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Creating a Network-Centric Danish Army using a Service-Oriented Strategy:
Dealing with Graceful Degradation of Services
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Please note: We are only in the middle of the current step of the project, and we expect a demonstrator to be ready in 2nd half of 2007.

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Abstract: The first steps towards a Network-Centric Danish Army Enterprise using a Service-Oriented strategy are taken in the most challenging of environments: Highly mobile units stationed in countries with extreme conditions such as flat or mountainous terrain, sandstorms, extremes of temperature, and so on. In an effort to create a Network-Centric Demonstrator scheduled for later deployment, the Danish Army has decided to tackle these challenges jointly with actors from the Defence industry. In addition to dealing with the challenges of creating a secure IP network on variable technology, the demonstrator will also show how to enable Services from existing systems and handle graceful degradation of Services, depending on availability. Availability can be affected by change of bandwidth, Services being out of reach, vehicles being overtaken by enemy, and such like. This paper first shows how to create a Service-Oriented Infrastructure for a truly distributed environment, built on a flexible network setup between highly mobile units using different underlying technologies for communication, such as HF, Wi-Fi, and others. Secondly, it presents a strategy for dealing with the graceful degradation of Services, for example how to handle changes in the availability of Services while managing to maintain a powerful solution.