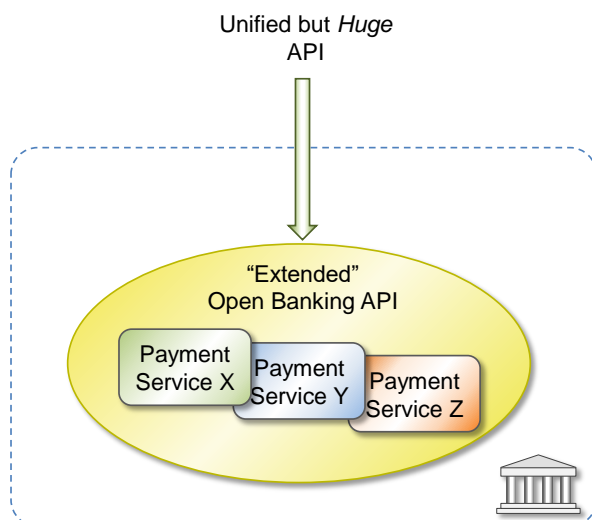


The Berlin Group's Signed Payment Request (SPR) proposal builds on the **Embedded SCA** concept. This paper compares Embedded SCA with another scheme known as **Direct Mode**.

Feature	Embedded SCA	Direct Mode	Comment
Multiple Development Options	✗	✓	Direct Mode permits <i>anybody</i> to develop a payment service including keeping the design <i>private</i> .
Platform Independence	✗	✓	Since Direct Mode services are <i>external</i> to Open Banking APIs, they may build on any suitable platform.
Easy to Standardize	✗	✓	Direct Mode only requires a <i>single</i> and fully standardized change to work, while Embedded SCA is a framework leaving 99% to payment service developers to define.
"Sandbox" Compatible	✗	✓	Direct Mode payment systems can be developed, demoed, and marketed based on "Sandbox" implementations.
"Cloud" Compatible	✗	✓	Direct Mode permits multiple deployment models, including running payment services in the cloud.
Service Isolation	✗	✓	Direct Mode makes it logical running payment services on dedicated hosts making maintenance and upgrades more manageable than in <i>monolithic</i> Open Banking API implementations.
Support for popular P2P payment systems like "Swish"	✗	✓	Direct Mode services are <i>unrestricted</i> with respect to flow, security, and processes.
Cost Efficient	✗	✓	Direct Mode makes it technically possible creating a <i>single implementation/code base supporting all Banks</i> . This is probably a prerequisite for third party vendor support.
Concerted Updates	✗	✓	Updating Embedded SCA applications should be <i>quite challenging</i> due to the diversity of Open Banking implementations.
EPI (European Payment Initiative) Compatible	?	✓	Direct Mode imposes no constraints. Possible limitations are more likely to be in the Open Banking platform.
Security / Authentication	✓	✓	In the Direct Mode security maintained by each of the connected services on their own. Each payment service must also authenticate to the Open Banking service. In the Embedded SCA model most of the security is confined to implementations-specific solutions inside of the Open Banking framework. <i>These methods should be comparable although it seems that it should be easier to audit software that is 1) used by more customers 2) is not a part of another framework.</i>

Embedded SCA



Direct Mode

