



Technology Work Session for the South African Army; Hosted by the CSIR

Command and Control

Command Centre of the Future's Dismounted Soldier

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Outline of presentation

- Introduction
 - Current & Future Realities
 - ICT Trends
- Requirements
- Technologies
- Examples
- Conclusion

Dismounted Soldier Current & Future Realities

Expanding Role

Operations other than war

From foot soldier to strategic corporal

Involved and making decisions

Interacting with population

Interacting with collaboration partners

“Born Digital”

Technology enabled

Digitally Socially Active



Information and Communication Technology Trends

Ubiquitous communications

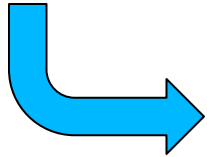
Mobile Computing

Applications availability

Bandwidth availability

Requirements for the Future Dismounted Soldier C2

Joint Interdepartmental Multinational operations



“Intense Collaboration”

Requirements for landwards military operations by 2020:

- Superior situational awareness
- Effective layers of command and control
- Broad use of modelling and simulation

Online Social Networks

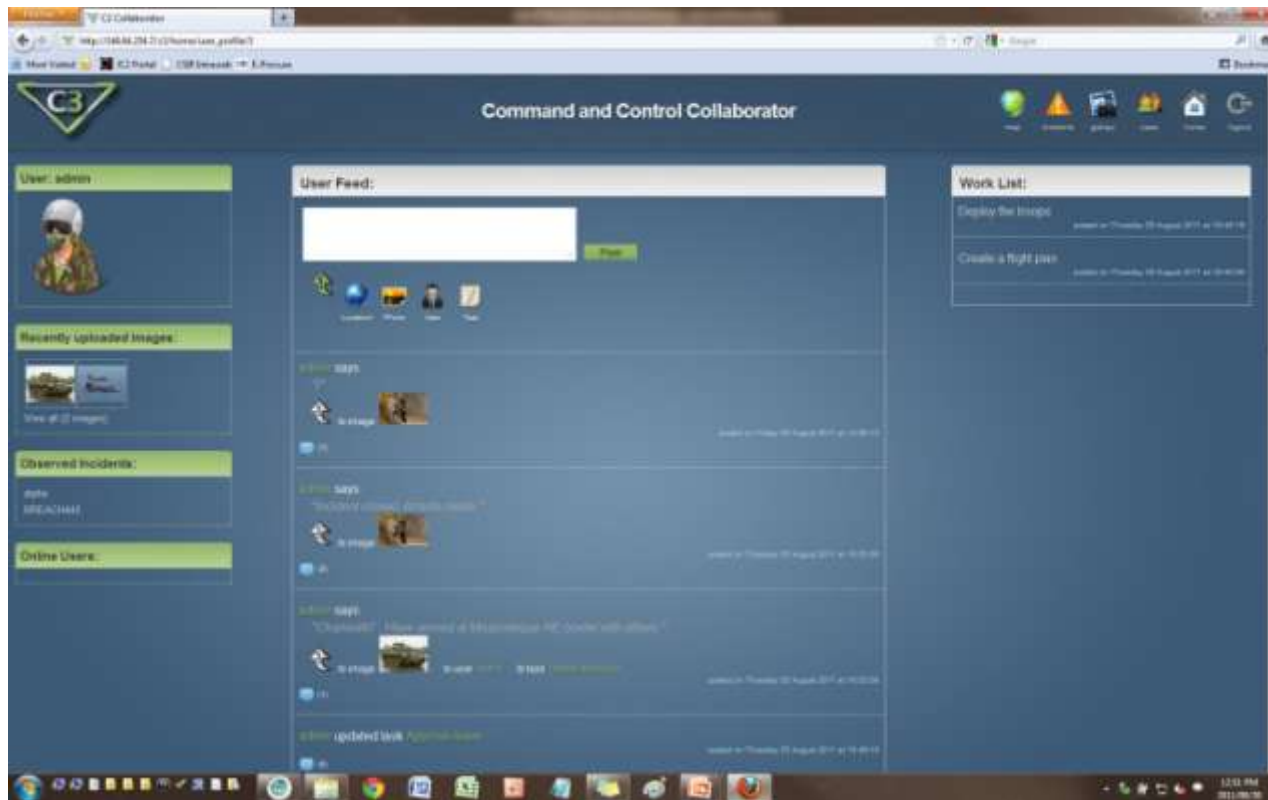
{An online community sharing interests and information via the Internet}



Technologies for the dismounted soldier C2

Online Social Networks

*Current Experiments include a C2 Collaborator
“The C2 Facebook”*



Technologies for the dismounted soldier C2

Apps {Small application with a narrow focus and specific function}



Mixed Mode Communications

{Communications using a variety of protocols changing as required}

Newly Released iPad 3 specifications

4G LTE (700, 2100 MHz)2·

UMTS/HSPA/HSPA+DC DPA (850, 900, 1900, 2100 MHz);

GSM/EDGE (850, 900, 1900 MHz);

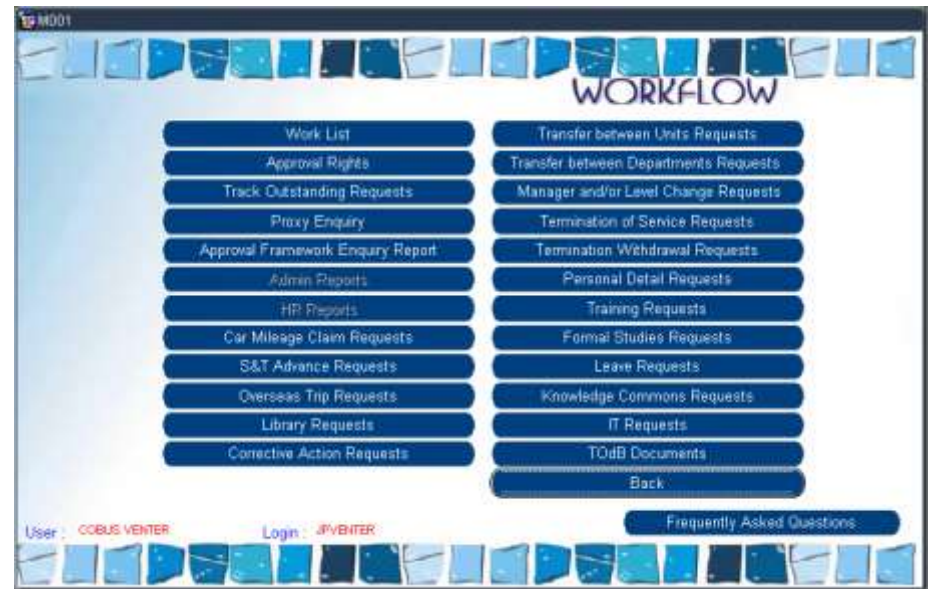
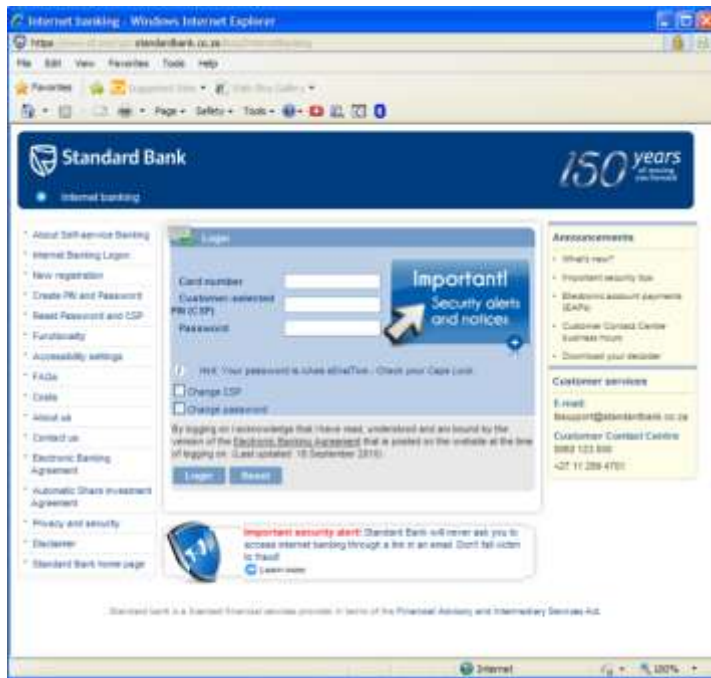
Wi-Fi (802.11a/b/g/n)

Bluetooth 4.0 technology

Technologies for the dismounted soldier C2

Web Applications

{An application that is accessed over the network via a web browser}

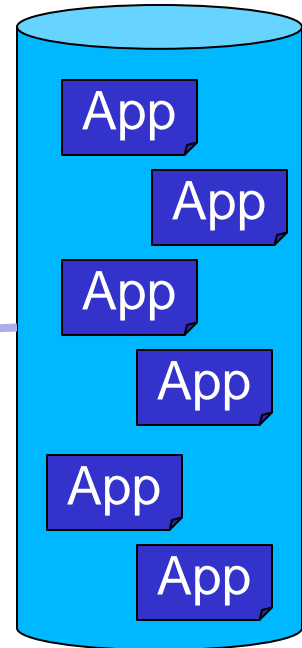


Web Applications

{An application that is accessed over the network via a web browser}



Multi-Function
access
on demand

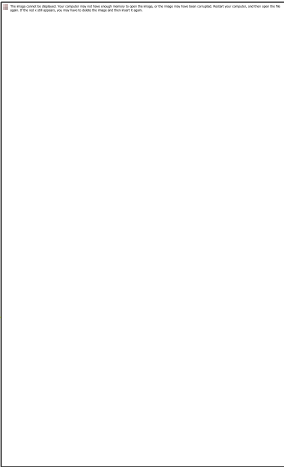
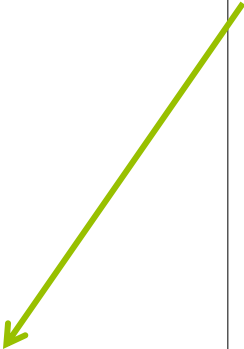


Blue Force Tracking

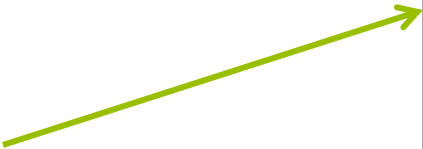
{Positional Information of Own Forces including collaborators}



IMPI
- GSM, Satellite, ..



GPS Mic
- Attached to tactical radio



Technologies for the dismounted soldier C2

Mobile Computing

{Powerful, small, mobile, computing devices with integrated communications}

*Rugged Tablet
Computer
GD3070*



*General Purpose Tablet
iPad*

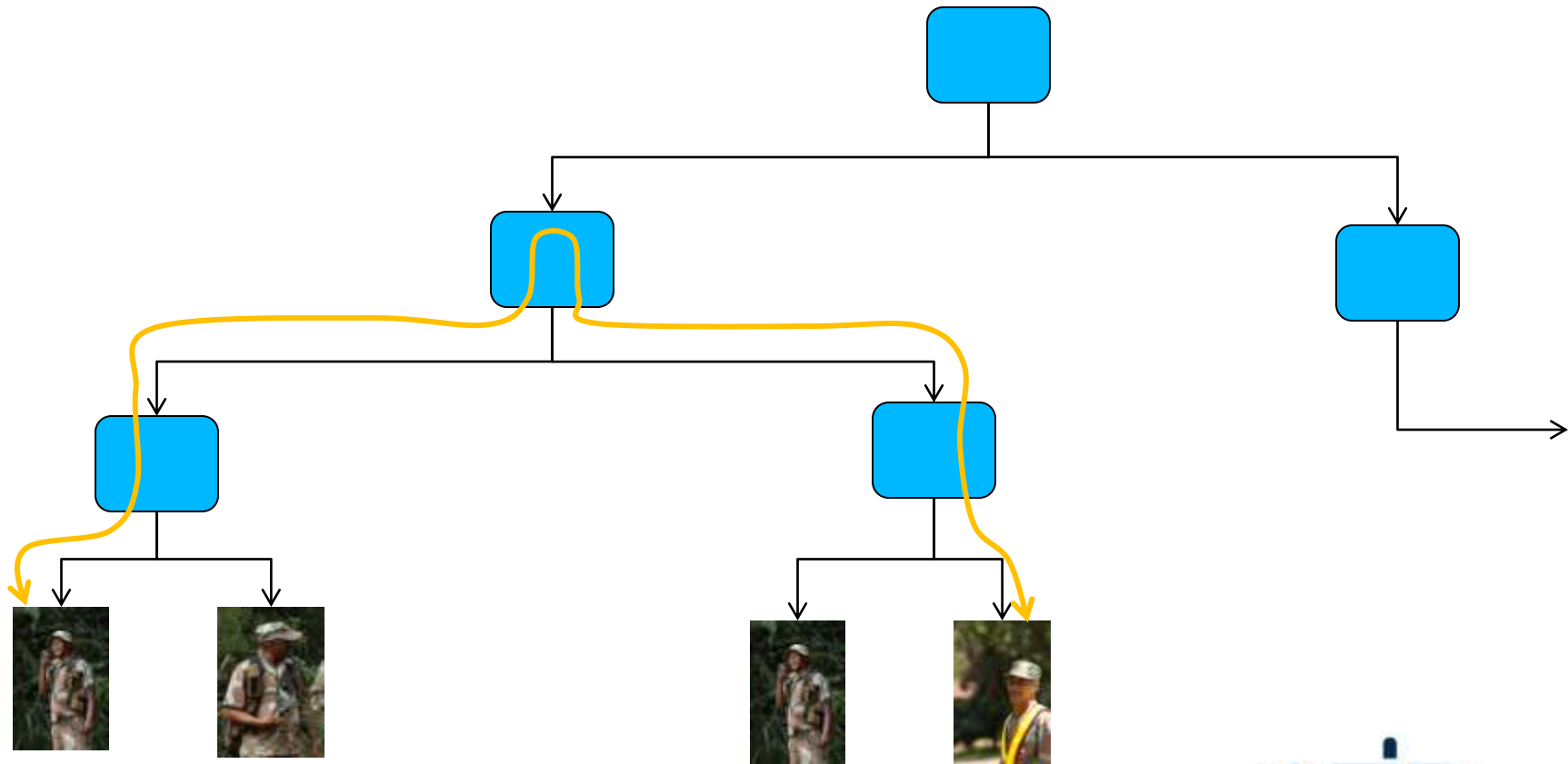


*Wrist Computer
GD300*



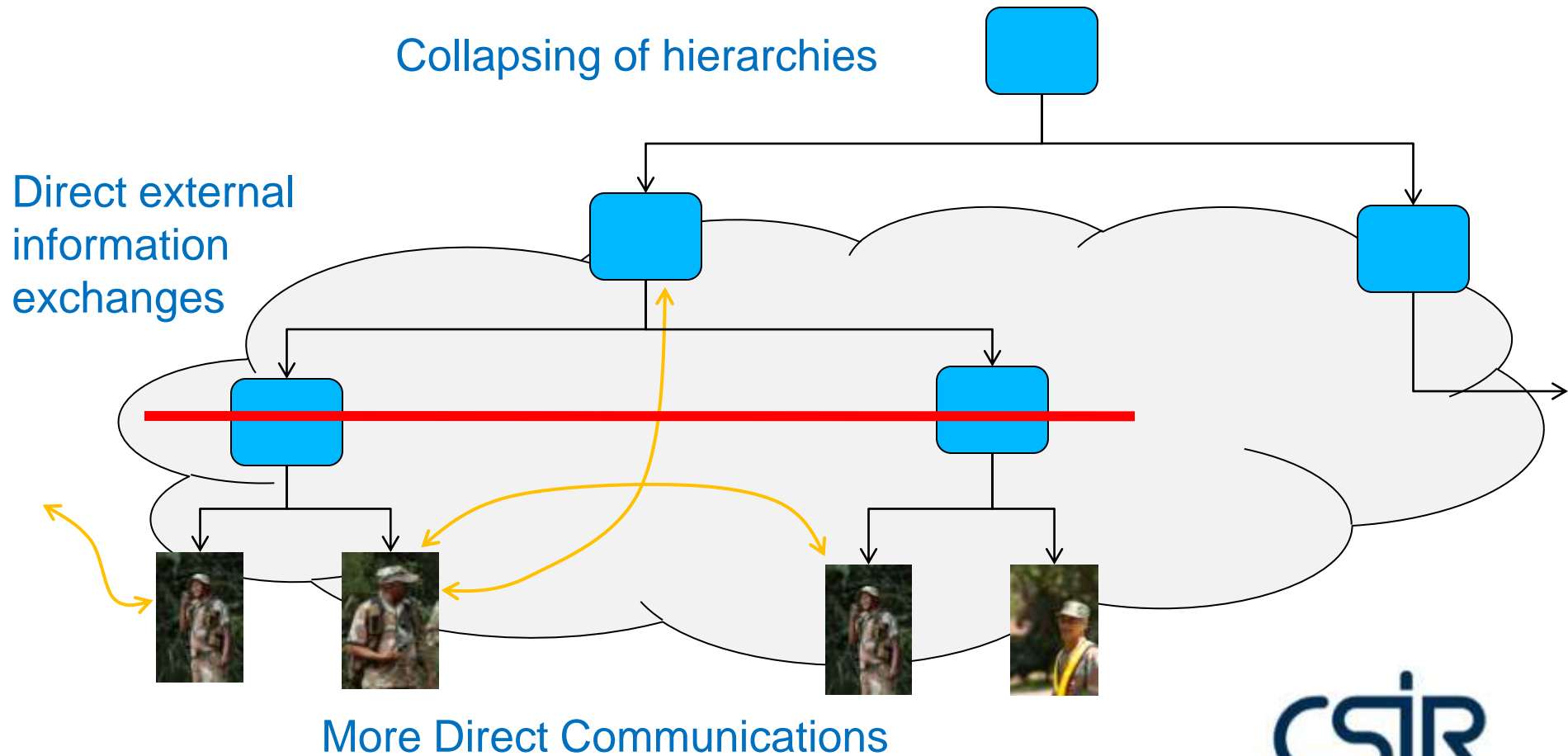
Technologies for the dismounted soldier C2

Implications



Technologies for the dismounted soldier C2

Implications



Examples of current activities

International

Canadian – Joint Fire Support Coordination Cell



Experiment Hypotheses

The JFS operators better perform JFS Coordination tasks and have better situation awareness when provided with a Joint Common Operating Picture and an integrated coordination tool compared to when they are limited to the decoupled in-service environmental C2 Systems.

Examples of current activities

International

Canadian – Joint Fire Support Coordination Cell

Experiment Results

JFS Human Factor 1 Experiment has shown that Joint COP and Collaboration tools can:

- Increase task performance
- Reduced risk of human errors
- Improved the operators adequacy of confidence in own SA

Examples of current activities

International

Canadian – Joint Fire Support Coordination Cell

Additional Benefits

- Establishment of a Canadian Joint Battle Lab for Joint Experimentation
- Realistic operational environment with limited “experiment control”:
 - Provides an environment for the operators to “think out of the box”
 - Explore new Tactics, Techniques and Procedures
 - Find ways that tools can support his tasks

The JBL provides a single point where operators, engineers and scientists can collaborate on Force Development.

Examples of current activities

National

Future SA Army Strategy Experiment



Conclusion

Command and Control for the future dismounted soldier will:

- Use a variety of technologies
- Incorporate everyday life technologies
- Provide access to numerous applications “via the web”
- Feature “Intense Collaboration”

Thank You

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