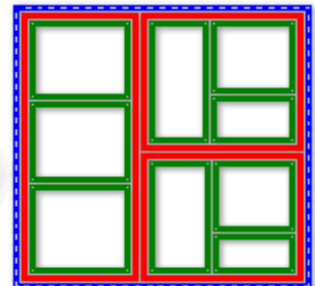
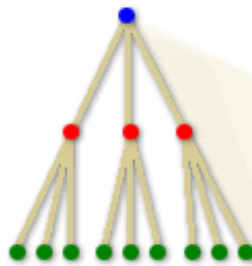


# Marine Corps Equipment Readiness Information Tool (MERIT)

## Background

MERIT uses a specialized graphical user interface to transform legacy data into information that can be used to analyze trends and identify emerging challenges, providing a dynamic, adaptable view of equipment readiness for the Marine Corps. Featuring a user-friendly graphical analysis tool, MERIT allows complex assessment of current and historical readiness trends with drill-down capabilities. The resulting Readiness Maps have drastically reduced the overall information-gathering process—enabling readiness experts to focus on solving mission-critical readiness problems.

The MERIT Readiness Maps were created with a technology invented by a University of Maryland professor who developed a compact means of visualizing traditional directory tree structures (shown at right) in order to save server space. Over the years, the mathematical algorithm that was developed has been optimized to group, sort, and display large numbers of data elements in a graphical display. The concept was transferred to a commercial off-the-shelf software package and adapted for government application by Concurrent Technologies Corporation (CTC).

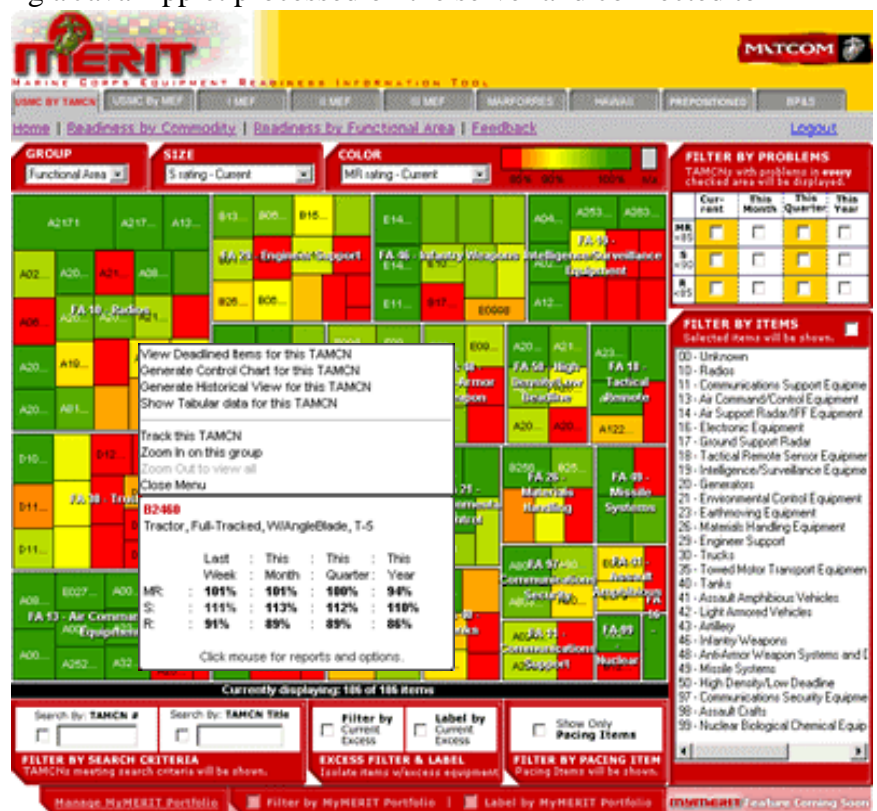


Traditional directory tree structures (at left) versus those used in MERIT (at right).

## Technology

MERIT employs an open-source Java-based programming technique. The common delivery method is through a Web browser using a Java Applet processed on the server and connected to a data source such as Oracle, XML, or delimited text. The graphical results are embedded in HTML and displayed by the user's Web browser. The final product is a small, flexible file that runs on virtually any platform and handles a large number of users simultaneously. This visualization technology is used by firms such as SmartMoney.com, the Smithsonian Institution, and Peet's Coffee, Inc., to convert large, cumbersome data sets into crucial analysis tools.

The three main controls for manipulating data within the MERIT Readiness Maps (shown at right) can be employed to display multiple calculations simultaneously.



MERIT Readiness maps can be organized by group, size, or color.

1. **Group:** Data can be arranged instantly in a variety of ways. MERIT displays information by organizational level as well as by equipment level.
2. **Size:** The selected rating determines an item's size and position. For instance, an item with the highest rating will occupy the largest surface area and will be positioned at the top left of its grouping level; an item with the lowest rating will occupy the smallest surface area and will be positioned at the bottom right of its grouping level. MERIT displays multiple calculations for current and historical USMC readiness data.
3. **Color:** The value of a selected rating determines an item's color, which is displayed in a gradient ranging from red to yellow to green. MERIT displays calculations for current and historical USMC readiness data.

MERIT complements these controls with filters, labels, and search tools that reveal complex patterns within the data. A "mouse-over" menu supplies detailed information about each item, and a mouse-click hyperlinks to more detailed data, including critical supply chain information.

### ***Applicability***

MERIT provides a total view of Marine Corps readiness. Force Commanders can view readiness trends that reveal potential problems and associated causes. Weapon System Managers, Program Managers, maintainers, and analysts can access detailed information to focus on immediate solutions.

MERIT's breadth, versatility, and user-friendly environment make it a crucial tool for anyone who needs fast, comprehensive analysis of equipment readiness. The MERIT technology is available through COTS integration for application to nearly any situation where large amounts of data must be rapidly analyzed and sorted into usable information. Successful application of the MERIT technology requires potential users to examine business processes prior to the development process. The key to successful application of the product is the proper definition of metrics and business rules for information processing. The optimized business process determines the information displayed, providing insight into critical elements and enables the decision making process.

### ***Benefits***

- **Instant Outlier Detection** — Enables rapid recognition of unusual data patterns.
- **Just-In-Time Results** — Supports real-time data feeds.
- **Visibility of Large, Complex Data Sets** — Compacts millions of data lines into a space small enough to be viewed by an Internet browser.
- **Decision Support** — Directs users to the problem and helps them to analyze the cause.
- **Multidimensional Analysis** — Displays multiple calculations at one time to expedite thorough analysis.
- **Historical Data Patterns** — Identifies long- and short-term patterns within data.
- **Asset Tracking** — Records and identifies items within a user profile.
- **Central Decision Point** — Links to underlying data, and generates charts dynamically.
- **Graphical Drill Down** — Reveals data patterns from the highest levels of an information hierarchy to the lowest data reporting levels.

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