



Boundless Security Systems, Inc.

sharper images with better access and easier installation



A Fault-Tolerant, Survivable, Digital Video Surveillance System with Ultra Low Network Traffic and Long Storage Duration for Banks

*Designed for the utmost image quality, reliability, survivability and accessibility
because things go wrong at the worst possible times*



A deadly situation to avoid

Dec. 5, 2005

**Boundless Security Systems, Inc.
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Executive Summary

DVR-based Systems

- Often blurry recorded images
- Proprietary hardware has support problems
- Subject to single-point failures
- Limited storage capacity
- One video stream per camera gives limited investigation and monitoring capabilities
- Requires analog system for live viewing
- Network & Cyber security problems
- Requires external control of access control



cropped, highly magnified, blurry recorded image from other systems



cropped, magnified sharper recorded image from *Boundless Security System*

Boundless Security System™

- Sharper recorded images
- Fault-tolerant + redundant = reliable
- Non-proprietary hardware throughout
- Low, video-on-demand, network bandwidth of DVR's with installation & scalability benefits of IP-based systems
- Seamless storage to 1 PB per network
- Multiple different digital video streams per camera simultaneously satisfy competing needs for image quality, storage, communications and display for investigations, monitoring and emergency response / first-responders
- Combined *virtual matrix switch*, and *virtual video processor* at each display device, enable viewing up to 96 live and recorded video streams at once on each PC/TV monitor, independent of all others
- Layered network- and Cyber-security
- Autonomous access control

Boundless' Corporate Profile

- **Principals' extensive systems-level expertise**
 - Video security industry
 - Video digital signal processing
 - Mission-critical systems
 - Construction & telemetry of USAF communications spacecraft
 - Large-scale, central office telephone switching systems
 - Analyze and understand basic underlying principles in depth
- **Steve Morton, CEO, known for a child-safety device that uses biometrics and digital imaging**
- **Believes that device failures are a fact of life, and core system architecture should fix them**
- **Founded in Fairfield County, CT, 75 miles from NYC, in response to 9-11-01 terrorist attacks**

Boundless' Broad Expertise Complements Its Systems Integrators'

- Biometrics
- Communications
- Cyber Security
- Design for Test
- Digital Signal Processors
- Hardware Design
- Human Factors
- Image Processing
- Image Processor Chips
- Image Sensors
- Internet Protocols (IP)
- LAN, WAN
- Mass-Storage
- Optics
- Parallel Processing
- Reliability
- Software Design
- Software Tools
- System Architecture
- Video Compression

Boundless Security System™ **Has Many Uses in Banks**



Lobby, tellers and vault



Drive-up windows



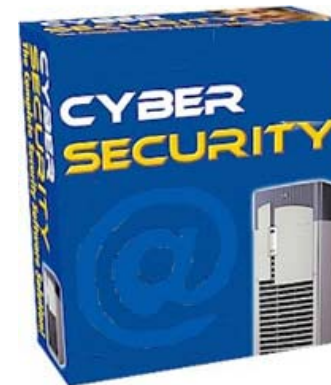
**Perimeters
(LAN WiFi wireless)**



**Cash and check carriers
(WAN wireless)**



ATM's



**Enable secure local
Internet access to video
for emergency response**

Boundless Security SystemTM

Provides Better Recorded Images

- **Multiple different digital video streams per camera simultaneously, optimize use of live and recorded video for...**
 - ***investigations***[†] - full camera resolution, maximum clarity, 5 fps/camera (high data rate)
 - ***monitoring***[†] - low and medium resolutions, medium clarity, 10 to 30 fps/camera (medium data rate)
 - ***situation assessment***[†] - low resolution, 5 to 10 fps/camera (low data rate)
- **Records all video all the time using efficient MPEG-4 without need to gate recording using motion detection, so no events are missed**

Boundless Security System™

Provides Superior Reliability

- Fully distributed, edge-controlled, IP-based architecture and Boundless' ***Storage Operating System™*** avoid single-point system failures
- Flawless recording despite transient network and server overloads, and network-throttling
- Fault-tolerance and redundancy compensate in seconds for hard network and server failures
- ***Physical Diversity Recording™*** stores different streams from each camera in different locations for safety, to engineer network traffic, and to **implement multiple network security zones**

*Boundless Security System*TM

Provides Virtually Unlimited Storage

- **Boundless' *Storage Operating System*TM:**
 - avoids storage limits of any single disk partition, disk or storage server
 - provides virtually unlimited (to 1 petabyte) online disk storage via its expansion-on-the-fly architecture
 - provides ***Physical Diversity Recording*TM**, storing different video streams from each camera in different physical locations on a network, *if desired*, for safety and to engineer network traffic and security
 - provides seamless, software-based, ***storage virtualization*** so that storage details are invisible to users
 - provides different storage retention policies for each stream for each camera for economy of storage and to facilitate different levels of access to the video

Boundless Security System™ Improves Local and Remote Access



Live and recorded audio / video at police stations



Live video on PDA or Cell Phone for first-responders



Live audio / video in police cars (WAN wireless)



Live video throughout facilities via LAN



Live and recorded audio / video / event data at headquarters and monitoring companies



Boundless Security SystemTM

Provides Superior Video Access

- ***Virtual digital video matrix switch enables all users to view all live and recorded video streams***
- ***Virtual video processor for each display device reduces display cpu needs for viewing...***
 - ***investigations at 5 fps/camera***
 - ***monitoring at 30 fps/camera with low latency***
 - ***emergency response at 10 fps/camera over slow and congested, wired and wireless WAN links***
- ***TiVo-like pause/step/play control of live video by every user to review incidents in progress***
- ***Display dozens of video streams simultaneously on each HDTV monitor at full 1080i resolution***

Boundless Security SystemTM

Satisfies Diverse Video Imaging Needs

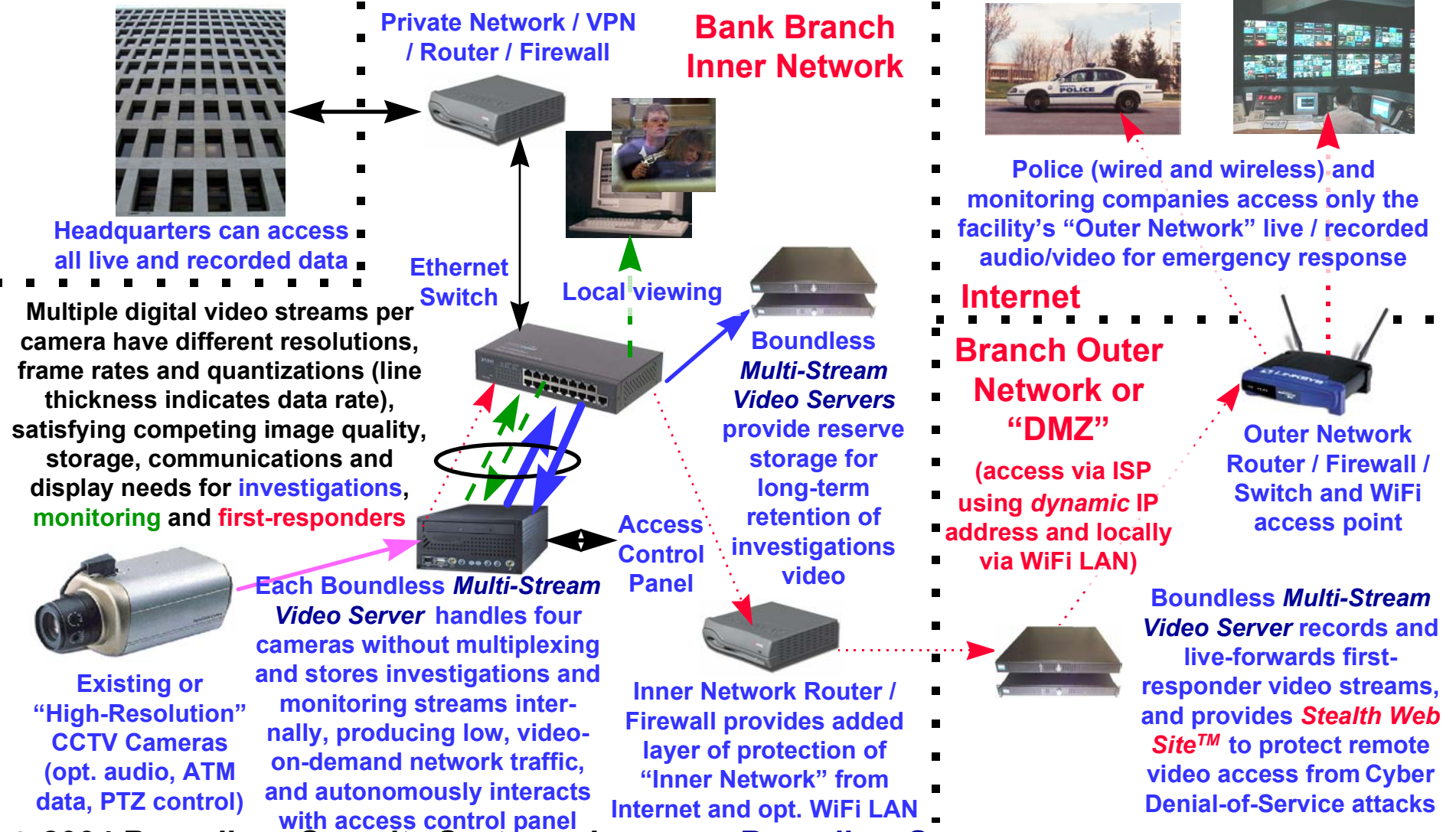
- **Simultaneously and efficiently meets diverse live and recorded video imaging needs for:**
 - ***investigations*, video with sharpest images is typically stored for long periods of time (3 months or more)**
 - ***monitoring and public awareness* using live video monitoring streams; bank HQ, branch and monitoring personnel can see trouble spots; video is typically stored for short periods of time (days) for economy**
 - ***emergency response by law enforcement* using PDA or cell phone for video streams via Cyber-secure Internet connection**

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Boundless Security System™ **is Network-Friendly**

- Provides low, video-on-demand network-bandwidth of DVR's with superior connectivity, access, expansion, reliability and ease of installation of IP-based systems
- Boundless' *Multi-Stream Video Server* provides multiple IP-video streams per camera, all of which can be stored internally, creating **NO** network traffic except when live/recorded video is accessed via the network
- Multiple streams/camera enable streams with lowest data rates to be used most of the time

Boundless Security System™ Provides Multiple Network Security Zones



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• ***Boundless Security System***TM Has ¹⁴
Layered, Network and Cyber Security

- **Boundless' *Physical Diversity Recording***TM stores different video streams from a given camera in different servers in different locations on a network, enabling multiple **network security zones** to be implemented to increase security
- **Boundless' *Stealth Web Site***TM technology protects the ***Boundless Security System***TM from **Cyber Denial-of-Service attacks** and enables an inexpensive, safe connection to the Internet via an Internet Service Provider using a dynamic (not a static) IP address

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Boundless Security System™

is Easy to Build, Install and Maintain

- **Non-proprietary hardware throughout avoids sole-source supply and maintenance problems, and provides many housings for versatility**
- **Connect to existing CCTV cameras and video cables to easily retrofit existing systems**
- **Takes advantage of congested Wi-Fi network segments and throttled network segments to simplify installation in large facilities & outdoors**
- **Drastically reduces cabling and installation cost when Boundless' *Multi-Stream Video Server* is located near cameras and access control panels**

Conclusion

The *Boundless Security System*TM...

- is designed as a *system*, not a component, and based on the premise that things go wrong at the worst possible time
- provides fault-tolerant, survivable, enterprise-class operation
- records better images and provides long-term storage of investigations video without storage limits of other systems
- uses non-proprietary hardware throughout, avoiding sole-source supply, expansion and maintenance problems
- combines low, video-on-demand network bandwidth of digital video recorders with superior connectivity, access, expansion, reliability and ease of installation of IP-based systems
- satisfies competing imaging needs for investigations, monitoring and situation assessment / first-responders
- provides Cyber-secure remote access to audio/video/events
- easily retrofits existing CCTV cameras and display systems



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Specifications are subject to change without notice.

Some system features may be optional.

Audio according to local statutes.

The End

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