3GPP TSG-SA WG1 Meeting #62 S1-133083
New Delhi, 6th – 10th May 2013
Agenda Item 5.2
Source: General Dynamics Broadband

Discussion on Resilient E-UTRAN Operation for Public Safety

Paul Piggin Paul.Piggin@gd-broadband.com

Phil Young Phil.Young@gd-broadband.com

Mission Critical Communication for Public Safety

Key Requirements(1):

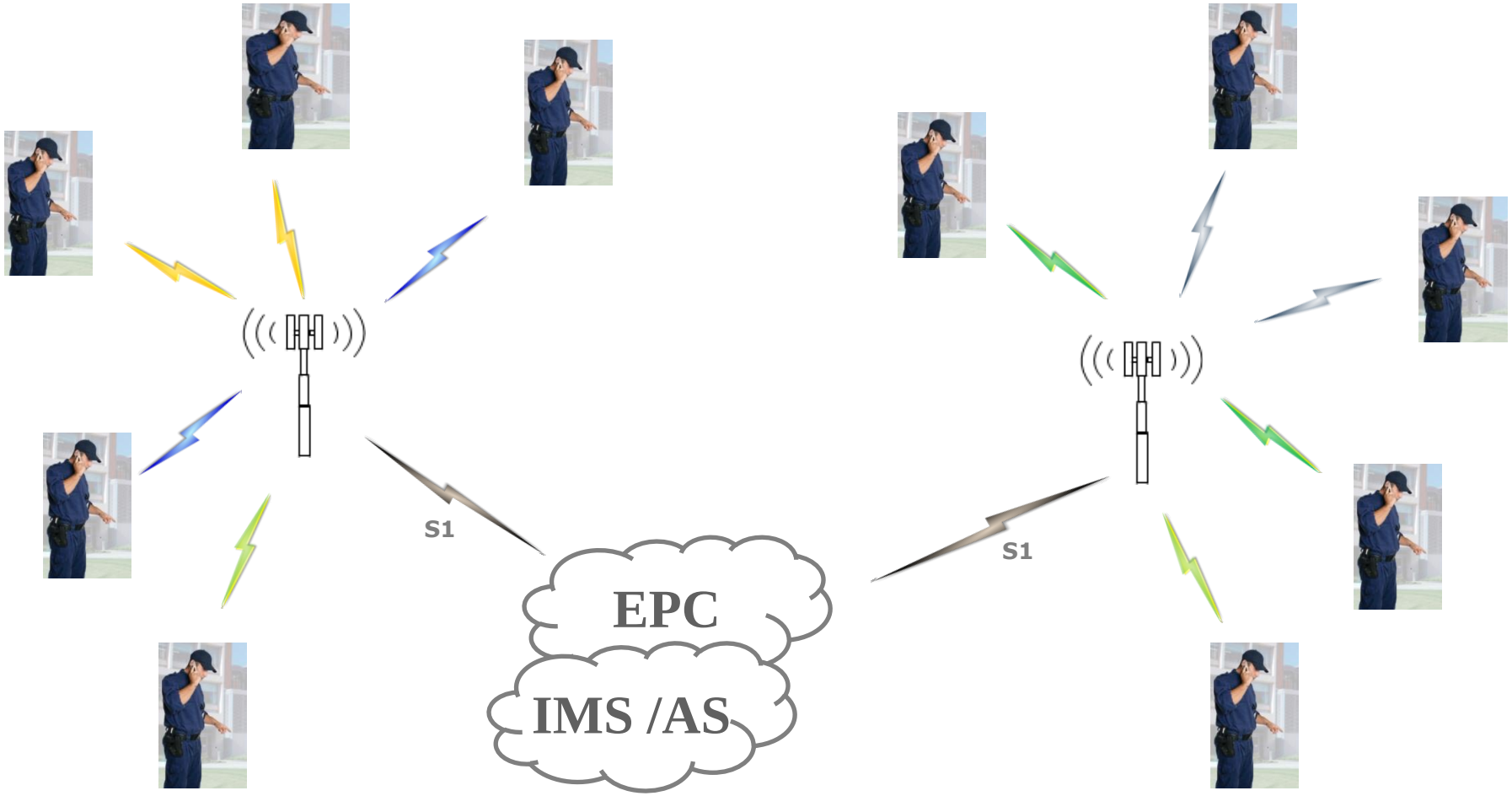
1. Infrastructure must be resilient and highly reliable
2. Communication must be reliable
3. Communication must be secure
4. Point-to-multipoint communication must be supported

Infrastructure must be resilient and highly reliable:

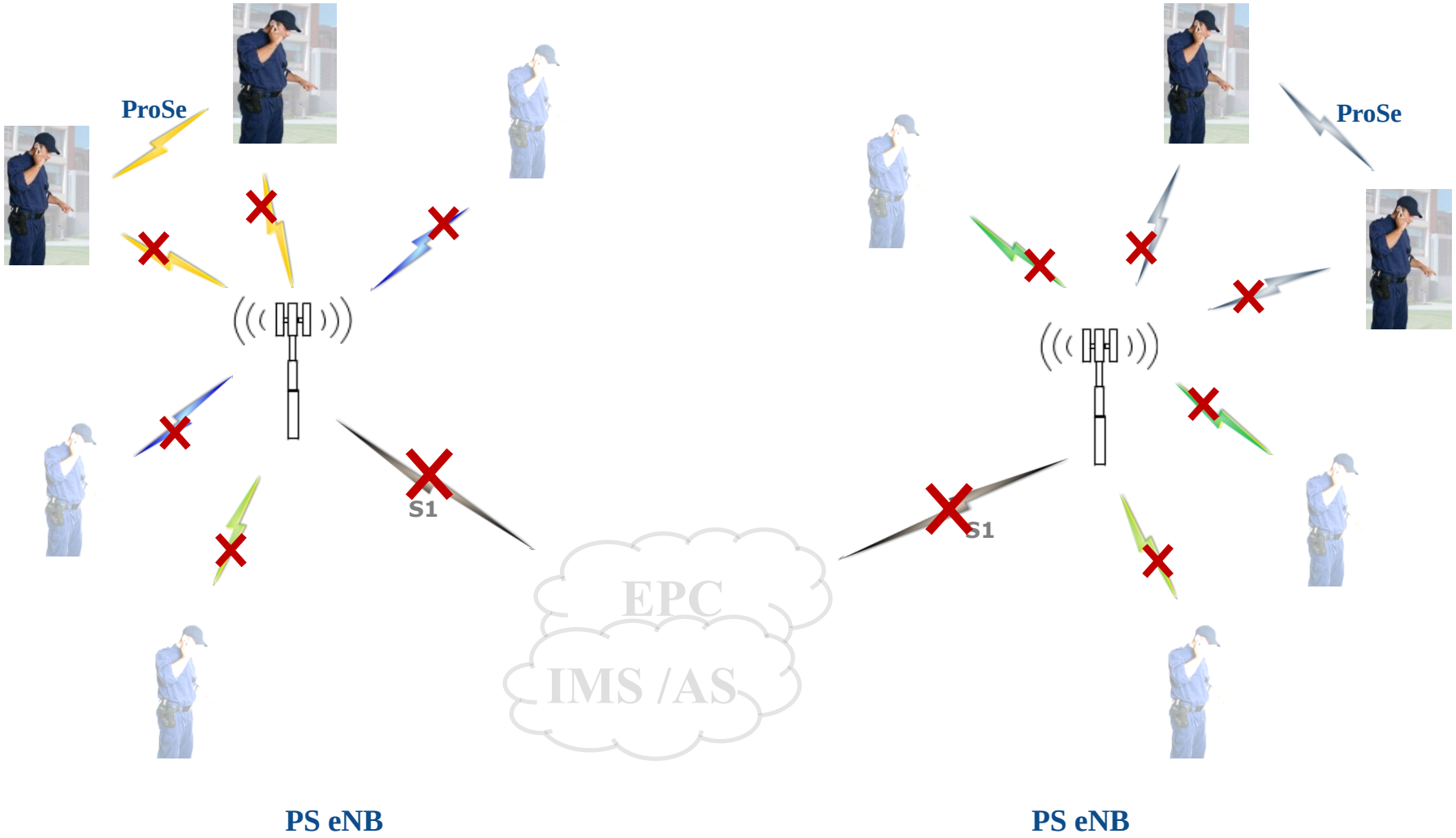
"This is normally achieved with the help of a redundant network architecture, redundant links between network elements and fail-safe network elements. Furthermore, base stations can increase the availability of their cells by operating in a fallback mode and by providing a minimum service when the connection to the infrastructure gets lost and when network wide services cannot temporarily be supported."

(1): "Evolution of TETRA" white paper by P3-Group
http://www.p3-group.com/downloads/4/1/7/5/P3_-_Evolution_of_TETRA_-_White_Paper_-_v1.0.pdf

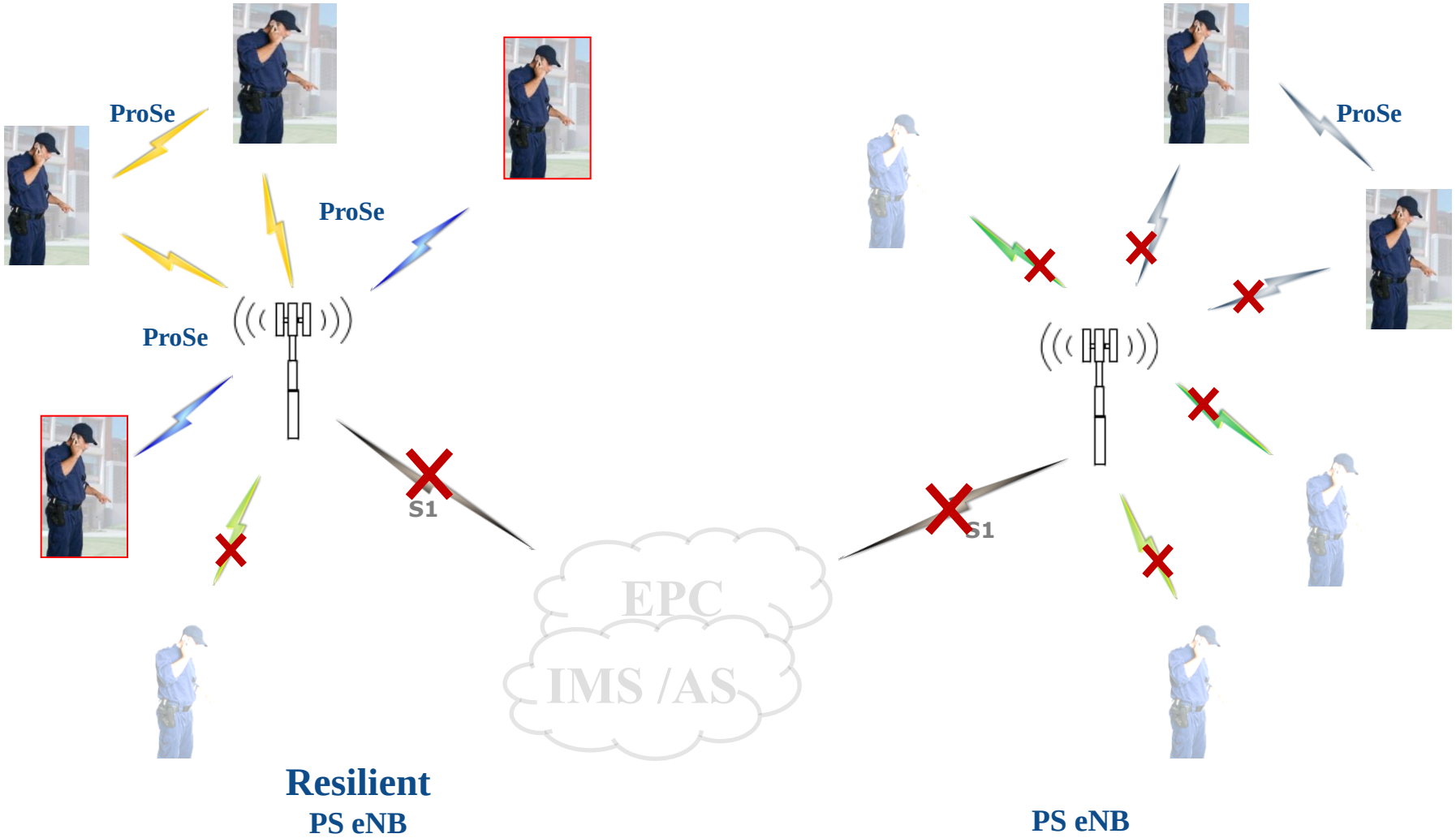
Communications Before Loss of Backhaul



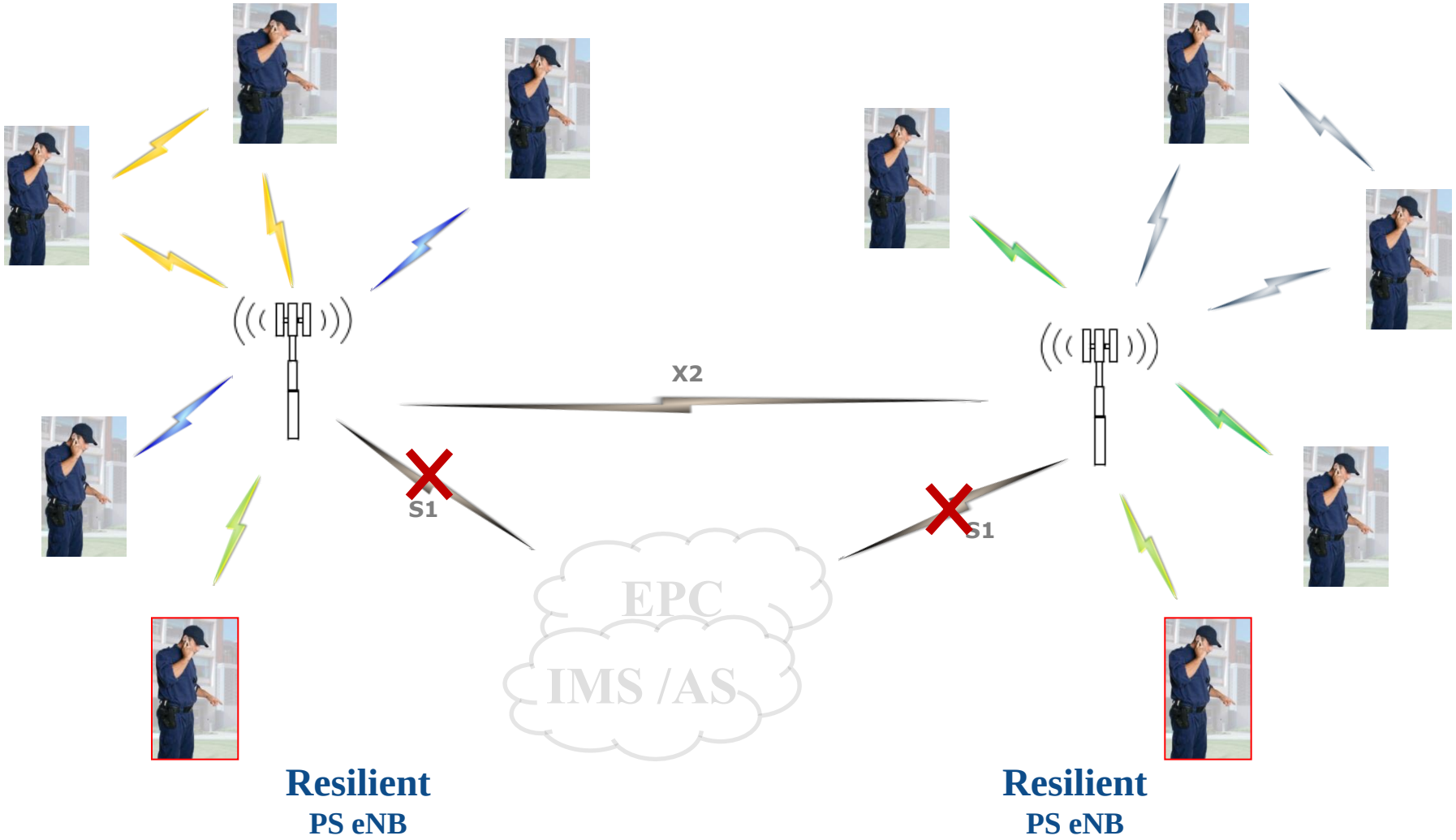
After Loss of the Backhaul, ProSe Offers Localised Islands of Communication



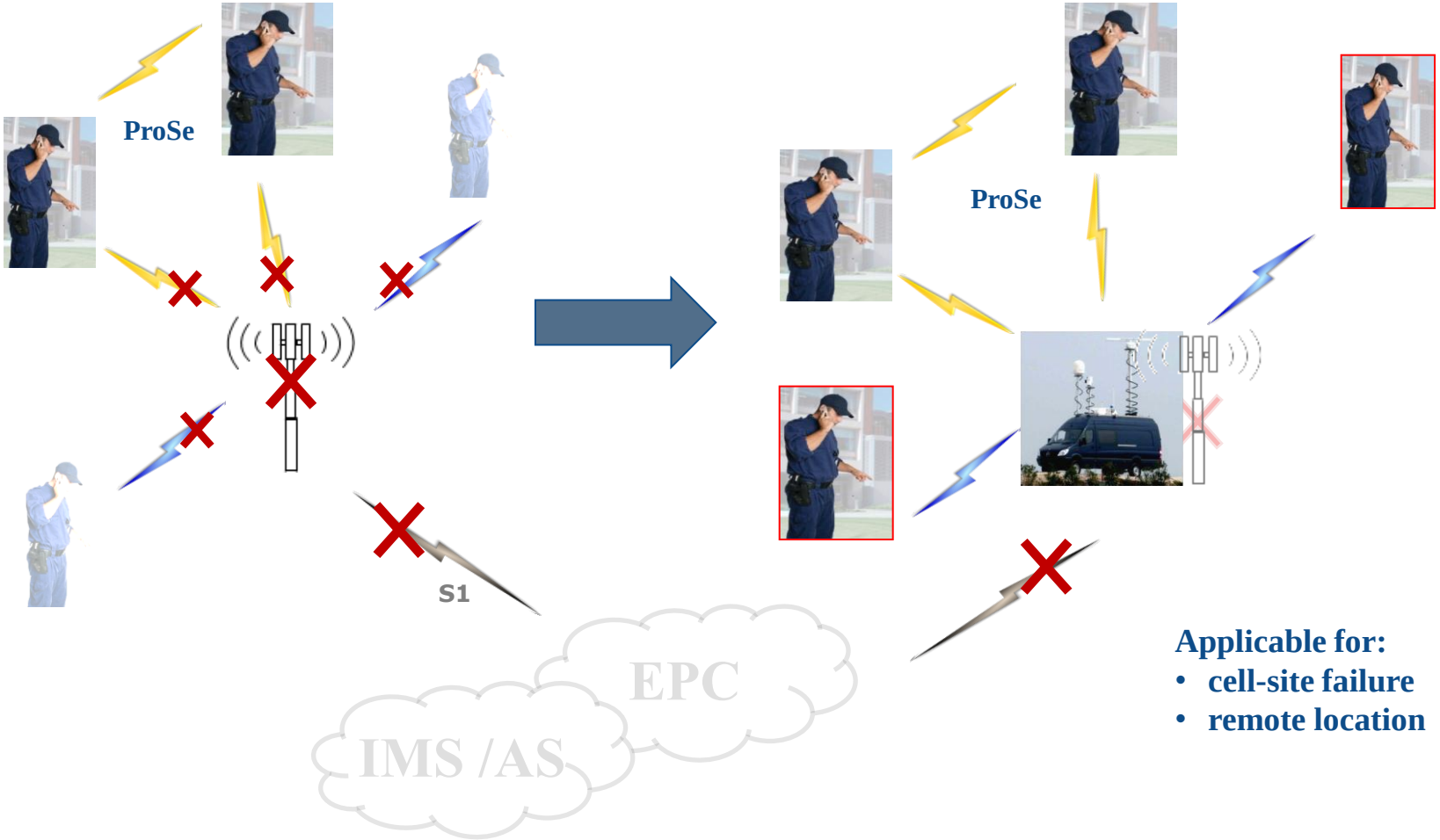
Resilient PS eNB Offers Wider Coverage for ProSe Services After Loss of Backhaul



An X2 Connection Between Resilient PS eNBs Could Offer Even Greater Reach for ProSe Services



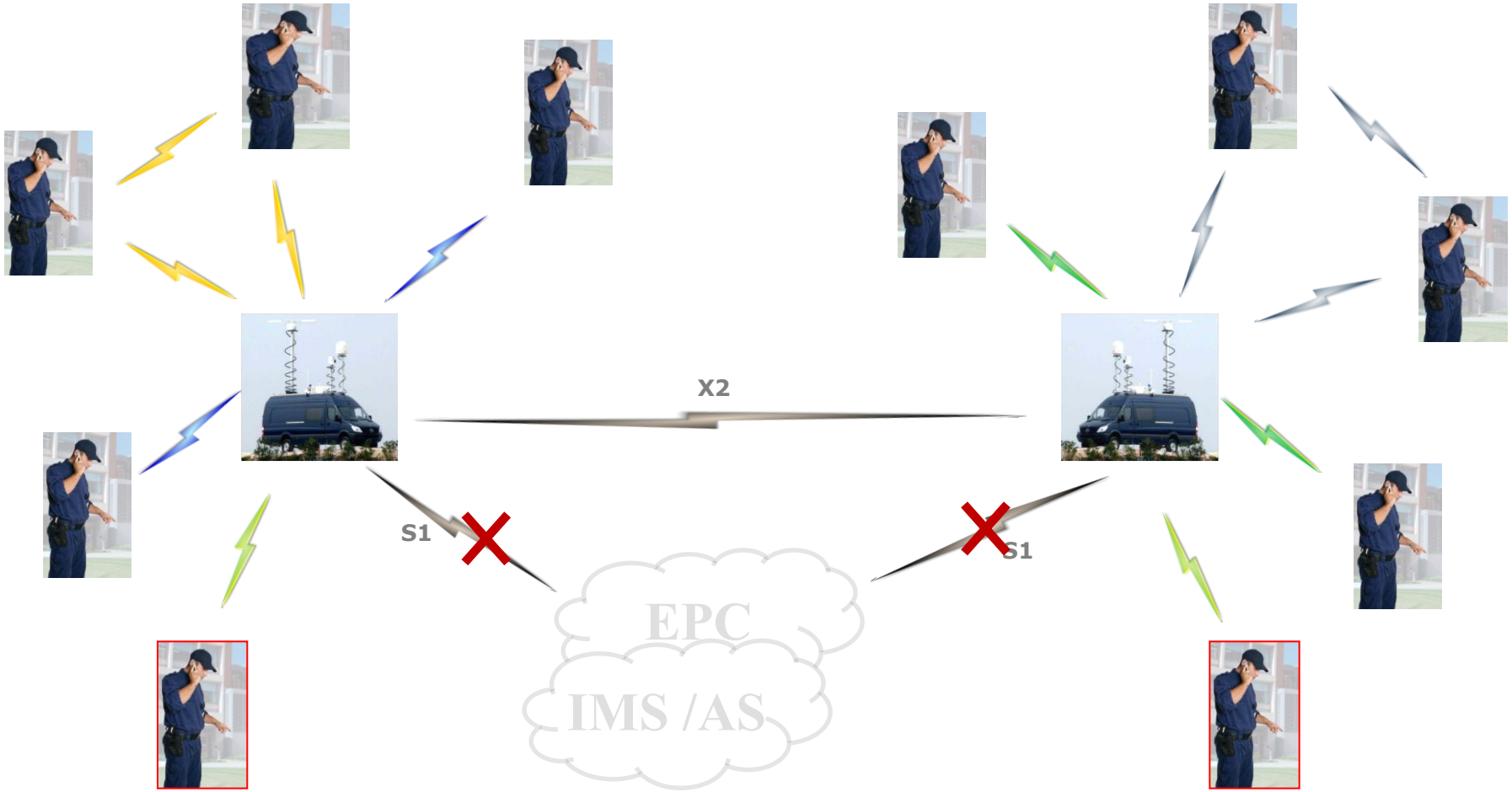
Deployment of a Mobile Command Post Supporting ProSe Services



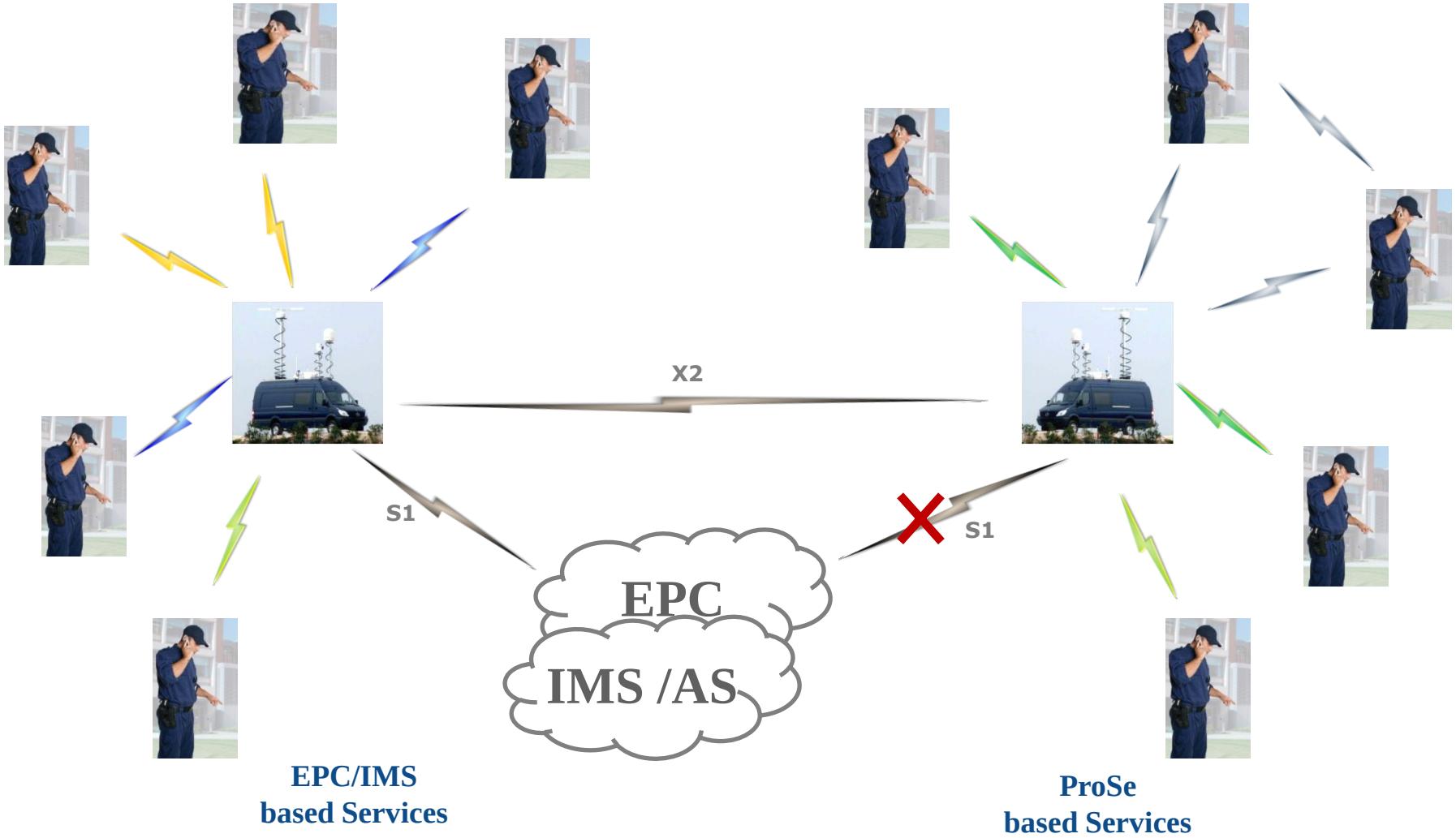
Applicable for:

- **cell-site failure**
- **remote location**

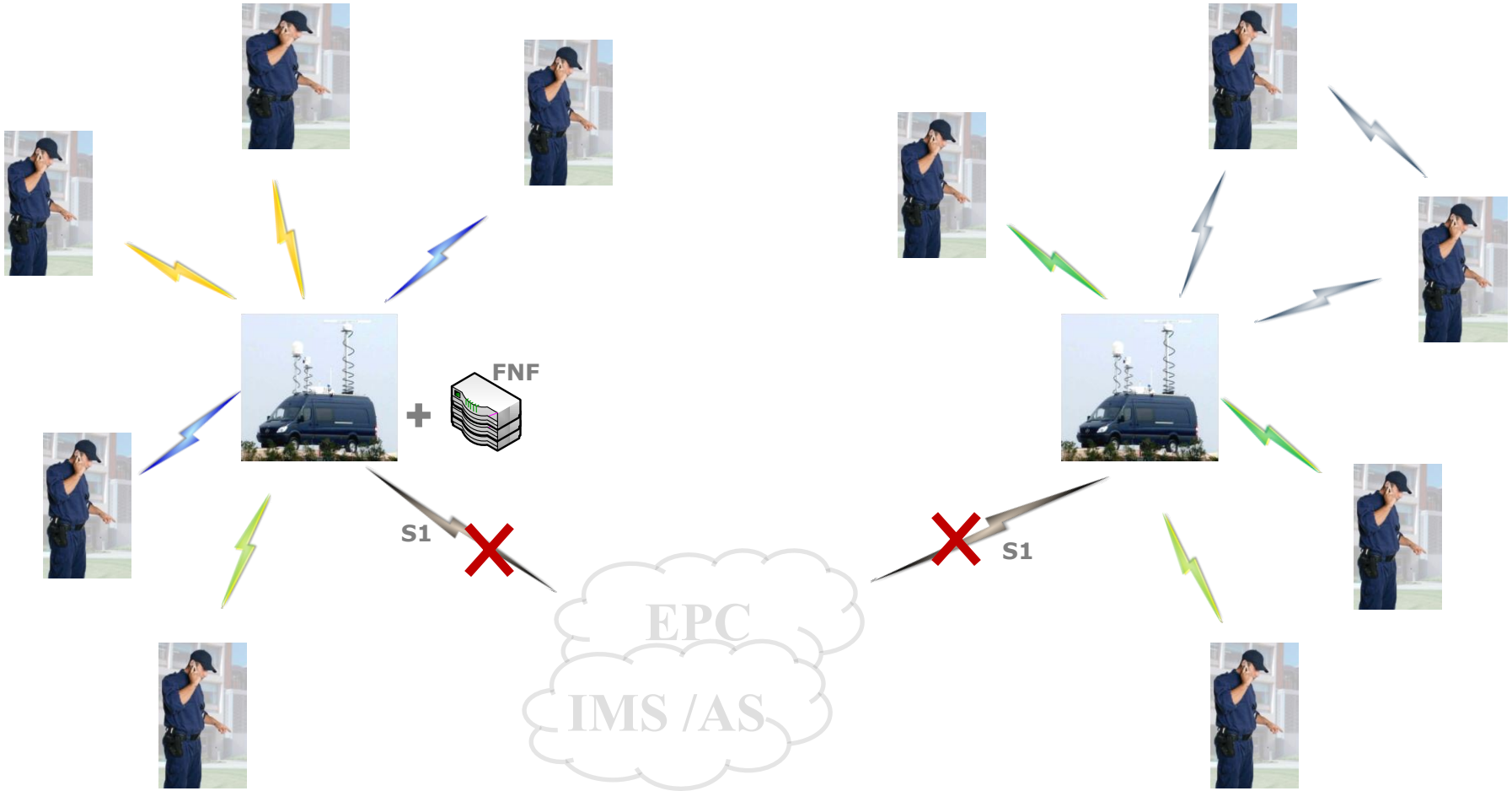
An X2 Connection Between Mobile Command Posts Could Offer Greater Reach for ProSe Services



Microwave Backhaul for a Mobile Command Post Could Restore Access to EPC/IMS Services



Fallback Network Function in Mobile Command Post Offering Localised Access to "EPC/IMS" Services

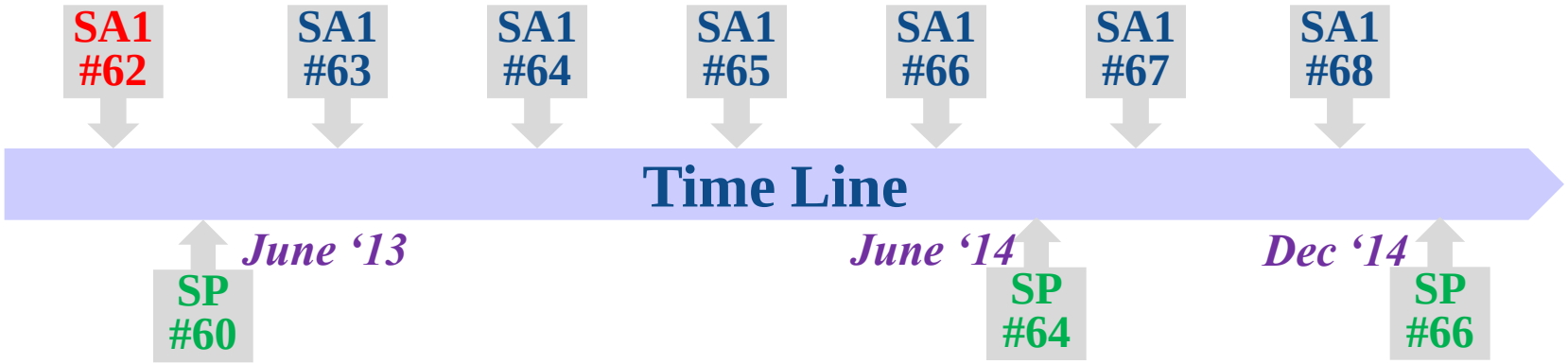


Fallback "EPC/IMS" based Services

ProSe based Services

Tentative Time Scale

SA1 #62:	**Propose study item to SA1**
SP #60:	**Approved study item**
SA1 #63-66:	**Develop use cases and potential requirements**
SP #64:	**Approved study report**
SA1 #67-68:	**Specify service requirements for Rel-13**



Proposed Study Item

Draft WID for Study Item:

S1-133084

Draft Feasibility Study on Resilient E-UTRAN Operation for Public Safety

Expected Output of Study Item:

Technical Report regarding Feasibility Study on Resilient E-UTRAN Operation for Public Safety