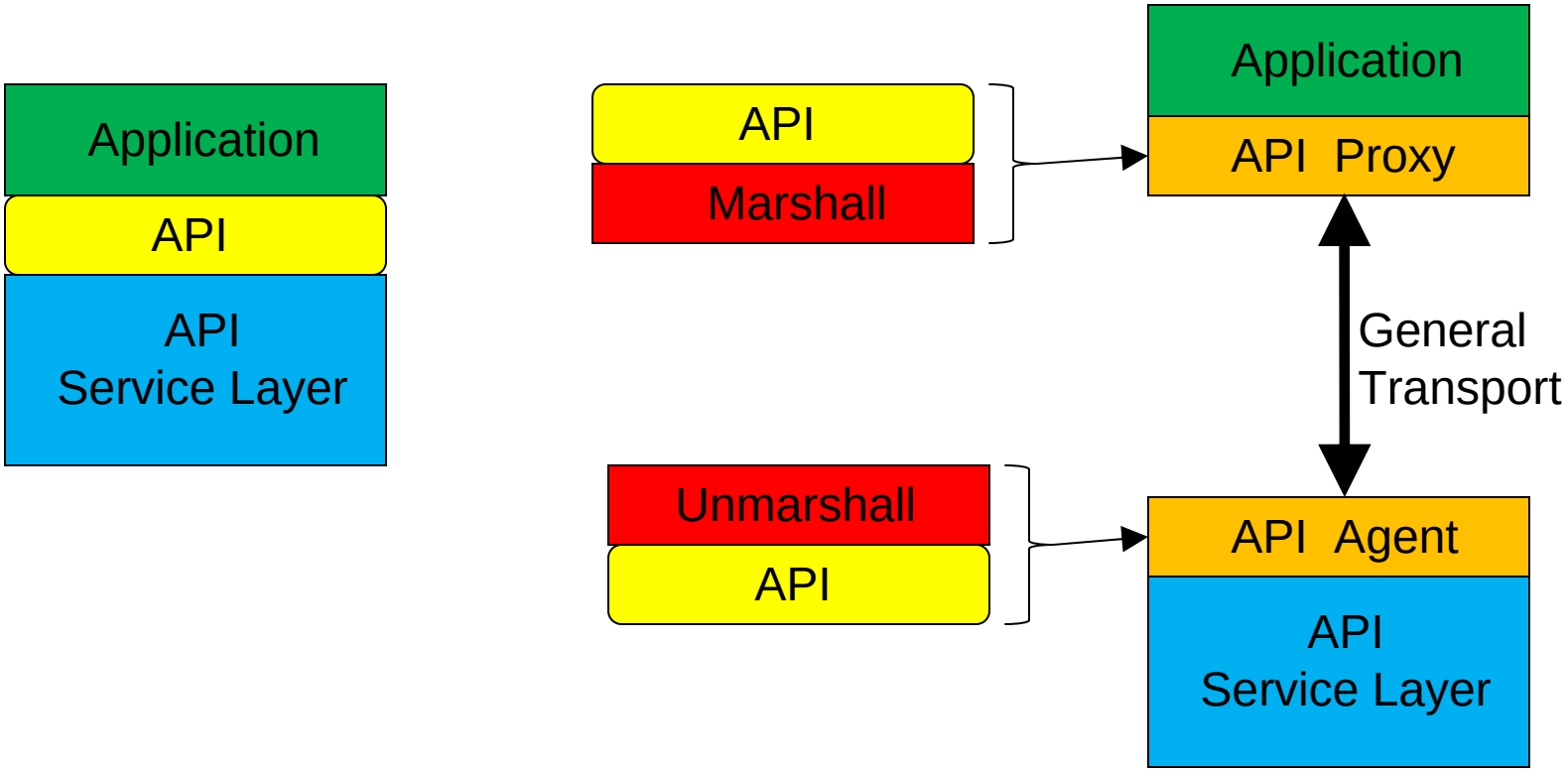
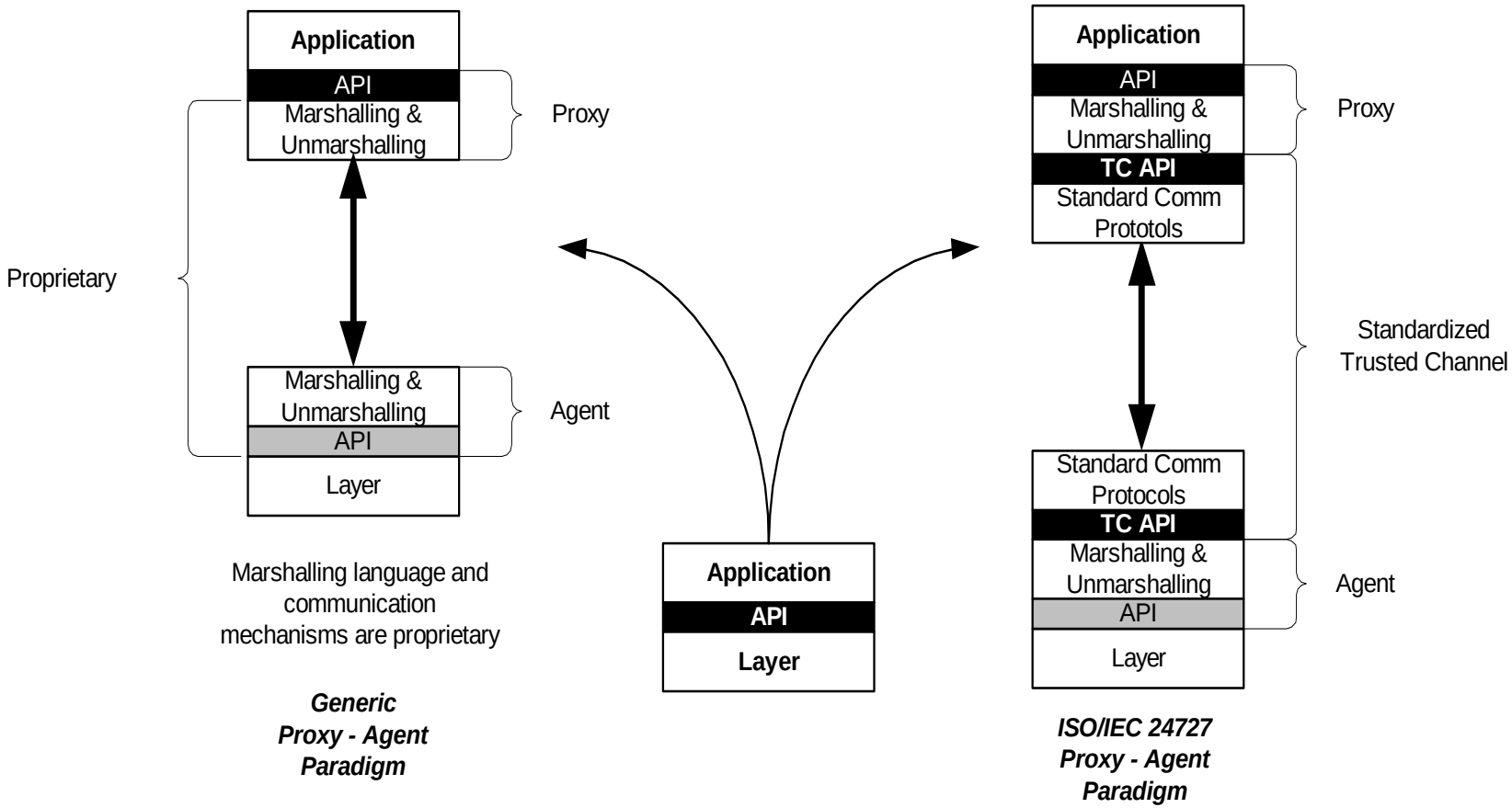
ISO/IEC 24727
Stack Configurations

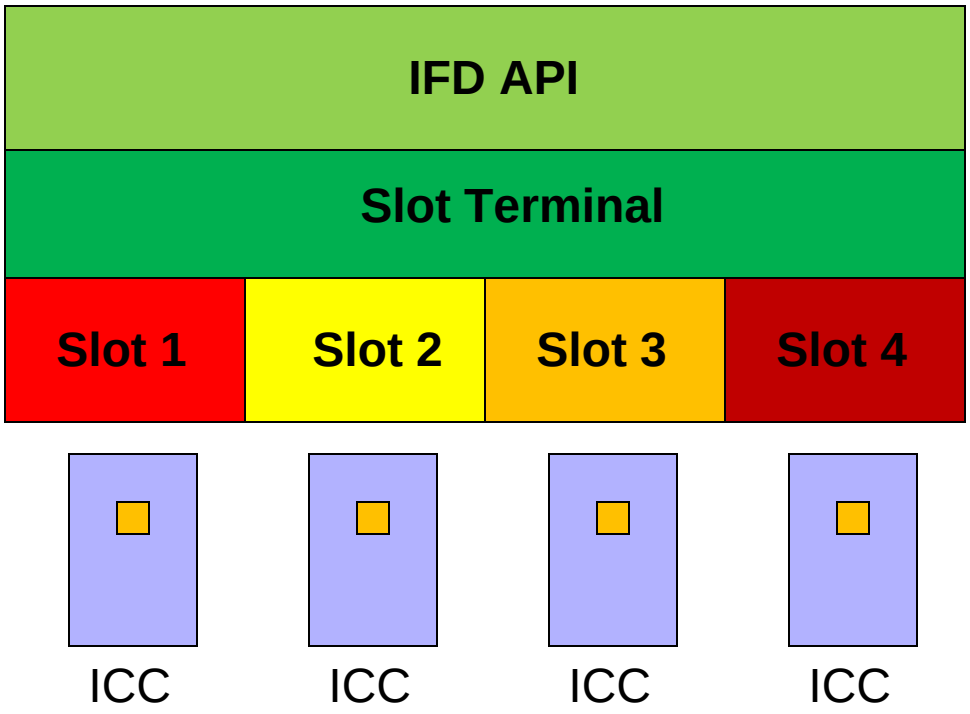
Proxy and Agent Architecture



Proxy-Agents via Trusted Channel



IFD API


IFD API
Slot Terminal
Slot 1
Slot 2
Slot 3
Slot 4
ICC
ICC
ICC
ICC

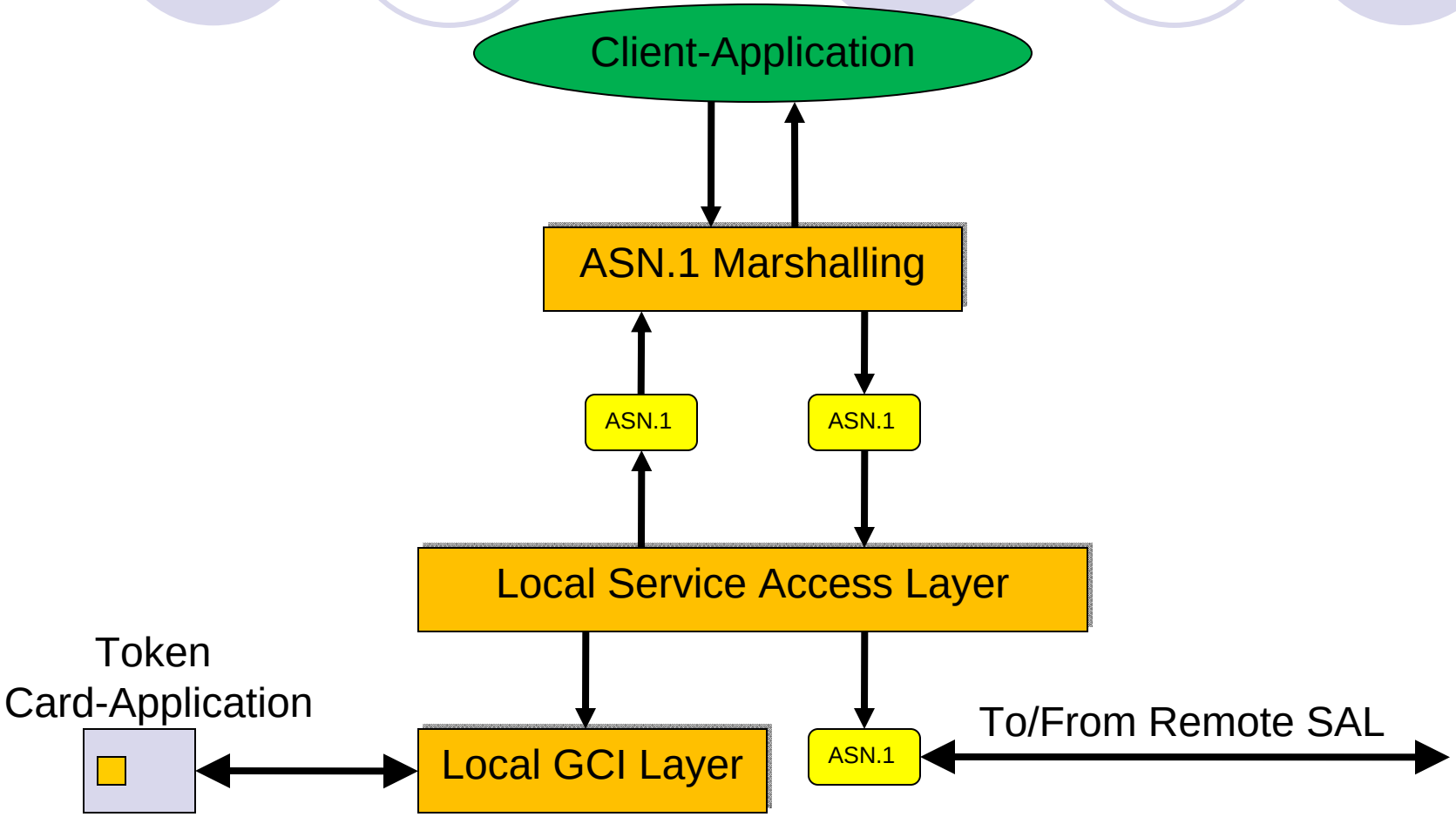
ASN.1 Representations

- ASN.1 is a formal language
- ISO/IEC 24727 uses ASN.1 to specify the interface requests in ISO/IEC 24727-3 & 4
- An ASN.1 representation of each request allows the interoperable implementation of a general PROXY-AGENT mechanism
- ASN.1 is also used to specify authentication protocols

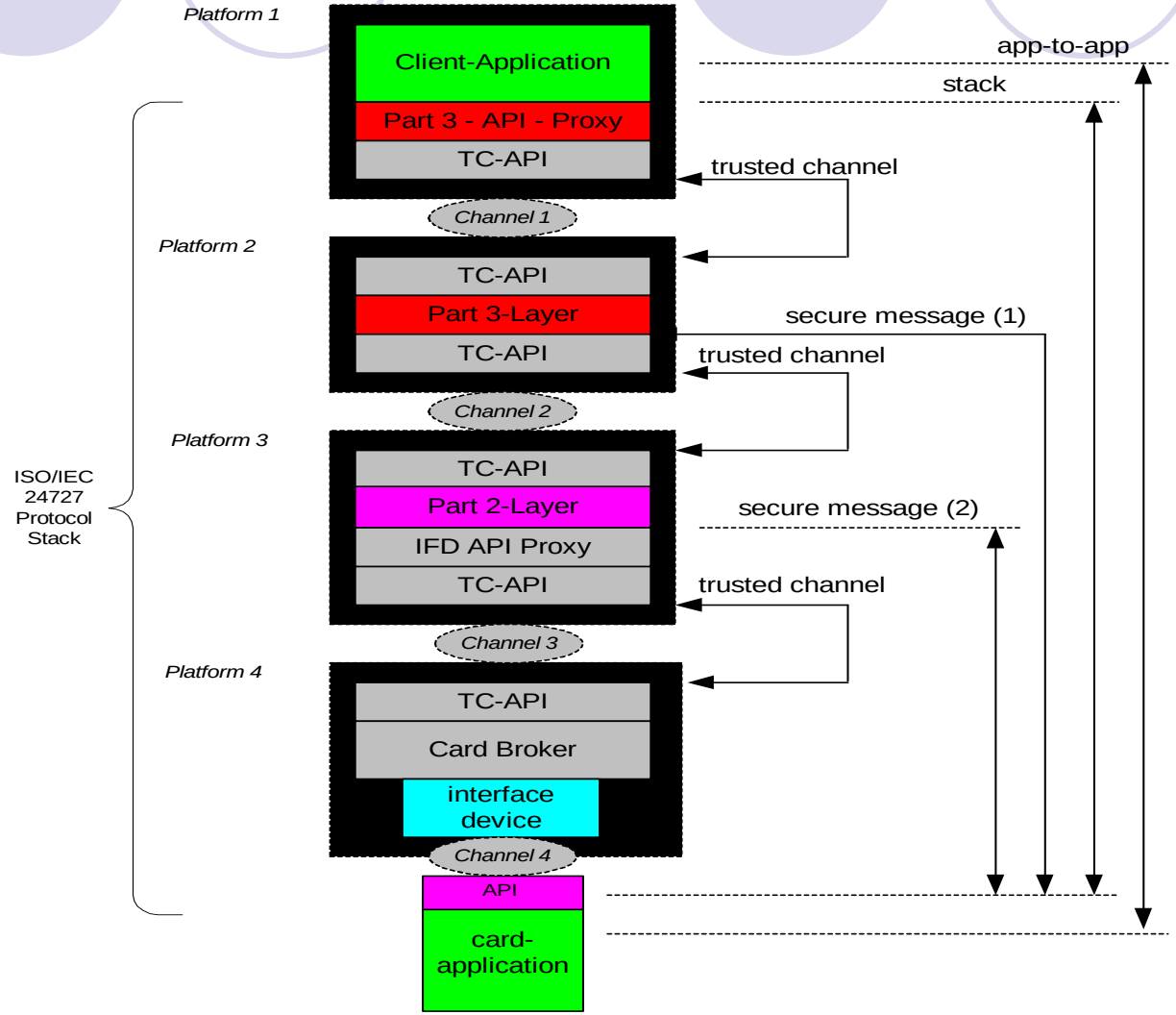
Flexible Stack Configurations

- ISO/IEC 24727 Generic Stack
- Loyal Stack
- Remote ICC Stack
- ICC Resident Stack
- Opaque ICC Stack
- Remote Loyal Stack
- Full Network Stack

Accessing SAM & Remote ICC Stack

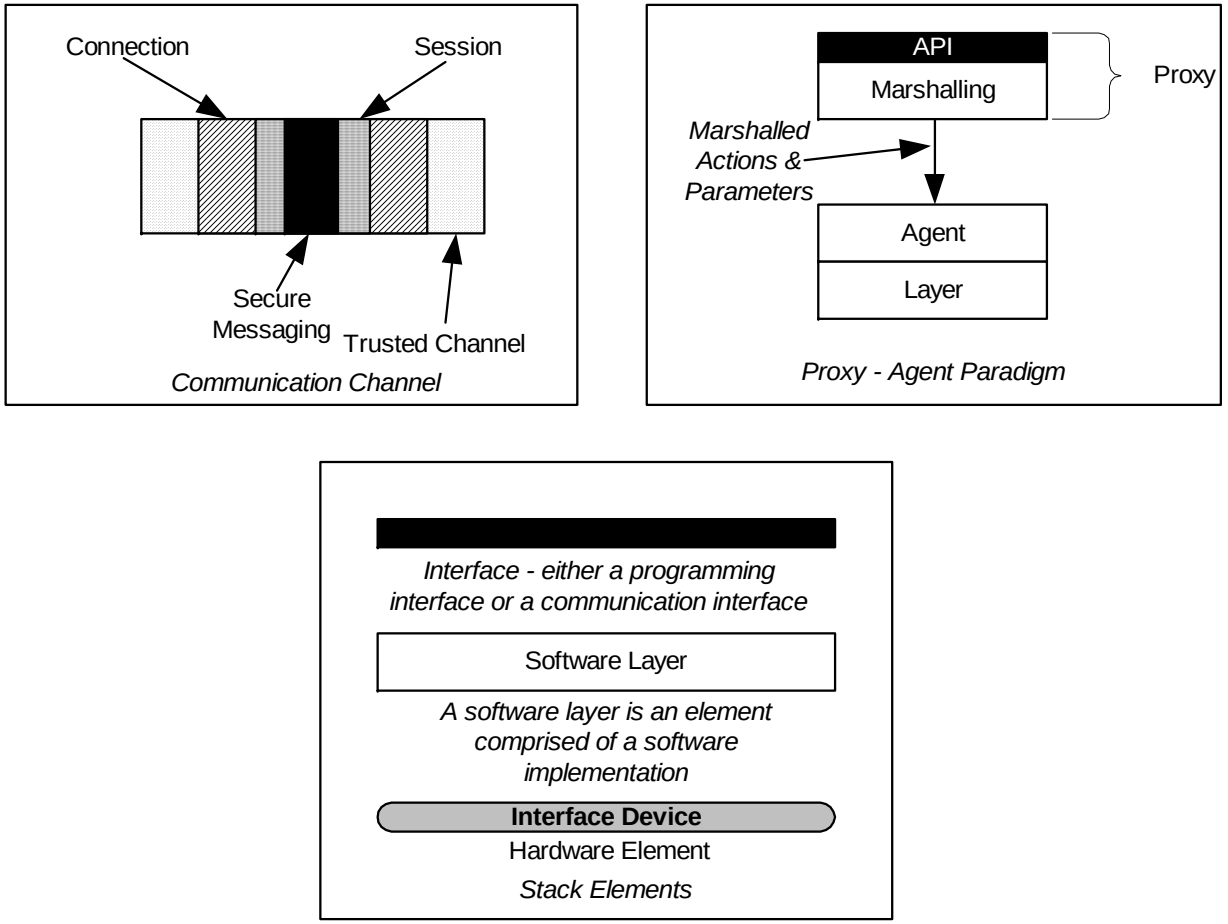


ISO/IEC 24727 Generic Stack

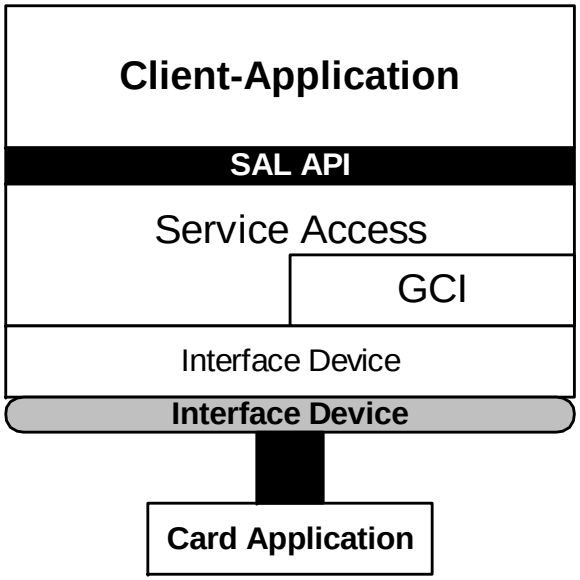


Stack Legend

Figure Legend



Loyal Stack



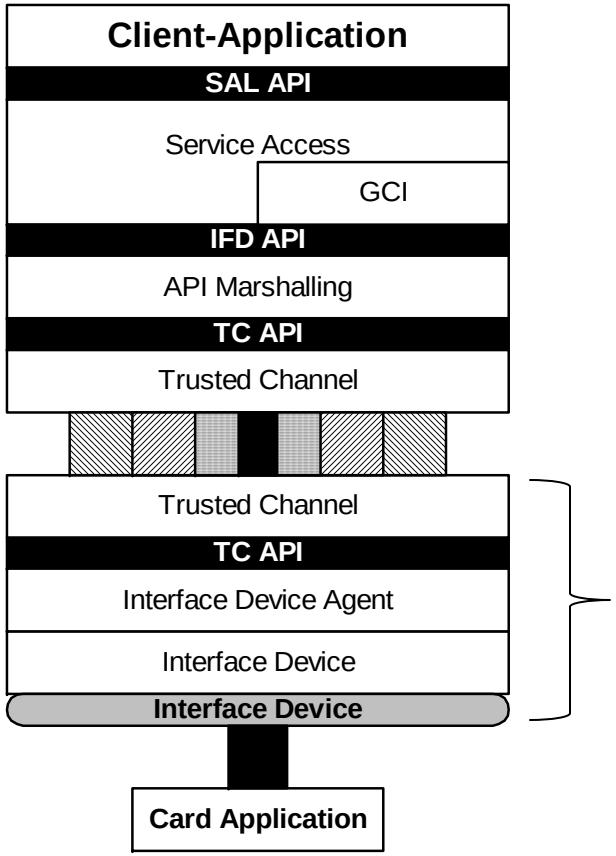
Stack Configuration

The most common current smart card stack configuration

Two interoperability points:

- at the SAL API
- at the card-application

Remote ICC Stack

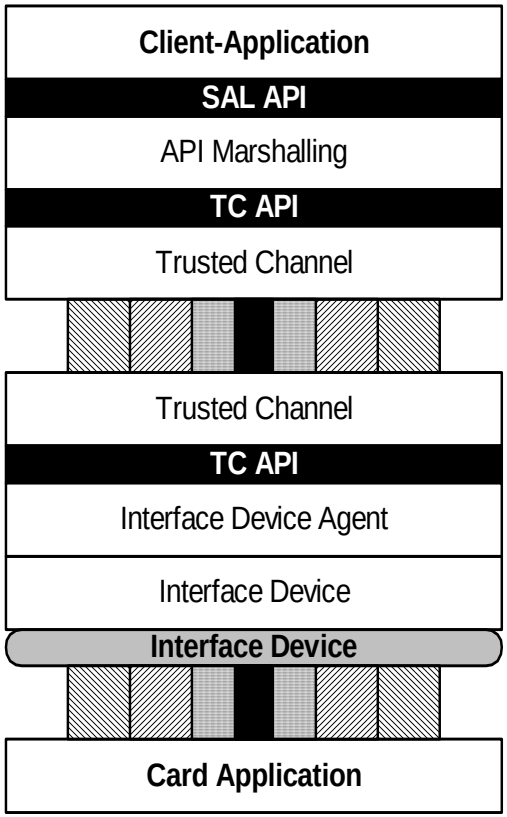


Stack Configuration

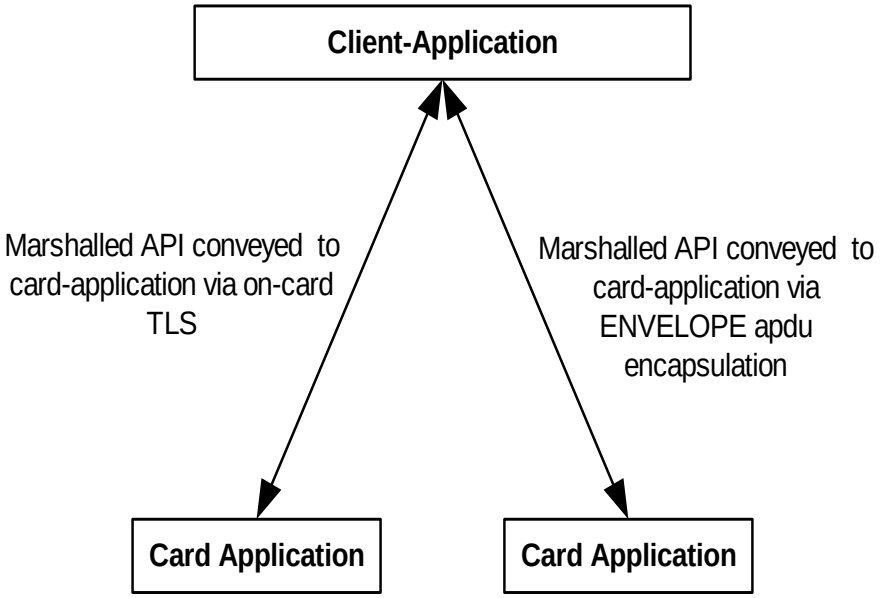
This configuration closely matches a GlobalPlatform remote configuration

Remote platform can be adversary

ICC Resident Stack

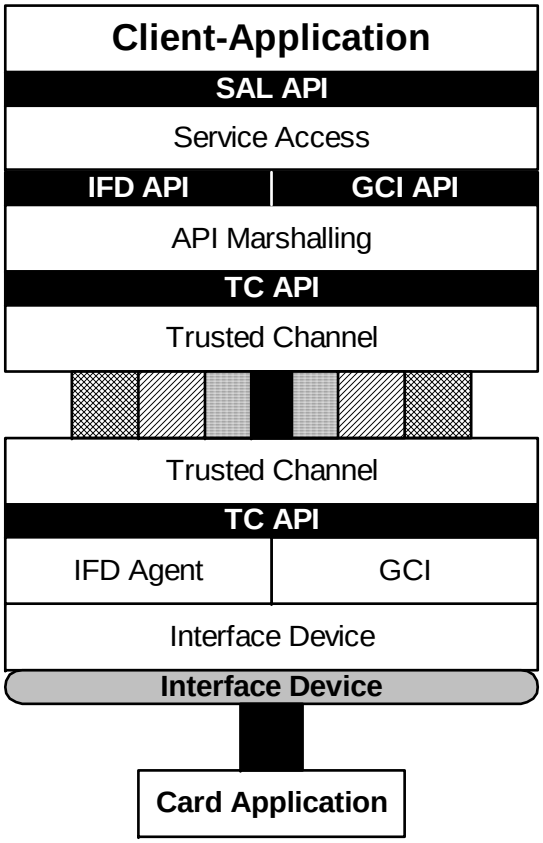


Stack Configuration



Two path mechanisms between client-application and card-application

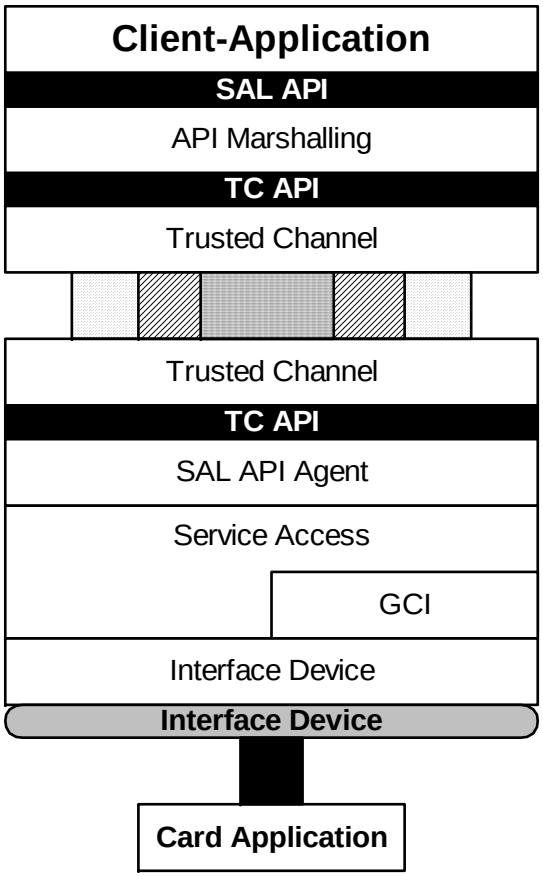
Opaque ICC Stack



Stack Configuration

This configuration supports a POS Terminal based on a GCI interface

Remote Loyal Stack

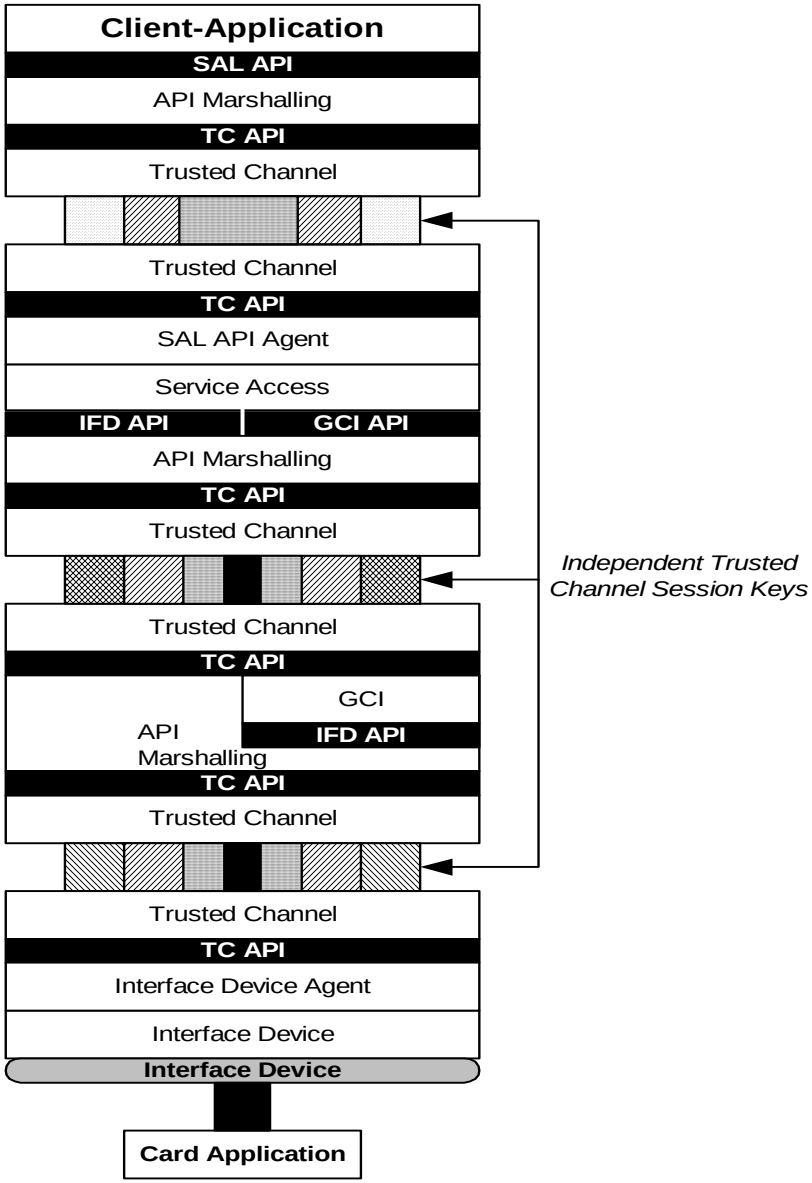


Stack Configuration

This stack configuration supports a very
High level terminal architecture
e.g. a cell-phone application serving
As an IAS service provider

Full Network Stack

A configuration aimed at testing



Stack Configuration