MAKING THE MOST OF A CONSOLIDATED C2 FRAMEWORK

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• Primary Challenge is converting C2 information into timely, beneficial knowledge

• Benefits of having in-house reporting on demand without reliance on vendors or your own IT department

• Awareness of Data Ownership and Information Silos

• Whole of Force reporting, analysis and comparisons
• Computer based C2 Systems are accumulating enormous amounts of unit level operations data in their databases.

• C2 systems also accumulate information relating to training courses, asset management and personnel status.

• If accessed and examined correctly, this information can be used to identify trends, determine the impacts of procedure changes and perform “what if” analysis.
Many C2 systems provide extracts of information through pre-defined reports that are then converted to spreadsheets. Required information may not be supplied in the “standard” reports and extracts. Staff then manipulate spreadsheets which can introduce errors leading to reduced trust in the information being presented.
WAYS ACCESS TO INFORMATION CAN BE IMPEDED

• Lack of suitable installed reporting tools
• No access to the information for approved staff
• No instructions showing how information is stored in the database(s)
• Time and cost associated with obtaining new reports from a vendor or IT department.
• Information trapped in platform specific silos
• No common information elements across Platforms and/or C2 Systems
DATA MINING A C2 SYSTEM

• Allow staff to work with in-house SMEs to determine suitable metrics and reports

• Reports can then be produced and refined as required without waiting for the vendor or IT department

• Opportunities can be identified and results obtained in very short periods of time, allowing more analysis to be performed and key information extracted quickly
The Finland Air Force analysed historical maintenance information from their FlightPro™ system

- This allowed them to improve the accuracy of their rectification estimates for a variety of unservicabilities
- In turn, this lead to improved scheduling of sorties due to better forecasting of asset availability

They also analysed historical sortie cancellation rates and reasons

- This allowed them to identify months when weather related cancellations were most common
- In turn, this lead to improved on-time course graduations due to increased sortie scheduling that accommodated the likelihood of weather cancellations
EXPANDING TO WHOLE OF FORCE REPORTING

• Trained staff accessing information from one or two C2 systems is only the beginning

• Can now expand to “whole of force” reporting

• Provide common assessment across multiple platforms

• Need to avoid typical issues that block information access
• Whole of Force reporting requires standards for coding common information elements
  – Eg: qualifications, mission outcomes, training results, etc.

• Difficult to obtain comparisons across all platforms and divisions without a common standard

• These must be driven from the HQ level
WHO OWNS YOUR DATA?

• Are your C2 systems on your own servers?

• Can approved staff access C2 data as required?

• Is access only through the vendor’s screens & utilities?
• Some C2 systems are linked to a specific platform or division

• Cannot easily aggregate information across multiple platforms

• A common C2 system across all platforms & divisions can address this issue
THE DATA WAREHOUSE

If you need to source information from multiple sources, you may need to set up a Data Warehouse

- Added expense of a new system (infrastructure, deployment, maintenance)

- Implementation of business rules to extract data from sources and transform it into common structures & classifications

- Ongoing maintenance & updates of the business rules.
Consolidation provides a base for Whole of Force reporting.
Whole of Force reporting via consolidated C2 Systems and/or a data warehouse can provide:

- Visibility of changes to maintenance processes
- Impact of changing spares management
- Benchmarking across units, divisions & platforms
- Identification of areas of improvement
- Highlight developing issues
- Evidence of the impact from aging assets
• RAAF’s 44WG using trend analysis reports to project the number of people required at each flight to sustain operations.

• RAAF’s HQAC using reports on sortie cancellations across all platforms to identify maintenance issues, compare platform utilisation rates and assess third party contractual KPIs.
• A consolidated C2 system across all platforms provides the best foundation to prepare whole-of-force comparisons.

• New platforms with specific C2 systems must be assessed against their ability to interface with existing systems to avoid creation of data silos.

• Creation of a data warehouse will be required if a single C2 system is not feasible.

• Approved staff should be provided with tools, skills & access to allow in-house production of reports faster and at less cost than using C2 system vendors.

• Insights and Knowledge can be obtained from the information in C2 systems but the identified issues must be addressed to facilitate access and analysis through the application of effective metrics.