

RID IETF Draft Update

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INCH Working Group

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RID Updates

- **Purpose**
- **RID and INCH**
- **Generalizing RID draft**
 - Communication flow for all IODEF documents
 - Transport in a separate document
- **Message Format for RID**
- **Updates to the RID Extensions to IODEF Model**
- **Communication Mechanism for RID Documents**
- **RIDPolicy Comments**



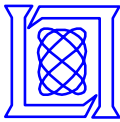
Real-time Inter-network Defense (RID)

- **Facilitate Communication of IODEF documents between Network Providers (NPs) and CSIRTs**
- *** Report incidents to NPs or CSIRTs**
- **Trace Security Incidents to the Source**
- **Stop or Mitigate the Effects of an Attack or Security Incident**
 - **Integrate with existing and future network components**
 - Intrusion Detection Systems**
 - Systems to trace traffic across a network**
 - Network devices such as routers and firewalls**
- **Provide secure means to communicate IODEF documents**
 - **Consortiums agree upon use and abuse guidelines**
 - **Consortiums provide Public Key Infrastructure to support encryption and digital signing requirements**

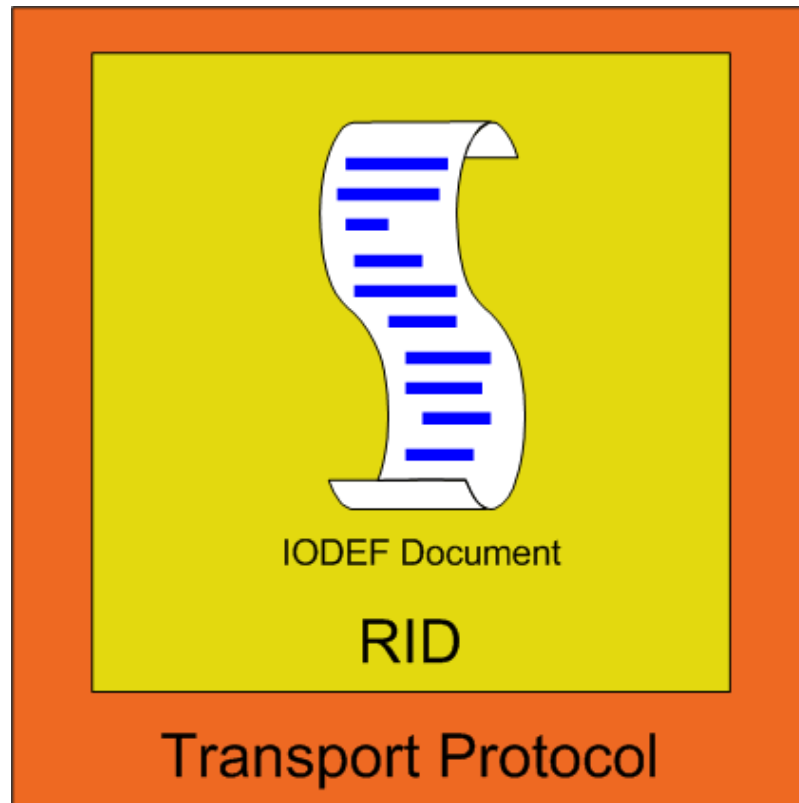


Generalization of RID for IODEF

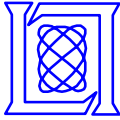
- **RID is used to communicate security incident handling information between CSIRTs or Network Providers (NPs)**
- **RID initially intended for:**
 - **Reporting and tracing security incident information to a RID system close to the attack source**
 - **Integration with traceback systems**
 - For the case where traffic may have been spoofed
 - **Method to stop attack traffic close to the source**
- **The generalization of RID will specify**
 - **Communication flow of all IODEF documents**
 - **This involves adding one more message type for the reporting of a security incident for statistics with no further actions to be taken**
 - Report message type added to RIDPolicy
- **Major document updates are text changes and the ability to send an incident report with no required action**
- **Are there any other cases that are not yet covered?**



RID Envelope for IODEF

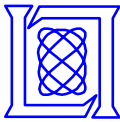


- All IODEF documents are enveloped in RID
- Facilitates communication of IODEF documents and sets purpose
 - Reporting
 - Investigation where source is known
 - Trace request
- The transport protocol will be defined in a separate document
 - SOAP and HTTPS

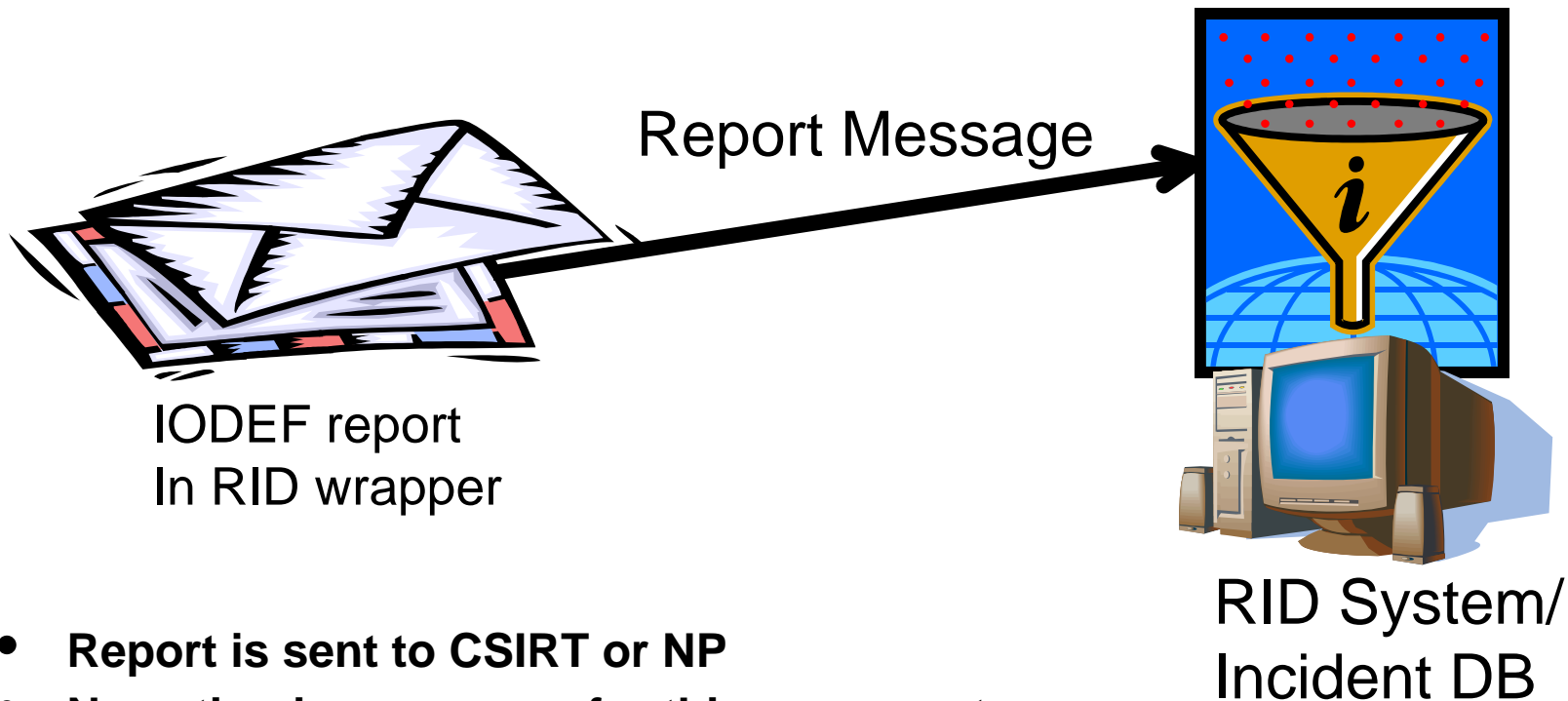


Communicating RID Messages

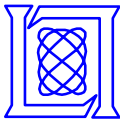
- RID serves as the message wrapper for all IODEF documents
- RID defines the communication flow of all IODEF documents using the defined RID message types
- **Message Types**
 - **Trace Request**
Requires integration with traceback systems to identify upstream source
 - **Trace Authorization**
Traceback approval status in upstream provider's network
 - **Result**
 - *Previously known as "Source Found"
 - *Actions will be expanded in Data Model to support necessary options
 - **Investigation**
 - *Previously Relay Request
 - Incident Investigation for attack mitigation with a known source
 - ***Report**
Statistics – no action necessary
- **RID Systems Must Track the Requests by**
 - *** Incident Number and Instance ID**
The **incident@ID** will be moved to RIDPolicy from the data model
 - **Packet Contents**
 - **Completion Status**



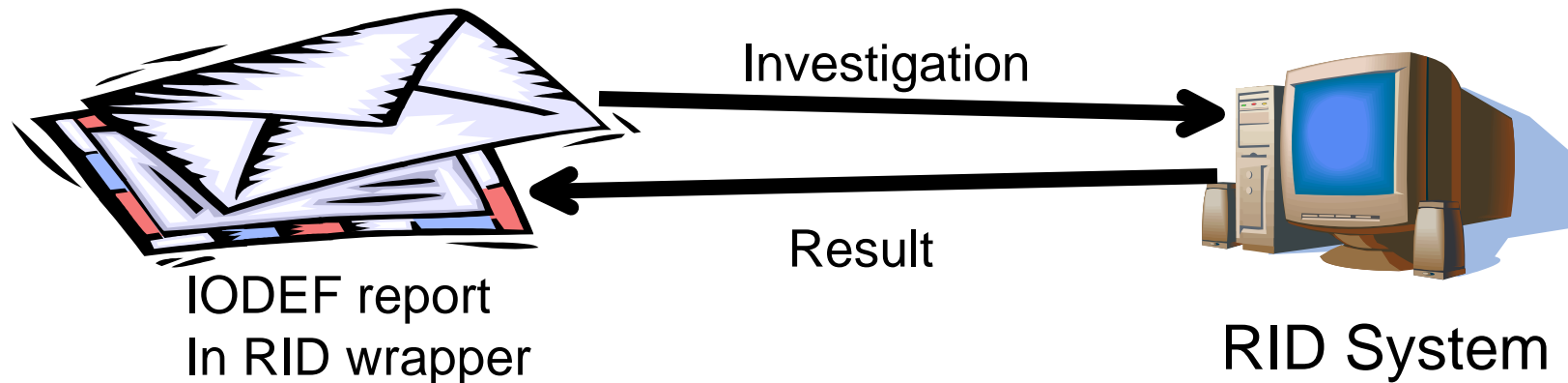
Report Message



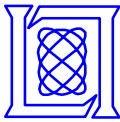
- Report is sent to CSIRT or NP
- No action is necessary for this message type
- Used for statistics and generating trending information
- Transport will use TCP (HTTPS), so there is no response necessary



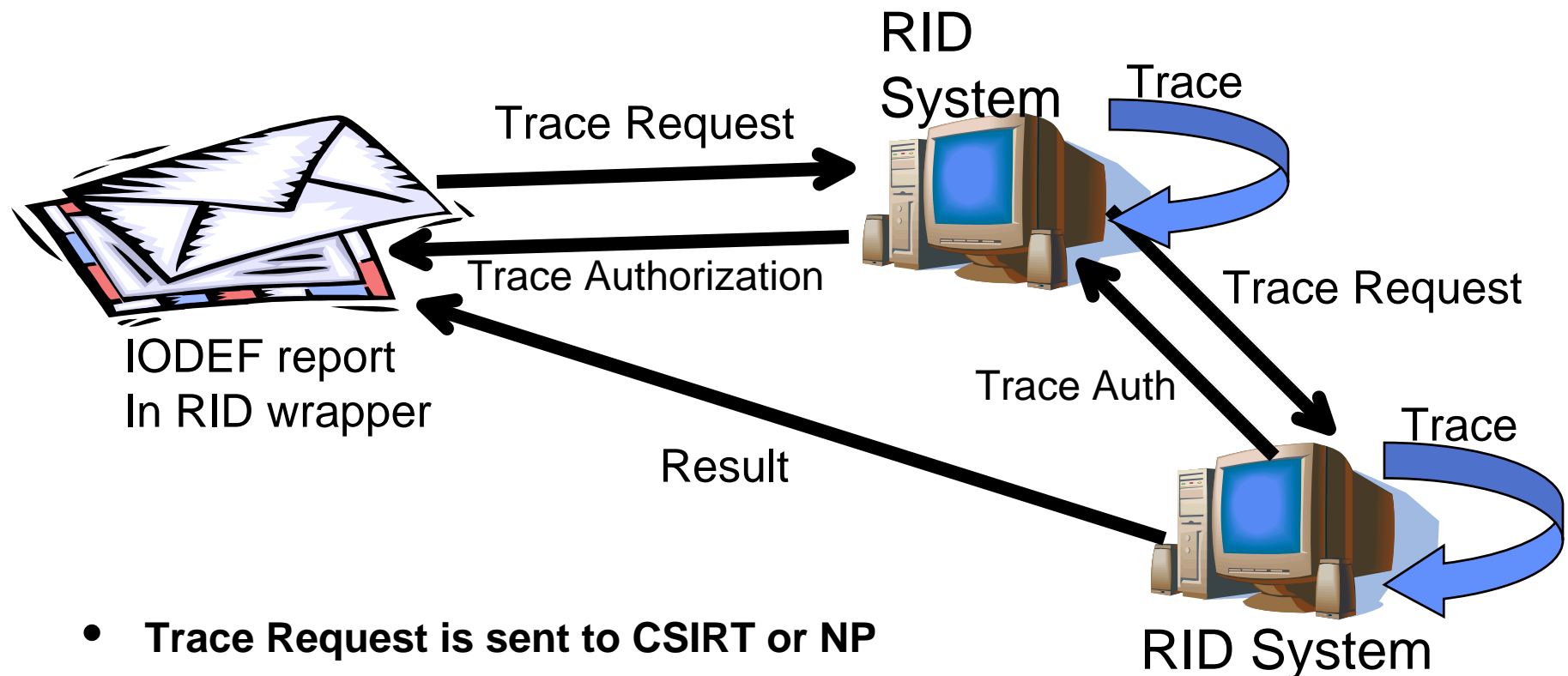
Investigation Message



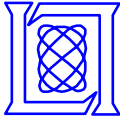
- **Investigation message is sent to CSIRT or NP**
- **An Investigation is requested where the source is known**
- **Purpose is to mitigate or stop the attack traffic**
- **A response via the Result message is required**
 - **Details the action(s) taken**



Trace Request Message

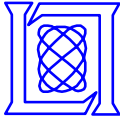


- Trace Request is sent to CSIRT or NP
- A traceback investigation is requested to locate the source
- All upstream trace requests must decide if trace will be authorized
- Purpose is to mitigate or stop the attack traffic
- A response via the Result message is required
 - Details the action(s) taken



Transport in a New Draft

- **Draft will define the transport protocol for all IODEF documents**
- **RID will define the message communication flow and the transport document will discuss SOAP and HTTPS for transport**
- **XML Security**
 - Policy negotiated in RID message and not wrapper
 - Provide integrity, authentication, authorization
 - XML digital signature, encryption, and public key infrastructure
 - Encryption of RID for privacy and security reasons should be via XML encryption and not through the security provided by a wrapper or higher level protocol
- **SOAP Messaging Wrapper**
 - Method to transport messages
 - HTTPS will be the mandatory protocol for implementation
 - Not necessarily the most efficient transport for the IODEF messages, but was agreed upon by WG for ease of initial implementation
 - Other protocols may be added for optional support



RID Policy

- **RID Policy**
 - Ensures policy information is transferred between participating RID peers
 - Policy information in RID to prevent policy related issues from relying on the transport mechanism for enforcement
 - Message type is specified in the RIDPolicy class
 - *Adding one for reporting/statistics
- **RIDPolicy Information**
 - Extension to define the type of trace
 - IODEF Method and Impact class information should be considered for the type of traffic requested for trace and the success of an attack
 - Explicit statement for the type of trace requested in case it does not fit into the category of attack traffic and can be linked to a CVE or other identifier
 - Identifies where the traffic may have policy issues
 - Client to NP
 - NP to client
 - Within a consortium
 - Between peers
 - Between consortiums
 - Across national boundaries
- **Purpose is to try to prevent abuse of the system**
 - Address security, confidentiality, and privacy concerns listed in the draft
 - New extension created to address issues raised at IETF-59
- **Any comments on RIDPolicy?**



Summary

- **Updates from the previous version**
 - Working on the generalization of RID to support transport of all IODEF documents
 - Many text updates are in progress
 - Update to the RIDPolicy class to change and add message types
 - DTD will be removed in the next revision
 - Pending on release of IODEF data model
 - Need to ensure documents flow
 - Need to update the text sections of document to eliminate DTD references
- **Near Future Updates will include**
 - Separate document for SOAP wrapper and transport
 - Any suggested revisions or clarifications
- **<http://www.ietf.org/internet-drafts/draft-ietf-inch-rid-01.txt>**