

## Portland Police Bureau safeguards evidence and streamlines access with new Linear Systems DIMS solution powered by Intel.

Linear Systems and Intel created a customized solution that enables the Portland Police Bureau to optimize and control the acquisition and distribution of digital evidence. The new technology deployment will significantly increase the efficiency of logging image, audio, and video files; facilitate authorized access; and protect against unauthorized dissemination.

### SITUATION

The Portland Police Bureau employs more than 900 sworn personnel and 250 civilians. The Bureau processes approximately 100,000 photographs and more than 500 videos or audio recordings each year that may potentially become evidence. These assets are collected from 13 acquisition stations in seven physical locations and processed by the Forensic Evidence Division (FED). As part of a gradual transition to all-digital processing, the Division needed not only digital cameras, but a secure digital information management and archive system.

The FED had been manually sorting their photos, videos, and audio files; burning them to DVD, and then checking them into evidence. When a file was needed for an investigation or court case, someone would have to physically retrieve the disc and burn copies. The process of classifying, storing, retrieving, and distributing photos could take several days.

This method was not only inefficient, but also posed risk for a breach in the chain of custody and the potential liability of images being released to unauthorized individuals, or worse, distributed publicly.

A solution was needed to control the processing of digital information collected in everyday operations of the FED. The ideal technology would provide one interface to process all types of digital assets and make them available from a single source. It would ensure compliance with industry and legal standards and also the Bureau's "Policies and Procedures". It would significantly improve efficiency. And most importantly, it would protect against the loss or accidental release of crucial evidence and sensitive personal information and the associated liability.

## SOLUTION & BENEFITS

In October 2011, Linear Systems began implementing a custom designed Digital Information Management System (DIMS) for the Forensic Evidence Division of the Portland Police Bureau. Project funding was jump-started with a National Institute of Justice (U.S. Justice Department) Paul Coverdell Forensic Science Improvement Grant and underwriting by Linear Systems and Intel.

The installed solution comprises all system and server hardware, software licenses, and peripheral equipment to acquire and store digital photographic images, video, and audio, including metadata, for information and evidence collected by the Portland Police Bureau. Components include:

- DIMS Database Case Management Rack Server
- DIMS 24.0TB Digital Image RAID 6 Secure-Array
- Primary Evidence ImageServer located in Bureau powered by the Intel Modular Server
- DIMS Database Case Management Rack Server FailSafe Archive Solution
- DIMS 24.0TB Digital Image RAID 6 Secure-Array Archive
- Archive ImageServer located in Portland city IT powered by the Intel Modular Server
- DIMS Enhanced Digital Acquisition/ Enhancement Workstation Tower based on Intel® Core™ i7 processor and motherboard
- 11 DIMS Enhanced Performance Digital Acquisition Station Kiosks based on the Intel desktop processor and motherboard
- DIMS Enhanced Mobile Digital Acquisition Station based on Intel Spring Peak notebook
- 14 DIMS Digital Camera Evidence Kits



In October 2011, the Portland Police Bureau began installation of the new Linear Systems, Intel-powered DIMS solution to streamline digital asset processing and safeguard evidence.

*“There’s a buzz going around the Bureau now, looking forward to this. Cops and change don’t normally go together, so a system’s got something going on when cops are looking forward to things changing.”*

**RON MASON**

SERGEANT, FORENSIC EVIDENCE DEPARTMENT,  
PORTLAND POLICE BUREAU

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## TAILORED FOR LAW ENFORCEMENT

This DIMS solution is designed for large law enforcement agencies that require chain of custody, mission critical reliability, redundancy, and secure management of digital evidence from multiple download sites with multiple users. The system stores assets in non-proprietary, industry standard formats that easily interface with many other database applications, including CAD, RMS, and LIMS. The DIMS solution writes data to a minimum of two places from the time of asset acquisition to when it is pulled to the ImageServers where it is written, again, to a minimum of two servers. In addition, DIMS creates a totally redundant workflow, maintaining original evidence, with user access only to working copies. Embedded multi-level security prevents challenges to authenticity, while giving administrators and authorized staff access to photo, video, or audio evidence and metadata through a dedicated secure Windows-based browser interface installed on Bureau computer systems. "It's a very simple, well thought out system that employs redundancy at the remote capture stations as well as offering real-time access to evidence and information for remote facilities," says Cory Wilks, Information Systems Supervisor for the Portland Bureau of Technology Services.

Intel technology ensures the performance needed to process an extremely high volume of data distributed to a large number of users, plus reliability for a mission critical environment. "The brand value of Intel is immeasurable and overcomes potential objections from IT and administrators," says Chris Parsons, Linear Systems CEO. "We utilize only Intel motherboards, Intel processors; every possible component is Intel branded because they're designed to work together as a cohesive unit and we have a single source for support. The 'Intel Inside' designation lets customers know they are getting a top notch solution."



*“The single most important thing that agencies need protection for is potential loss of data. We cannot afford to lose any assets, period. So we use redundancy upon redundancy and security upon security to make sure that nothing gets deleted or lost due to hardware failure. For more than 23 years, law enforcement agencies using our DIMS solution have never lost a single digital asset.”*

**CHRIS PARSONS**  
CEO, LINEAR SYSTEMS



## STREAMLINED PROCESSING

With the manual system, process time for photographs brought to the FED was about 48 hours, plus another 48 for weekends (this includes darkroom time for 35 mm images). Photographic evidence held at the property room took at least another 24 hours before it was delivered to the FED for processing. With the new DIMS system (and eventually, all digital cameras), processing time will be reduced to minutes. And it's all automated. "With this process, the officers will be able to see that their evidence has been saved properly and they won't have to worry about burning DVDs," says Chris Wormdahl, Police ID Technologies Coordinator for the Forensic Evidence Division.

Critical photographic evidence can be output to multiple users within minutes of being uploaded to the database. "Not only will the DIMS system slash FED processing time, it will also allow us to give the District Attorney immediate access to our digital files," says FED Sergeant Ron Mason. "So a photo taken at a crime scene Saturday night can be available at arraignment on Monday morning to augment the police report."

# CUSTOMIZED, TURNKEY SOLUTION

Linear DIMS installations are fully customized to the specific needs of each agency's policies, procedures, workflows, and legacy systems. Database classifications and search criteria are tailored to accommodate operational and procedural issues and to control access rights and retention schedules. Linear also provides onsite installation, integration, configuration, training, and ongoing maintenance and support. Since DIMS is a turnkey solution, the Division can have a single support source for hardware, software, and even third-party peripherals integrated by Linear. This helps to protect data and decrease potential downtime.



## OUTLOOK

The Portland Police Bureau looks forward to reaping the full range of benefits delivered by their new DIMS system – now and as they continue with the transition to all-digital cameras.

Significant cost savings are expected in staff-hours and reduced overtime, plus the virtual elimination of errors. The hard-dollar savings on writable media and printing alone could pay for the cost of the DIMS system in less than two years. The Bureau will also gain efficiency with a single interface for digital asset acquisition and one location to find all evidence required for disclosure. And streamlined access to evidence will allow Investigators and District Attorneys to make faster and more effective prosecuting decisions.

The greatest potential cost savings is in avoiding liability due to lost evidence or unauthorized release of sensitive information. This is an increasing source of concern for law enforcement agencies. The consequences of unsecured evidence can lead not only to millions of dollars in legal judgments but also to loss of credibility in the communities they serve.

The initial Linear installation is part of a multi-stage, multi-year project. The Bureau will be adding additional capabilities, including more digital cameras, evidence acquisition directly from patrol vehicles or interview rooms, improved image reconstruction and forensic video analysis, Blu-ray storage, and more.

“There’s a buzz going around the Bureau now, looking forward to this,” says Sergeant Mason. “Cops and change don’t normally go together, so a system’s got something going on when cops are looking forward to things changing.”



## PARTNER

### ABOUT LINEAR SYSTEMS

Linear Systems is the worldwide leader in technology and market share for digital information management for law enforcement and public safety, providing system engineering, implementation, and maintenance of automated, customized workflow solutions. To learn more, visit [www.linear-systems.com](http://www.linear-systems.com).

### ABOUT INTEL

Intel (NASDAQ: INTC), the world leader in silicon innovation, develops technologies, products and initiatives to continually advance how people work and live. Additional information about Intel is available at [intel.com/pressroom](http://intel.com/pressroom) and [intel.com/community](http://intel.com/community).

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