


WHY SERVICE-ORIENTED ARCHITECTURE WILL SUCCEED IN DEFINING FUTURE ATM SYSTEMS

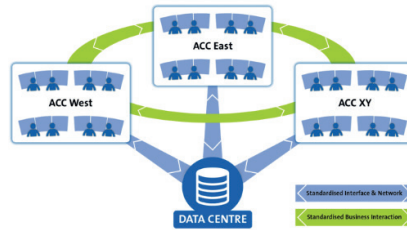
By Damien Chambon, solution architect, Skysoft-ATM

 Service Oriented Architecture is one of the trendiest terms in the ATM world these days. Initiatives such as Virtual Centre or SWIM promote this architectural style as an answer to support an interoperable system for an integrated sky, and the trend is gathering speed.

Service orientation in the broad sense, especially if it is done right such as using the microservice architecture as defined by Martin Fowler, can be the answer to one ATM's biggest challenges: the heterogeneity of IT systems.

SkySoft-ATM are working with Skyguide (Swiss Air Navigation) to implement a Service Oriented Architecture (SOA).

By standardising the architecture and the interfaces between Front-End and Back-



End, SOA opens data processing and supply activities up to competition. Individual Air Navigation Service Providers (ANSPs) will no longer be compelled to purchase a fully-fledged system of their own but will be able to acquire services from competitive suppliers or share equipment with other providers as long as interfaces are common

and well-defined. We can then imagine a new model where existing IT service providers are able to establish a service catalogue. This catalogue becomes the definition of a “Virtual Centre” where ANSPs can subscribe to ATM services using key SOA concepts, such as loose-coupling and location transparency.

Service orientation is first a way of thinking. However, the high-level concept also hides a lot of complexity. It's a play that requires coordination at the requirements level, and a strategy for the incremental replacement of monolithic legacy systems by many lean and specialised components exposing standardised atomic services. Just another challenge to bring ATM systems into a new era! ❖

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