



## Tresys TurretGate™: Secure Enterprise Messaging Router Technical Overview

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*Tresys TurretGate is a secure enterprise messaging router that facilitates safe communication between networks of differing security levels. It provides a high performance solution for routing sensitive messages to specific destinations, based on characteristics of the incoming messages. The release policy for messages is highly configurable making TurretGate adaptable to many environments. The initial release of the TurretGate targets environments requiring DCID 6/3 PL 4 certification. Future releases will target PL 5.*

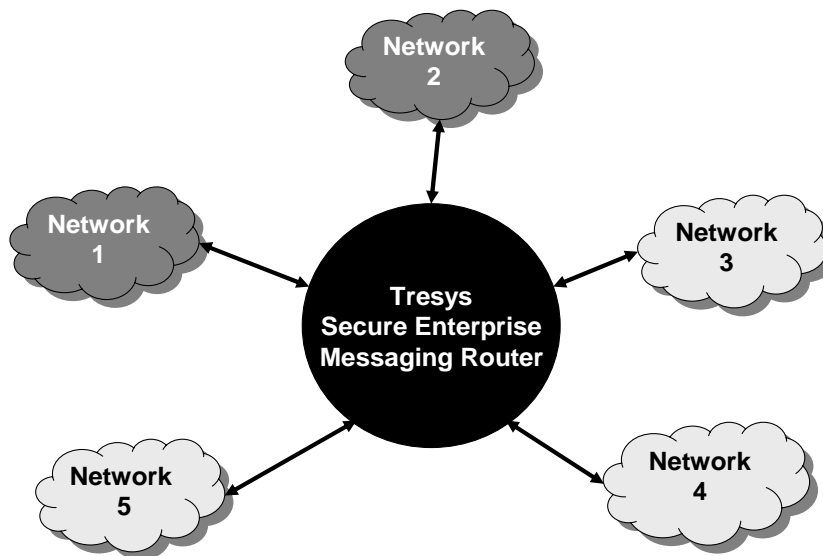
## Introduction

Tresys TurretGate™ facilitates safe communication between networks of differing security levels. It provides a high performance solution for routing sensitive messages to specific destinations, based on characteristics of the incoming messages. The release policy for messages is highly configurable making the TurretGate adaptable to many environments. The initial release of the TurretGate targets environments requiring DCID 6/3 PL 4 certification. Future releases will target PL 5.

The current implementation on the TurretGate supports Java Message Service (JMS) messages. Future solutions will address additional message types such as SMS, Type-X, etc. The JMS solution supports bi-directional JMS communication between networks of differing sensitivities based on highly configurable release policies.

There are no other solutions available today that meet the throughput capacity of the TurretGate. It provides the ability to quickly and securely route alerts, monitoring messages, control messages and other JMS between networks while securely enforcing appropriate release policies

Figure 1 - Tresys SEMR.



TurretGate is an appliance, comprised of hardware and software. The initial device is available in a two network configuration. Future releases will support multi-network configurations. Each platform has one front end connector, one message router and one back end connector for each target network.

The front end and back end offload engines are physically separate, one for each network. The secure message router is a single computer platform, with multiple routing paths separated through Type Enforcement (TE), a mandatory access control (MAC) mechanism provided by Security Enhanced Linux (SELinux). The software is also portable to commodity PC hardware and scalable across any number of platforms.

## Router Components

The front end connector receives, analyzes and packages JMS messages for processing by the high-speed message router. The message router is a multi-processing application that analyzes message headers for release-ability and destination information, then routes the message only to the intended domains. The back end connector returns the message to JMS format and makes it available to the JMS fabric in the destination domain.

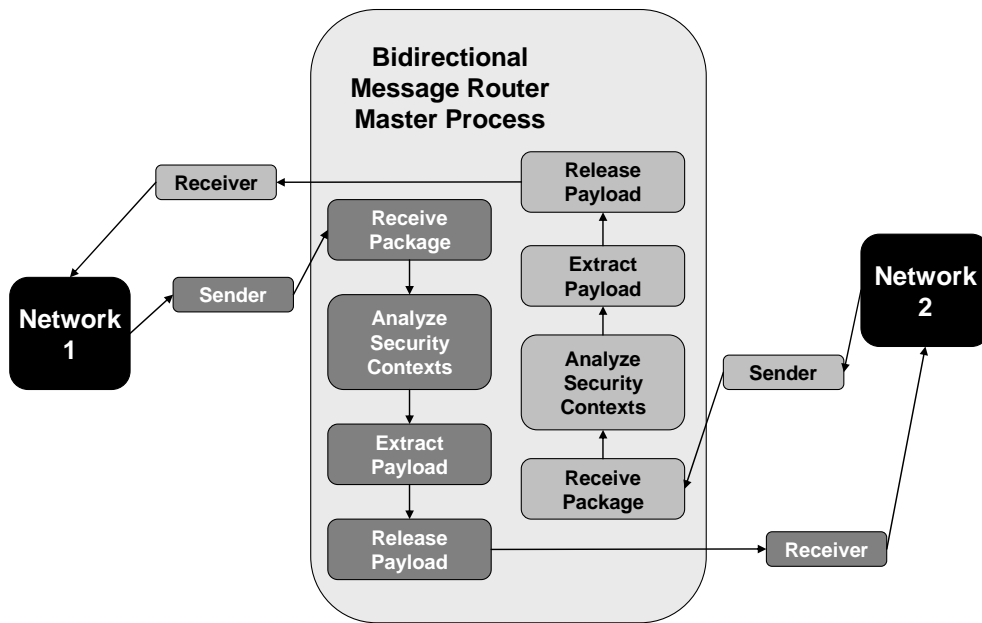


Figure 2 - Message Router Process.

## Message Routing

TurretGate for JMS provides a flexible policy mechanism that allows configuration of logical release policies. It also provides a flexible routing mechanism that allows the user to configure to which destinations messages should be routed. These policies take into account appropriate properties of the JMS message as well as the identity of the destination network. The router will route messages to the configured JMS resources on the specified destination networks as the security policy allows.

Compared to other solutions, TurretGate has a significantly smaller footprint for comparable throughput, providing huge reductions in space, cooling and power requirements. With throughput orders of magnitude greater than any other solution, the overall cost for deployment is much lower.

### **Router Platform Components**

Tresys TurretGate components provide a flexible framework upon which to build secure routing solutions for any number of environments. The network interfaces can be customized to any standard or special protocol. The front and back end offload engines can accommodate custom software for special purpose processing. The input is converted into the internal secure message routing format for determining and distributing the messages only to the intended destinations. The configurable routing logic ensures that the TurretGate can accommodate a wide variety of release policies.

For any secure message routing application, TurretGate provides a framework that can be tailored to nearly any specific environment, with reuse of a proven foundation.

## Summary

Tresys TurretGate securely ensures that messaging communication between networks of differing levels are routed successfully, securely and efficiently. The high performance provided by the appliance ensures that the routing of sensitive data to specific destinations (based on characteristics of the incoming data) happens in a manner required to keep operations running effectively. The initial release of the TurretGate targets a DCID 6/3, PL 4 environment requirements with future releases targeting PL 5.

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## About Tresys

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