



Defence R&D Canada – Valcartier

Mission Support Tool for Air Operations

- Prepares and disseminates Tasking Orders.
- Monitors missions and resources.

Tasking Orders

Mission planning is a complex part of the management of air resources-both transport and fighter aircraft. There are many constraints on the assignment of particular equipment to specific duties, the cost of inefficient use is very high, and results are often needed urgently.

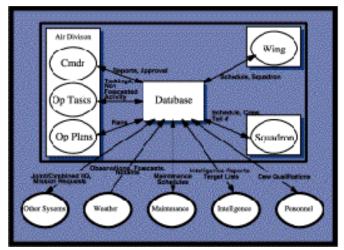
Requests for air missions, responses to emergencies, and routine operations are all planned and coordinated through structured Tasking Orders, and the Valcartier-developed Advanced Technology Battle Management System project includes a module—the Current Operation Mission Support Tool—to guide staff through their preparation, either in a formal, hierarchical fashion or as if the orders were being prepared manually on a white-board. It then distributes the results intelligently, according to their content and urgency. It includes tools to review and control ongoing missions and to monitor the state of the resources—the aircraft, ground facilities, flight crews, etc.—that they require.

The facility promotes interaction among all those involved in or affected by a particular operation and uses an international standard message format (the U.S. Message Text Format) to exchange information with complementary or supporting systems from allied nations.

Prototype Approach

The Current Operation Mission Support Tool was developed using evolutionary prototyping techniques, allowing potential users of an eventual operational system to observe realistic implementations of their stated requirements quickly and to specify both the functions they need and the way they can best be provided. The demonstrator can be tailored readily to the specific needs of particular headquarters, such as a Fighter Group and an Air Transport Group.

Experience gained through hands-on use of the Current Operation Mission Support Tool by Canadian Forces operational staff will be applied to the definition and development of the future Canadian Air Force command and control information system. Although the Current Operation Mission Support Tool demonstrator was developed as a useful facility in its own right, it has also been incorporated into ATBMS, the Advanced Technology Battle Management System, a comprehensive package of tools for air command and control, with a common user interface and data base. A Functional Prototype implementation of ATBMS was demonstrated in 1996 and installed in one Canadian Air Division for further evaluation.



A comprehensive database is at the heart of the Current Operation Mission Support Tool.





International Implications

Air tasking in support of combat or peacekeeping missions often must be done in close cooperation with allied nations, and particular attention has been paid to interoperability issues in the development of the Current Operation Mission Support Tool demonstrator. The success of this effort was demonstrated in a multinational exercise in 1996, in which the tool was used in direct conjunction with a US air tasking system. The tool was designed and implemented through the collaborative efforts of DRDC Valcartier scientists, National Defence personnel from headquarters and operational commands, and the DMR Group, Inc.

				Special sector	a start										П
9-itining	p : ⊜ostay Kerkina	Display Buildens 19	4e												3
See by	e 1. States of blacks			ana ang 🖬											
					结 15 G	10.12.5	0.02.03	0.02	的时间	0.015	10.12	12.12	12 53 5	a 19 19	6.6
OPUM	0x -0.753xe-077	TREESESSON .			网络保留	42 44 4 48 48 4	新計 (計 1) (計 (計	32 35 10 00	14 (F) 00 00 (15 17 1 60 60 9	1 10 20 1 00 00	法授	25 新学 新学校	8 - 12 - 13 12 - 13 - 13 13 - 13 - 13	
Section 1	Parties to the first	land the second s	Ar Term 1	A. 18	2.2.2	2.2.3	(F, F)	E_{i}	2.2	7, 7, 3	1.1.1	3.3	2,2,3	(X, Y)	
					Essent			in in	1000		00000				
2011	17 Sing	016	09-68	Planet	1.000			.							
					10000										
				The Programmed	a the state										
918 () ()	17 King	090	04-58	(Elimet	1.500					6.000					
				Co. Photo and	10.000										
				The Local Sector	1.000										
889 () ()	17.966	016	(1) (1 999) (1) (1	i Berei	10.25			1000							
				Se Pringram	12.22										
					12.23			2000		ur i					
22世 (11)	17 King.	- D65		t j Flanet	19394					а,					
				On Perograms	1.00										
				, in conduction						1000					
日日	4.850	- DW	09-588	2 . Filenet	12.000										
				Dr. Phagment	1.000				0.00						
					line of the					000001					
0.00000		energianty in 194	a an		aasya		17 Jan								
		ini in an	n <u>ni se i si se i</u>	in a fair a fair a fair I standard a fair a fair			w 88								
Served By	E Derse prov	<u>n ol on on</u>	Tiller og	(Barrison)	<u> - 1</u>		B 123	-				100		10135	
terran et i	Number Selection	a for type for a Mandam	hate filest.	See. 1	Castle	gi tari g	a 198		0000000						
	Institute 0	0-6 1 1-6		107 121 100		11.22	(S. 1993)								
1000	Interfactor, 9	. (941 . 1	221042	1217062	. K	0.02		20505	10000	100					
9998	bredizte é	0-89 1 148	1218/02	TERIOOS.	- K13	812									
44.00 6535	Dependente de	12-510 3 familie 16-510 3 familie	1212992 1219992	1217460 1217460	PCD4 PCD5	2008 (449)									
8005 8035	Derectante de Derectante de	10-100 1 1400 10-100 2 1400	123446C	121/400	- 1938 1938	2000 1000		and the second			122				
TANK	Intellicite di	UP-104 1 1/10	1212002	LINNO	Parts.	STOP 1					9.33				
	Terretory 14	an in the	and head	The second second	With a	- and	<u></u>								
					a second s			2262	10000	1000	0000	erenet.	2220		
															đ.,

A whiteboard is used to monitor the execution of missions by the Operations Staff. It shows the status of missions with different colors and provides alerts for missions with complications.

For more information

Project Leader

Phone: (418) 844-4000 ext.: 4457 Fax: (418) 844-4538 Email: collabo-valcartier@drdc-rddc.gc.ca

Defence R&D Canada – Valcartier

2459 Pie-XI Blvd North, Val-Bélair, Quebec G3J 1X5 Phone: (418) 844-4000 Fax: (418) 844-4635 collabo-valcartier@drdc-rddc.gc.ca

www.valcartier.drdc-rddc.gc.ca

Fact Sheet IS-210-A © DRDC Valcartier 2002-04

