000 - 62.532

Animation Manager

Keyframes Tracks Time View

Keyframes of Type: Camera In Track: Recorded navigation

Time	Name	Projection Type	Target X	Target Y	Target Z	Azim	View
36.0000		Perspective	6435614.113	1844637.037	113.009	87.0	Update
37.0062		Perspective	6435614.113	1844637.037	113.009	87.0	Create
38.0062		Perspective	6435614.113	1844637.037	113.009	87.0	Properties
39.0062		Perspective	6435614.113	1844637.037	113.009	87.0	Remove
40.0062		Perspective	6435614.113	1844637.037	113.009	87.0	Remove All
41.0062		Perspective	6435614.113	1844637.037	113.009	87.0	
42.0070		Perspective	6435614.113	1844637.037	113.009	87.0	
43.0072		Perspective	6435614.113	1844637.037	113.009	87.0	
44.0073		Perspective	6435614.113	1844637.037	113.009	87.0	
45.0076		Perspective	6435614.113	1844637.037	113.009	87.0	

Reset Times Distribute time stamps evenly Change temporal order: [Up] [Down]

Close

Viewer 1

Active Animation Propert...

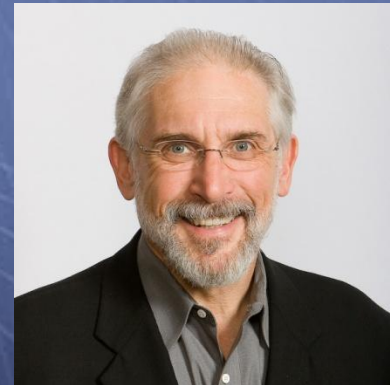
Select the properties that will effectively be applied in the animation:

- Projection Type
- Target
- Azimuth
- Inclination
- Roll
- Distance
- View Angle

OK Cancel



THANK YOU



Special thanks to: Steve Surfaro – Axis Communications
Severin Sorenson, CPP - Sikyur

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