The Data Exchange Layer (DXL)
The Fabric of Security Connected

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Evolution of Security Product Offerings

Delivering Operationally-Effective Security
Intel Security’s Data Exchange Layer
Standardize integration and communication to break down operational silos

Disjointed API-Based Integrations
- Result
  - Slow, heavy, and burdensome
  - Complex and expensive to maintain
  - Limited vendor participation
  - Fragmented visibility

Collaborative Fabric-Based Ecosystem (DXL)
- Result
  - Fast, lightweight, and streamlined
  - Simplified and reduced TCO
  - Open vendor participation
  - Simplicity - one time integration
What is the Data Exchange Layer (DXL)?
Driving efficiency through enhanced communication

Real-Time Messaging

Data Exchange Layer Fabric:
Real-time messaging infrastructure for security products built on message queue telemetry transport (MQTT).

Standardized Content

Common Information Model (CIM):
Provides enterprise security state and context. Includes information about devices, users, location, reputation, and more.

Adaptive Workflows

DXL Clients: Security products use the Data Exchange Layer to publish or consume information.

Endpoint

Network

Identity

Data

3rd Party
The DXL specification is structured in different layers, similarly to the SAML specification, which are composed in order to tackle specific use cases:

- **Protocols**: Message flows for exchanging security information (e.g., request/response vs. publish/subscribe)
- **Messages / Payloads**: Specification of the message and payload formats, including headers and security-related information
- **Profiles**: Combinations of message formats, protocols and bindings to support specific use cases (e.g., TIE)
- **Bindings**: Mappings of DXL to standard messaging and communication protocols (e.g., DXL-MQTT binding)
DXL Architecture Components

- **Broker Network**
  - Routes messages to appropriate receiver
- **Clients**
  - Provide access to DXL fabric
- **Services**
  - RESTful-like services available on DXL fabric
- **Management Interfaces**
  - Provides broker, client and service management.
- **Data Bridge**
  - Provides connection to related systems, such as TAXII servers, stream processing, and storage.
Intel Security Data Exchange Layer (DXL) in action…

Publish/Subscribe Model

All components which subscribe to the topic, listen for information.
Intel Security Data Exchange Layer (DXL)

1:1 Query/Response Model

Any DXL integrated component can query a service, such as TIE, and receive a response.
Intel Security Threat Intelligence Exchange (TIE)

Real time protection across the enterprise

Gateways block access based on endpoint convictions

Proactively and efficiently protect your organization as soon as a threat is revealed

Data Exchange Layer

Security components operate as one to immediately share relevant data between endpoint, gateway, and other security products.
Adaptive Threat Prevention and Detection

Network & Gateway
- NIPS
- Web Gateway
- Email Gateway

Sandbox
- Payload is analyzed
- IOC 1
- IOC 2
- IOC 3
- IOC 4

SIEM
- New IOC intelligence
- Pinpoints historic breaches

Endpoints
- Previously breached systems are isolated and remediated

DXL Ecosystem
DXL + 3rd party feeds

Gateways block access based on endpoint convictions

Global Threat Intelligence

3rd Party Feeds
SharkSeer NIPR Content
STIX / TAXII

STIX / TAXII

Internet
TIE
ATD

ePO
ESM

Security components operate as one to immediately share relevant data between endpoint, gateway, and other security products

Data Exchange Layer

NSP
Web Gateway
Email Gateway

Proactively and efficiently protect your organization as soon as a threat is revealed

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