

## **Part 3 Annex D - Tactical Command and Control Information System** **Modernization - Current Equipment Count and Proposed Baseline Software** **Packages**

To better clarify the scope of the Tactical Command and Control Information System Modernization project, this annex will provide information on the current Canadian Army TacC2IS system. It is important to note that the current list of equipment contained within this annex is not meant to be replaced one-for-one. Proposed industry solutions should, at a minimum, meet the requirement of the list of equipment and services listed below, and for the number of users the equipment and services are supporting.

The table below provides a general description of the anticipated number of users at the Upper Tactical Network (UTN) for various deployment patterns in the different organizations/formations of the Canadian Army (CA). Each deployment pattern is an independent suite and can be deployed independently of each other or together in the case of a full-scale warfighting scenario. The Lower Tactical Network (LTN) table provides the number of end user devices found in the Lower Tactical Network (LTN) in support of both mounted platforms (i.e., vehicles), and dismounted elements (i.e., soldier systems). The modernized Tactical Command and Control Information System capability is expected to provide its new capabilities to all the users within both the Upper Tactical Network and Lower Tactical Network. Every workstation and end user devices found within the Upper and Lower Tactical Network must have access to the core services indicated within this annex.

<b>UTN Deployment Pattern</b>	<b>Number of users supported</b>
Brigade (Formation)	150
Battle Group (Battalion/Regiment)	50
Combat Team (Company/Squadron/Battery)	20
Recce	5

<b>Organization</b>	<b>Total Brigade Suites</b>	<b>Total Battle Group Suites</b>	<b>Total Combat Team Suites</b>	<b>Total Recce Suites</b>
1 CAN Div	0	0	0	0
2 Div / 5 CMBG	1	3	3	3
3 Div / 1 CMBG	1	3	3	3
4 Div / 2 CMBG	1	3	3	3
5 CAN Div	0	0	1	0
CMTC Wainwright	0	1	4	0
CFSCE OSQ Training	1	1	1	1

Exercise - MR/UR	1	1	1	1
Exercise - CWIX	1	1	1	1
LoO 3 / Surge Capacity (Emergency kit)	1	3	3	3
<b>Totals</b>	<b>7</b>	<b>16</b>	<b>20</b>	<b>15</b>

<b>Organization</b>	<b>Total number users supported on UTN</b>
1 CAN Div	N/A
2 Div / 5 CMBG	375
3 Div / 1 CMBG	375
4 Div / 2 CMBG	375
5 CAN Div	20
CMTC Wainwright	130
CFSCE OSQ Training	520
Exercise - MR/UR	225
Exercise - CWIX	225
LoO 3 / Surge Capacity	375
<b>Total</b>	<b>2620</b>

UTN Core Equipment								
Equipment	Qty Per Brigade	Qty Per Battle Group	Qty Per Combat Team	Qty Per Recce	Description	Can be operated in an Armoured Vehicle	Armoured Vehicle Transportable	Rack Mountable
Server - Large	1	0	0	0	Multi-node server with redundancy, able to host all services		X	
Server - Small	0	1	1	0	Small single or multi-node server, hosts a subset of services	X		
Server - Geo	1	0	0	0	Portable server with significant storage able to store and rapidly access a minimum of 32 TBs of data		X	
Server - Static	1	0	0	0	Large Converged Infrastructure server, provides off site backup and archiving, as well as providing full services for unit while in garrison			X
Heavy Router / Central Switch	1	0	0	0	Red Routing and switching capability to link all local servers and client access switches (can be incorporated into server module if space allows)		X	
Light Router / Central Switch	0	1	1	0	Red Routing and switching capability to link all local servers and client access switches (can be incorporated into server module if space allows)	X		
WAN Optimizer	1	1	1	0	WAN optimizer for improved performance over low bandwidth bearers. Can be integrated into other modules.	X		
Client Access Switch	8	3	2	0	Client access switch providing PoE ports for a minimum of 20 users as well as wireless access for 20 users. Must be ruggedized for transportation and operation in a LAV	X		

Gateway	1	0	0	0	NATO Gateway (Red and Black routers, VM hosting, and firewall)		X	
Recce Kit	0	0	0	1	Single briefcase hosting small set of services as well as routing and switching required for 5 users			

Totals	Qty
Server - Large	7
Server - Small	36
Server - Geo	7
Server - Static	7
Heavy Router / Central Switch	7
Light Router / Central Switch	36
WAN Optimizer	43
Client Access Switch	144
Gateway	7
Recce Kit	15

UTN End User Equipment					
Equipment	Qty Per Brigade	Qty Per Battle Group	Qty Per Combat Team	Qty Per Recce	Description
Rugged Laptop	150	50	20	5	
Multifunction printer/scanner	1	0	0	0	
Plotter	1	0	0	0	
Ultra-portable printer	0	2	1	1	
VOIP Handset	75	25	10	0	

Totals	Qty
Rugged Laptop	2620
Multifunction printer/scanner	7
Plotter	7
Ultra-portable printer	67
VOIP Handset	1125

LTN Core / End User Equipment			
End User Device (EUD)	Qty Required for Mounted / Vehicle Platforms	Qty Required for Dismounted Elements	Description
Rugged Laptop	1610	0	To be plugged into the vehicles network via the Switch Box or Vehicle Interface Panel as required.
Rugged Tablet	2730	0	Will be installed within a vehicle and plugged directly into the vehicles network.
Smartphone	0	4140	In support of dismounted elements.

All proposed equipment shall utilize the standards laid out in STANAG 2199 (Command and Control of Allied Land Forces) to facilitate interoperability between systems and among joint and allied forces.