



XFRACAS®

The only truly web-based, closed loop, user-configurable,
enterprise-wide FRACAS in a box!™

ReliaSoft®

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WHAT IS XFRACAS?

- ⦿ Complete system designed for managing, monitoring, controlling and understanding incidents and associated problems
- ⦿ Web-based for easy access, collaboration and deployment across multiple sites, suppliers and dealers
- ⦿ Integrated to allow for the capture of all relevant data for subsequent analysis
- ⦿ A comprehensive knowledge base and reliability data repository
- ⦿ A highly flexible and scalable enterprise system able to grow with your needs

XFRACAS IS A COMPLETE SYSTEM

- ⦿ Safety management, quality tracking, risk reduction or FRACAS process management
- ⦿ Part repair/replacement tracking and complete serialized system configuration management
- ⦿ Customer support and failure (incident/issue) reporting
- ⦿ Dashboard-style reporting: non-parametric progress tracking and reliability/quality reporting in an interactive graphical interface
 - Integration with parametric reliability analysis engines including life data, system reliability/maintainability and reliability growth analyses
- ⦿ "Knowledge base" of product quality and reliability data that can be utilized by product safety, design, sales, management, procurement and other personnel

About this Overview

THE XFRACAS OVERVIEW

- ⦿ This overview is designed to provide a general understanding of the XFRACAS system and allow you to assess how XFRACAS may improve your company process
- ⦿ The following topics are covered:
 - Section 1: The XFRACAS Process
 - Introduces the system's unique ability to individually address both incidents and problems and expands on the incident/problem relationship. This section also presents high-level flowcharts of the XFRACAS process and the problem resolution process.

XFRACAS OVERVIEW (CONTINUED)

- **Section 2: The End User's Perspective**
 - Discusses standard navigation and reporting interfaces of the XFRACAS system, as viewed by an average user.
- **Section 3: Managing Incidents**
 - Discusses the incident creation process and the subsequent assignment of issues to problems. Incidents are the specific individual issues, while problems are the root causes for the incidents.
- **Section 4: Solving Problems**
 - Discusses how problems are addressed using a 4 to 8 step problem resolution process. This section provides an overview of these steps and shows sample user interfaces using an 8D process.

XFRACAS OVERVIEW (CONTINUED)

- **Section 5: Not Just FRACAS**
 - Discusses additional XFRACAS interfaces designed to cover all facets of the incident and problem resolution process over the entire life cycle of your product, including failure analysis (FA) information on returned parts, complete customer/vendor contact information and incident histories, installation details, system configuration information and other functionality.
- **Section 6: Administrative Interfaces**
 - Discusses the XFRACAS administrative interfaces. A system administrator can manage and reconfigure the system, user permissions and other aspects.

XFRACAS OVERVIEW (CONTINUED)

- **Section 7: System Architecture**
 - Discusses the web-based, n-tier, scalable and robust system architecture for XFRACAS.
- **Section 8: Advanced Reliability Analysis**
 - Discusses the ability of XFRACAS to provide direct integration with the most advanced suite of reliability engineering analysis tools.

YOUR IMPLEMENTATION MAY VARY

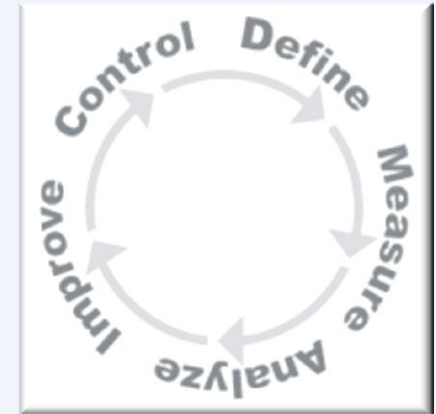
- ⦿ Please keep in mind that XFRACAS is customizable and different deployed systems will have different interfaces
- ⦿ These different interfaces can support many different types of processes, from safety management processes, to quality tracking processes, to FRACAS-type processes
- ⦿ The fields, inputs, options or lists shown here may or may not be applicable to your organization

The XFRACAS Process

A Conceptual Overview

CLOSING THE LOOP ON PROBLEM RESOLUTION

- XFRACAS is unique in its design and framework, as it can be used to address both individual incidents and the underlying problems
 - In XFRACAS terminology, a single “problem” can have many “incidents”
 - Incidents are dealt with as they occur while...
 - Problems (the underlying causes of the incidents) are analyzed and resolved through a formal problem resolution process (e.g., 8D, CAPA, DMAIC...)

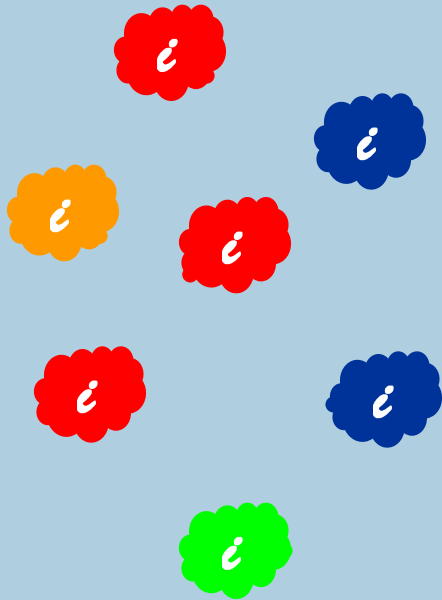


THE INCIDENT/PROBLEM RELATION

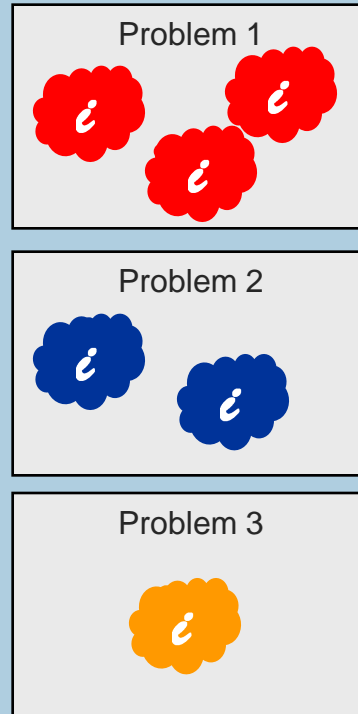
- ◉ Incidents are issues/failures reported by customers, found during testing, etc.
- ◉ Each incident can be attributed to one or more underlying problems, which could involve reliability, quality or safety issues
- ◉ For example, if a product has a faulty component:
 - Multiple customers may experience/report a failure due to that component. Each failure is a separate *incident*.
 - All of these incidents are due to the same underlying issue. The *problem* is the faulty component.
 - Customer support or repair technicians will attempt to resolve each incident (i.e., get the customer up and running). However, the problem is resolved by dealing with the faulty component.

THE INCIDENT/PROBLEM RELATION

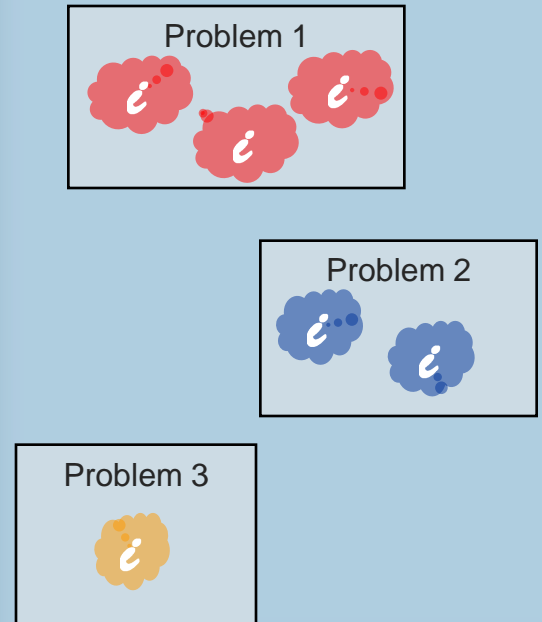
**Incidents occur
and are reported**



**Incidents are assigned to
problems**

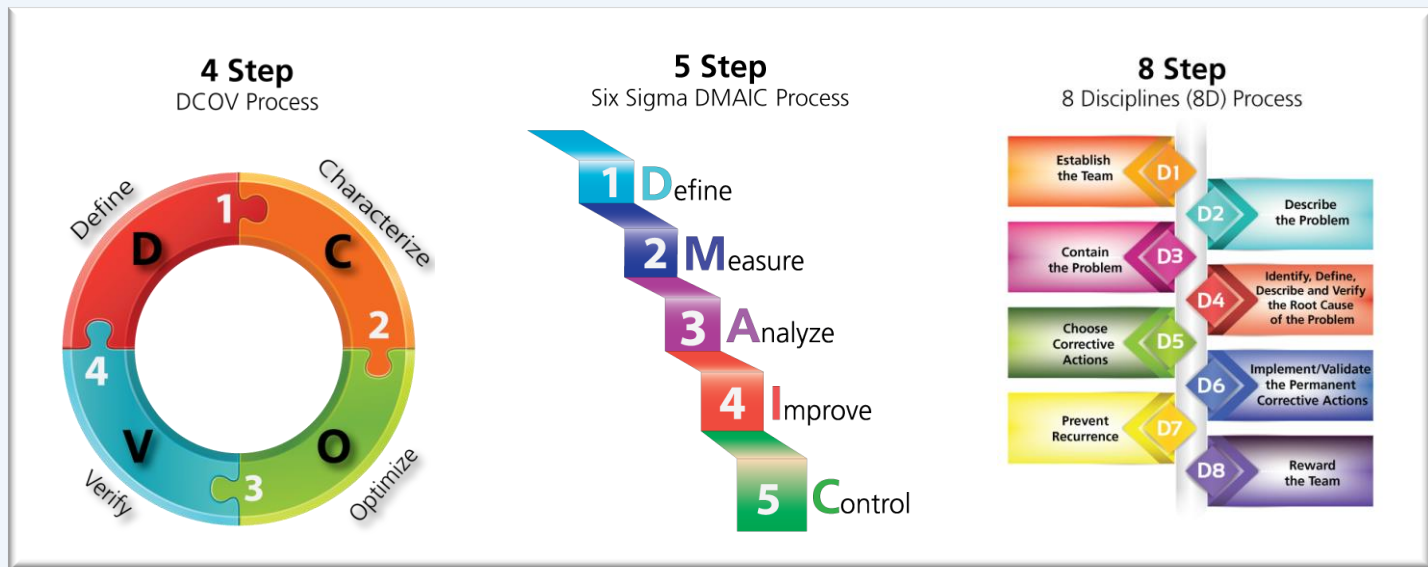


**Problems are managed,
tracked and resolved
through a formal process**

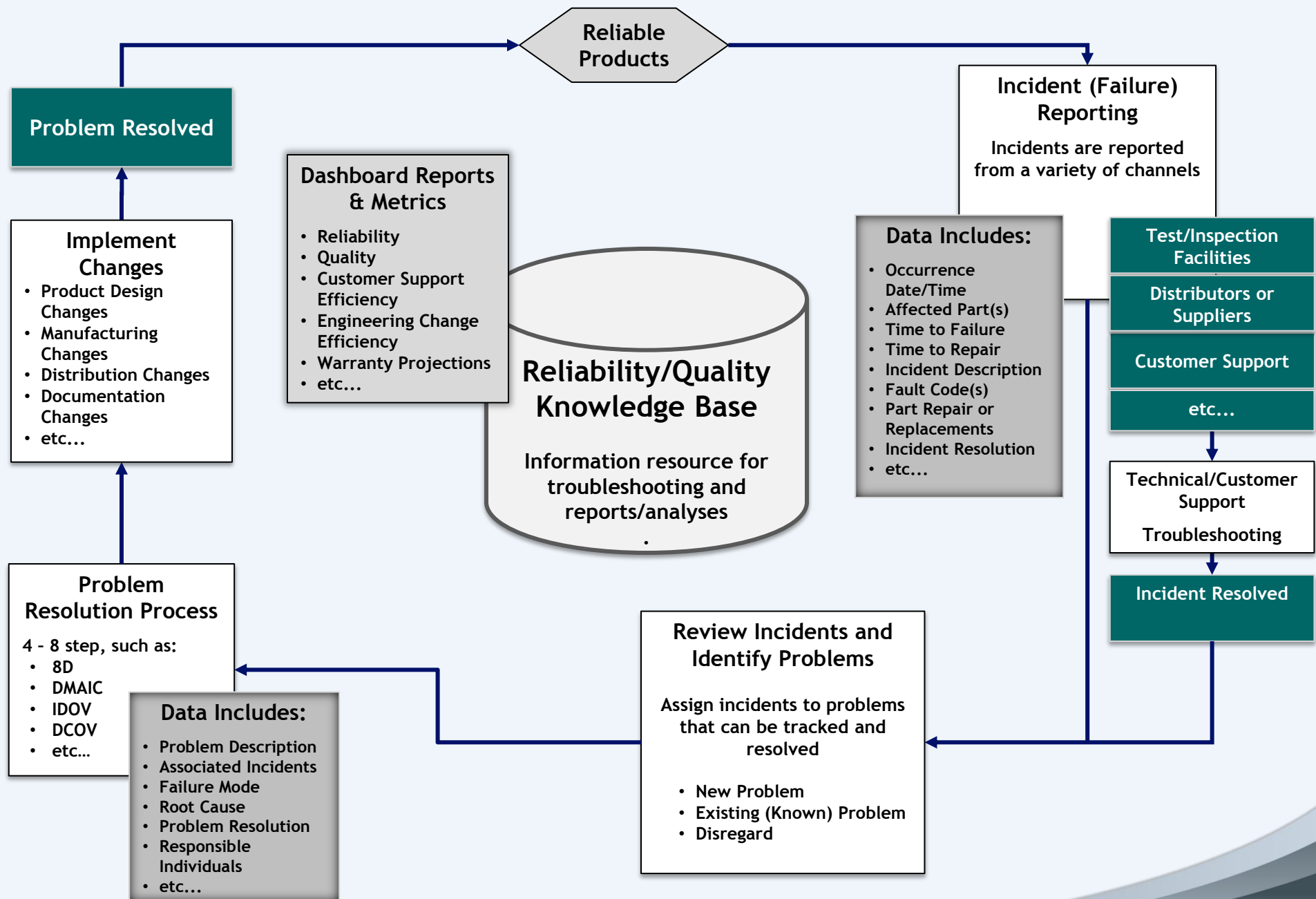


ADDRESSING AND RESOLVING PROBLEMS

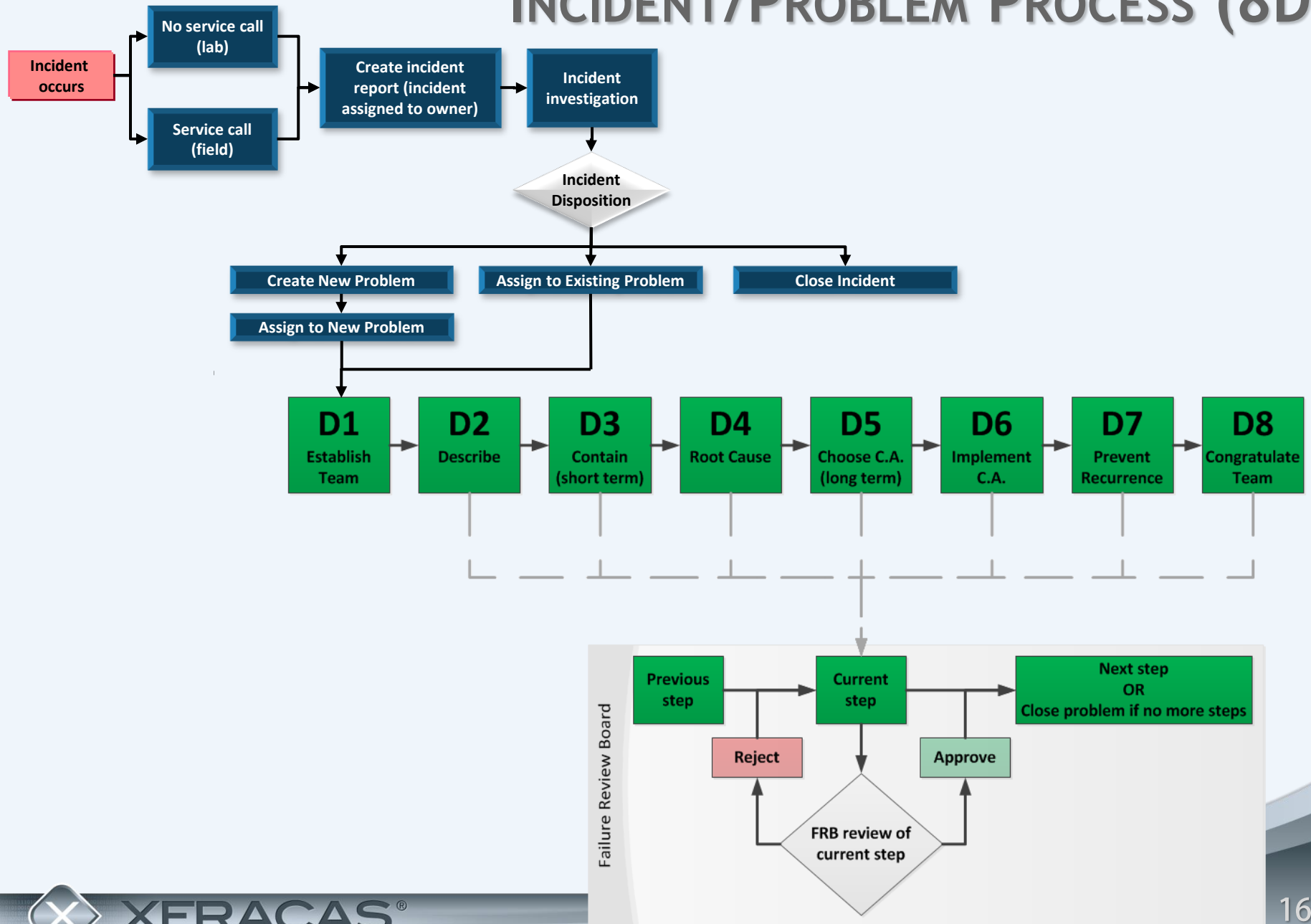
- Once incidents have been classified into problems, engineering teams address and resolve the issues through a problem resolution process, with 4 - 8 steps. For example:



- The entire process is managed by XFRACAS, which in turn also becomes the data repository for subsequent analysis and lessons learned.



INCIDENT/PROBLEM PROCESS (8D)



End User's Perspective

Navigating XFRACAS

XFRACAS PORTAL

- ◉ When you log into the system, your personalized XFRACAS Portal will load. It provides a customizable at-a-glance view of all the issues you need to work on, including:
 - Actions assigned to you that need to be completed
 - Incidents that you need to review
 - Problems that you need to work on
 - Solutions that you need to review and sign off on
- ◉ You can easily add global or local announcements and links
 - Global items can be seen by all users of the system*
 - Local items are seen only by you
- ◉ You can also run saved custom reports, or have one automatically run when visiting this page

**As with most XFRACAS features, the ability to add global items is permission-based*

XFRACAS PORTAL (SAMPLE SCREEN)

Portal - Acme Enterprises Proprietary and Confidential Information - Internet Explorer

http://xfracas/default.aspx

Home System Admin Options

YFRACAS XFRACAS Reports Charts Dashboard Incident Problem Project Customer Support

Create

Links

USER NAME

Links

- ReliaSoft Website
- weibull.com

My Reports

- Incidents Created by Me

Portal

Acme Enterprises

Announcements

There are no announcements.

Tasks

Open Synthesis Actions (3) 3 are due

Action #	Action Description
15553	Perform accelerated life test for system A.

Actions from Synthesis desktop applications

Uncompleted Actions (1) 0 are due

Action #	Associated #	Action Description
6	Problem: ACME-1	Please find out why engine is losing power.

My XFRACAS actions

Unclosed Incidents (1)

Incident #	Status	Description
ACME-1	Open	Component A.1 failed.

Incidents I need to work on

Open Problems (1)

Problem #	Status	Problem Title
ACME-1	Describe the Problem	Engine Does Not Make Full Power

Problems I need to work on

Problems To Review (0)

Problem #	Status	Problem Title
You have no Problems to review.		

Problems I need to review

My Projects (0)

Project #	Title
You have no Projects.	

Projects I need to work on

REPORTS PAGE

- ⦿ XFRACAS includes extensive reporting capabilities
- ⦿ By default, the system's Reports page offers both simple and complex predefined reports
- ⦿ Additionally, you can easily create your own custom ad-hoc reports and add them to the system both globally and locally

REPORTS PAGE (SAMPLE SCREEN)

Use built-in reports or build complex ad-hoc reports

Saved custom reports

Saved public reports

Report: Incident - Internet Explorer

Results based on the following qualifier(s):
Entity = Acme Enterprises

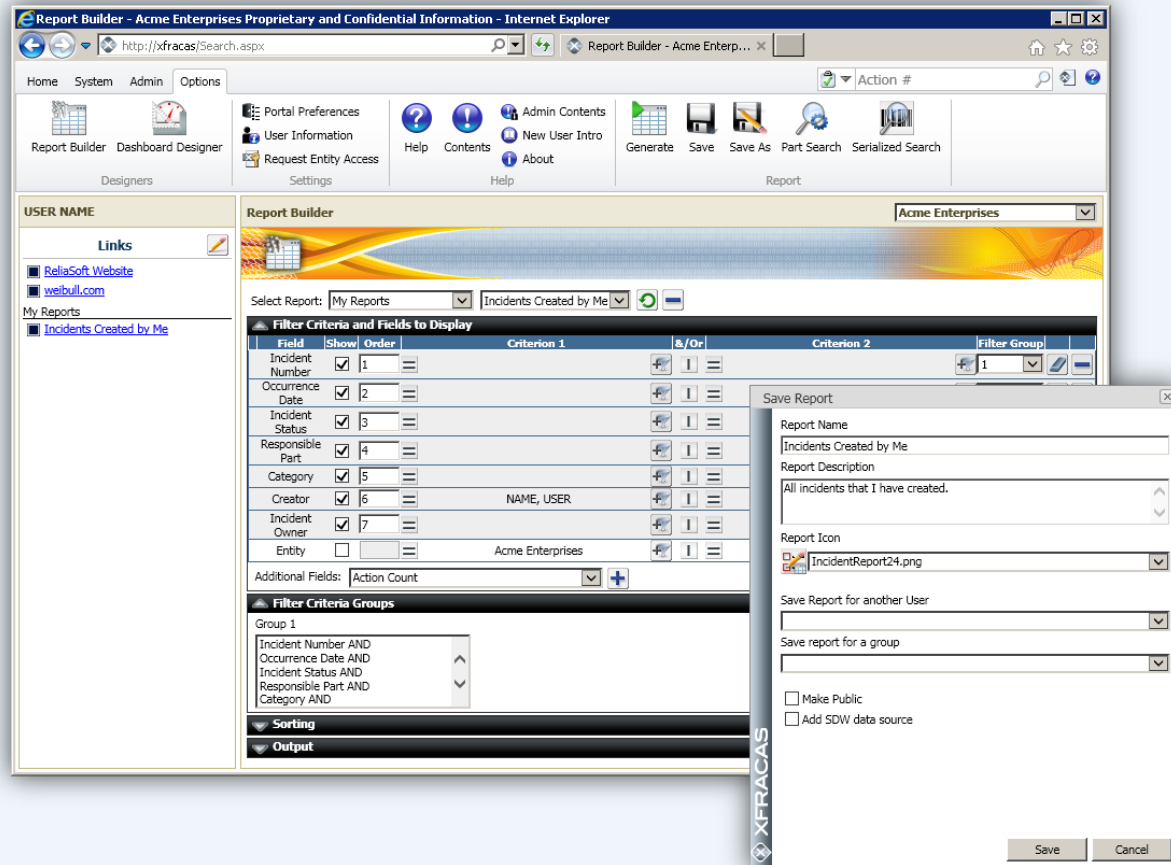
9 match(es) found
Report Generated: 07/22/2015 11:08 AM

Incident Number	Occurrence Date	Category	Creator	Incident Owner
REL-18	04/30/2013 11:32 AM	Component Failure	BRIAN BULB	MIKE MANAGER

AD-HOC DATA EXTRACTS

- Use the reporting interface to extract data for further analyses

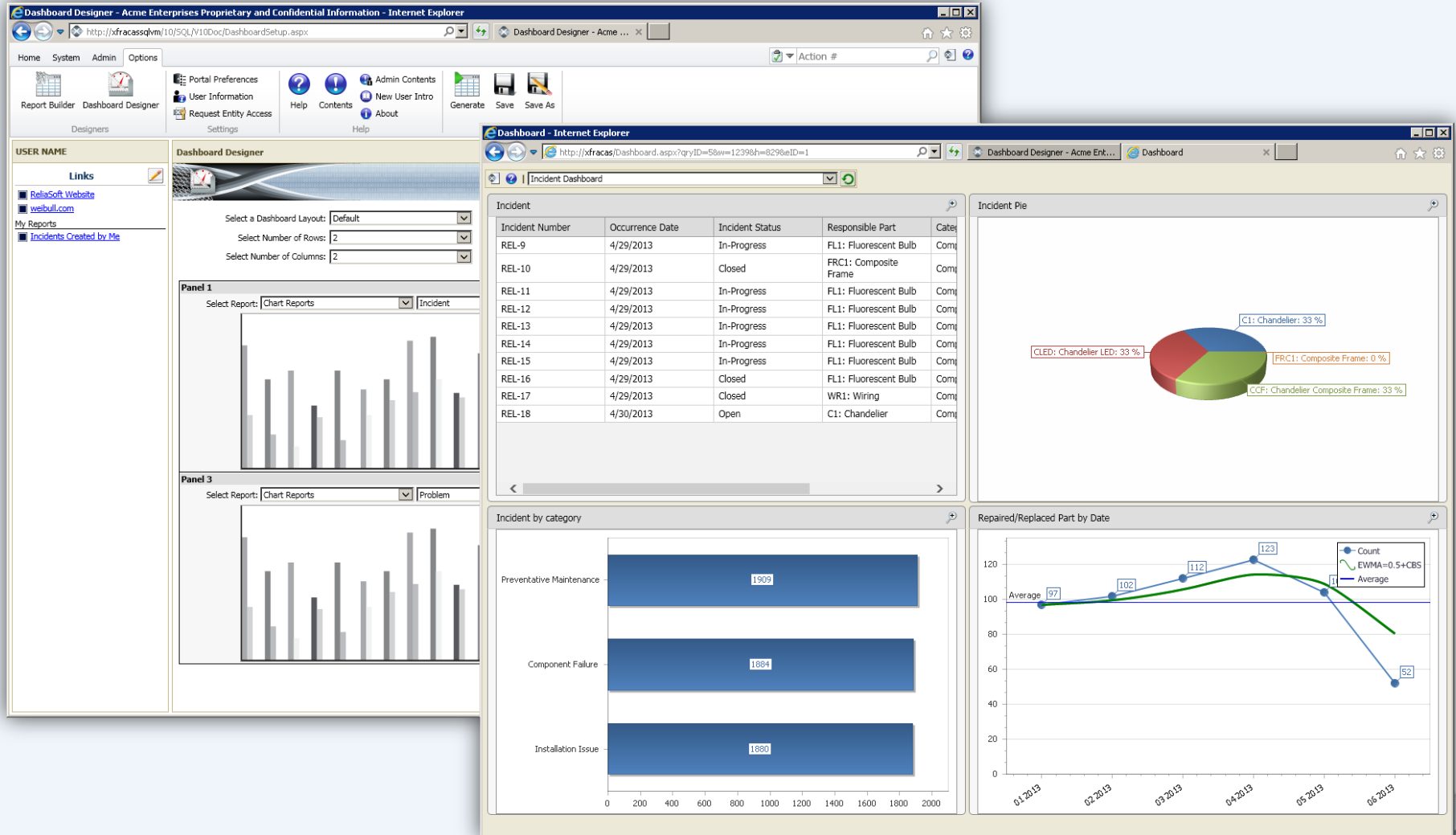
- Life data analysis
- System analysis
- Reliability growth analysis



DASHBOARD

- ⦿ XFRACAS includes extensive graphing and trending capabilities
- ⦿ With the system's Dashboard functionality, you have access to simple and complex predefined graphs and tabular reports
- ⦿ Additionally, you can easily create your own custom Dashboard layouts and add them to the system both globally and locally

DASHBOARD PAGE (SAMPLE SCREENS)



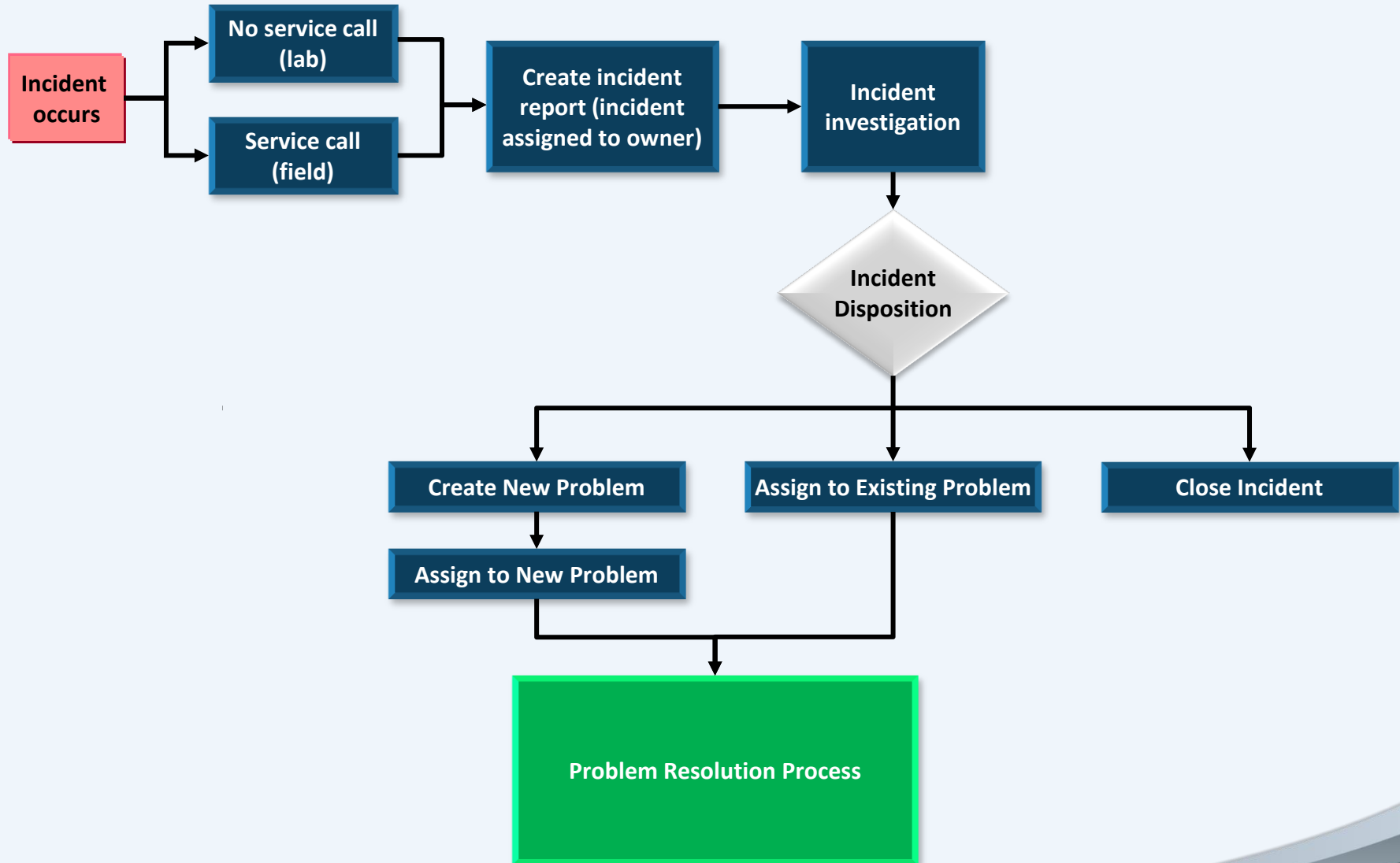
Managing Incidents

Initiating and Managing Incidents in XFRACAS

WHAT IS AN INCIDENT?

- ⦿ In general, most problems begin with incidents
- ⦿ What one defines as an incident is relative
 - An incident is basically an issue that needs to be addressed
 - An incident could be a customer-reported failure; an issue discovered during in-house testing; a customer's, engineer's or manager's suggestion; etc.

MANAGING INCIDENTS



INITIATING AN INCIDENT

- For each incident, users begin by identifying the responsible system (or subsystem, assembly, part, etc.) on the Incident page in XFRACAS
- XFRACAS captures relevant data such as:
 - System and part responsible (with serial numbers if desired*)
 - Time metrics
 - Incident description
 - Incident disposition actions
 - Other data for subsequent analysis
- The Incident page includes multiple lookups and searches to assist in recording the details

**One great strength of XFRACAS is its complete support of serialized systems, with complete configuration management – down to the serial numbers of every component in a fielded unit if desired*

INITIATING AN INCIDENT (SAMPLE SCREEN 1)

New - Acme Enterprises Proprietary and Confidential Information - Internet Explorer

http://xfracas/Incident.aspx

Home System Admin Options

XFRACAS SEP Reports Charts Dashboard Incident Problem Project Customer Support Create Use Incident Wizard

Portal View Create Incident

USER NAME

Links

- ReliaSoft Website
- weibull.com

My Reports

- Incidents Created by Me

New

System/Component Information

Enter main system part number and serial number information:

Serial Number: A

Part Number:

System Status:

System Hours:

Number of Starts:

kW Run Hours:

Unit Location:

Available Part Numbers

Selected Serial Number: A

Multiple Serial Numbers found in database.
Please select the Serial Number you want.

Available Part Numbers:

PN: A ver.vA, SN: Ab : System A
PN: A ver.vA, SN: SN Aa : System A

Select Cancel

Incident Disposition

Occurrence Date: Jul 23 2015 Time: 04:31 AM PM Local Time

Incident Status: Open

Report Type: Customer Call

Category:

Responsible Part: Part User

Owner:

Creator:

System Down Event: ☐

Description:

Incident Repair Information

INITIATING AN INCIDENT (SAMPLE SCREEN 2)

New - Acme Enterprises Proprietary and Confidential Information - Internet Explorer

http://xfracas/Incident.aspx

Home System Admin Options

XFRACAS SEP Reports Charts Dashboard Incident Problem Project Customer Support Create Use Incident Wizard

Portal View Create Incident

USER NAME

Links

- ReliaSoft Website
- weibull.com

My Reports

- Incidents Created by Me

New

Acme Enterprises

System/Component Information

Incident Disposition

Occurrence Date: Jul 23 2015 Time: 04:31 AM PM Local Time

Incident Status: Open

Report Type: Customer Call

Category:

Responsible Part: Part User

Owner:

Creator:

System Down Event: ☐

Description:

Incident Repair Information

The responsible part determines the responsible engineer

Describe the incident

DEALING WITH INCIDENTS

- ⦿ An incident may be dealt with during incident creation or at a later stage
- ⦿ Upon creation, each incident is automatically assigned to the responsible engineer (RE), based on the responsible part
 - REs are assigned by the system administrator when defining a system configuration
 - They can be assigned for any indenture level (e.g., system, subsystem, assembly, component)
- ⦿ The RE is automatically notified of the incident via an e-mail notification that contains a direct link to the Incident page
 - A link to the Incident page is also added to the RE's Portal

THE INCIDENT PAGE

- ⦿ The Incident page includes complete information regarding the incident and is available to both the RE and the incident creator (who may be the field repair person, support person, another engineer, etc.)
- ⦿ When working with serialized systems, the complete history of the specific system is also available, including its current configuration and full repair/issue history

INCIDENT PAGE (SAMPLE SCREENS)

ACME-1 - Acme Enterprises Proprietary and Confidential Information - Internet Explorer

http://xfracas/Incident.aspx?ENTID=ACME-1

Home System Admin Options

XFRACAS SEP Reports Charts Dashboard Incident Problem Project Customer Support Save Print Preview Duplicate Export E-mail URL Delete

Portal View Create Incident

USER NAME ACME-1 Acme Enterprises

Links

- ReliaSoft Website
- weibull.com
- My Reports
- Incidents Created by Me

Assigned to Problem: N/A

System Configuration: SN:SN Aa, System A

Owner: USER, CATHY

Category: Component Failure

Occurrence Date: 07/23/2015 04:15 PM

Incident Status: Open

System Status: Running Needs Service

Reporting Date: 07/23/2015 04:29 PM

Responsible Part: Component A.1: A.1 ver.vA.1

Run Hrs / Starts / kW Hrs: 850 / N/A / N/A

Creator, Reporting Org: USER NAME, N/A

Unit Location: N/A

Serialized - Acme Enterprises Proprietary and Confidential Information - Internet Explorer

http://xfracas/SystemConfiguration.aspx

Home System Admin Options

XFRACAS SEP Reports Charts Dashboard Incident Problem Project Customer Support Serialized Search Export

Portal View Create Serialized

USER NAME Serialized Acme Enterprises

Links

- ReliaSoft Website
- weibull.com
- My Reports
- Incidents Created by Me

Serialized

Find part on system...

- System A: A ver.vA SN:SN Aa
 - Component A.1: A.1 ver.vA.1 SN:SN A.1a
 - Component A.2: A.2 ver.vA.2 SN:SN A.2a
 - Sub-System A.3: A.3 ver.vA.3 SN:SN A.3a
 - Component A.3.1: A.3.1 ver.vA.3.1 SN:SN A.3.1a
 - Sub-Component A.3.1.1: A.3.1.1 ver.vA.3.1.1 SN:SN A.3.1.1a
 - Sub-System A.4: A.4 ver.vA.4 SN:SN A.4a
 - Component A.4.1: A.4.1 ver.vA.4.1 SN:SN A.4.1a
 - Component A.4.1: A.4.1 ver.vA.4.1 SN:SN A.4.2a
 - Component A.1: A.1 ver.vA.1 SN:SN A.1a [07/23/2015]

Current Component A.1

Original Component A.1 retired

Starting Age	0
Serial HID	34436
Part Disposition	Scrap (ACME-1)
Part Number	A.1
Part Name	Component A.1
Part Version	vA.1
HID	395
Part ID	187
Level	2
System Parts	10
0 Children	

RESOLVING THE INCIDENT

- ⦿ The subsequent steps allow for both incident resolution and the assignment of the incident to a problem for resolution
- ⦿ It is important to note that even though the incident may have been assigned to a problem for resolution, the incident itself may have to be dealt with independently by the person reporting it (e.g., replace/repair parts to get the customer up and running)

COMPLETE SUPPORT FOR REPAIRS

- ◉ For each incident, the complete repair history of the system is available and the current repair can be appended to the system's history, including serial numbers of failed/removed parts as well as serial numbers of new or used parts added to the system
 - This maintains the complete system configuration history and assures comprehensive time-to-failure/replacement data for each component
 - This information can be sent directly from XFRACAS to several of ReliaSoft's reliability analysis software products for additional analyses

REPAIR/REPLACE (SAMPLE SCREEN)

ACME-1 - Acme Enterprises Proprietary and Confidential Information - Internet Explorer

http://xfracas/Search.aspx

Home System Admin Options

XFRACAS SEP Reports Charts Dashboard Incident Problem Project Custom

Portal View Create

USER NAME

Links

- ReliaSoft Website
- weibull.com

My Reports

- Incidents Created by Me

ACME-1

Completed Date: Jul 23 2015 Time: 04:15

Repair or Replace Parts; Add / Modify Parts

Original Part SN	Original Part Name	Orig Part #	Rev	Failure Analysis Report	Replacement Part SN	Rpl Part #	Rev
	Failure Type	Part Disposition	Hours to Failure		Starting Age		
	Return Type	RMA Number - Rcvd	SO Number				
SN A.1a	Component A.1	A.1	vA.1	New	A.1b	A.1	vA.1
	Primary Failure	Scrap	850.00		N/A		
	N/A	N/A - N/A	N/A				

Repair or Replace Parts

[Find part on system...](#)

- System A: A ver.vA SN:SN Aa
 - Component A.1: A.1 ver.vA.1 SN:A.1b
 - Component A.2: A.2 ver.vA.2 SN:SN A.2a
 - Sub-System A.3: A.3 ver.vA.3 SN:SN A.3a
 - Component A.3.1: A.3.1 ver.vA.3.1 SN:SN A.3.1a
 - Sub-Component A.3.1.1: A.3.1.1 ver.vA.3.1.1 SN:SN A.3.1.1a
 - Sub-System A.4: A.4 ver.vA.4 SN:SN A.4a
 - Component A.1: A.1 ver.vA.1 SN:SN A.1a [07/23/2015]

Serial Number SN A.3.1.1a

Build Date 07/23/2015 04:02 PM

Retired Date

Lot Code

Manufacturing Code

Starting Age 0

Serial HID 34442

Part Number A.3.1.1

Part Name Sub-Component A.3.1.1

Part Version vA.3.1.1

HID 399

Part ID 191

0 Children

Replace Part Utility

Failure Type: [Collateral Failure](#)

Disposition: [Return to Supplier](#)

RMA Number:

Sales Order Number:

Run Hours:

New Part

Serial Number:

Part Name: Sub-Component A.3.1.1

Part Number: A.3.1.1

Version: vA.3.1.1

Starting Age:

[Search for a Part](#)

☐ Copy children of new part

Save Cancel

Past repair history, including failed/replaced parts and any failure analysis associated with each past action

ADDRESS THE PROBLEM

- ⦿ The Responsible Engineer (RE) must find, understand, resolve and prevent future occurrences of the problem that caused the incident
- ⦿ In accomplishing that, he/she is responsible for assigning the incident to a problem report that will enable the problem resolution process
- ⦿ The RE may assign incidents to either a new or an existing (open or closed) problem, or may reassign the incident to another RE altogether
- ⦿ The next section discusses the problem resolution process

Solving Problems

The Problem Resolution Process

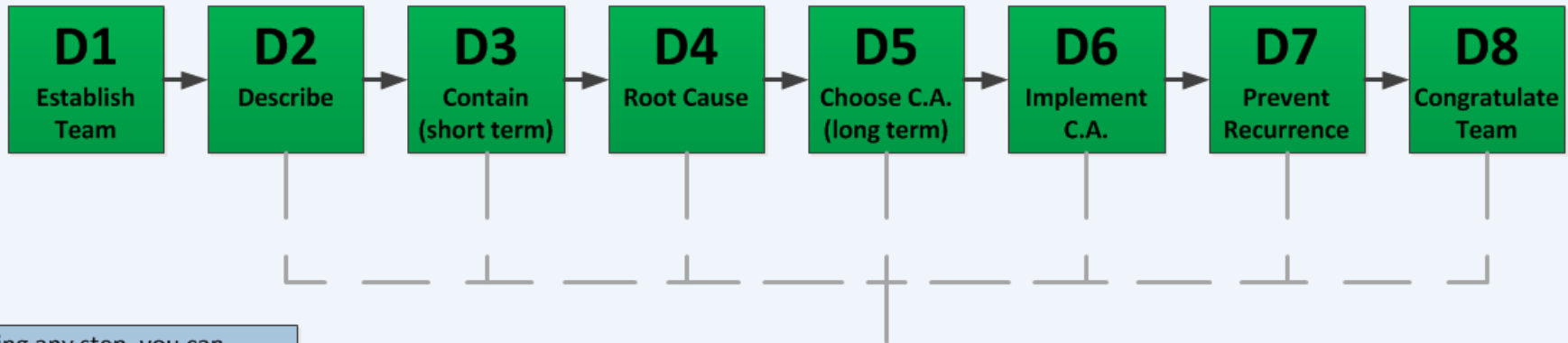
SOLVING PROBLEMS

- ⦿ **XFRACAS problem resolution uses a step-by-step approach to enable engineering teams to identify, understand, resolve and prevent the problem (which is associated with single or multiple incidents)**
 - This can be any problem resolution methodology, from four to eight steps (e.g., 4-step DCOV, 5-step Six Sigma DMAIC, 8-step 8 Disciplines, etc.)
- ⦿ **For most steps from the second step on, action items can be assigned to team members and their progress can be monitored and tracked**

SOLVING PROBLEMS

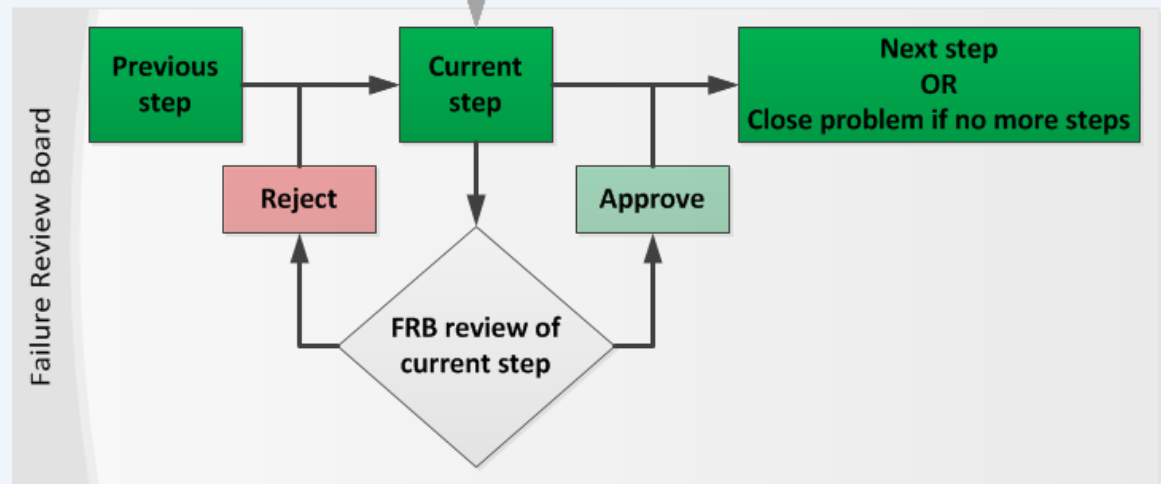
- ◉ From the second step on, you may be able to assign a Failure Review Board (FRB) to verify and sign off on the effectiveness of the actions defined for the step
 - XFRACAS automatically tracks this sign-off process; the XFRACAS Portal contains items that individuals need to review and sign off on
- ◉ The following slides demonstrate problem resolution using the 8 Disciplines (8D) process

PROBLEM RESOLUTION PROCESS - 8D



During any step, you can attach documents, such as:

- Technical service bulletin (TSB)
- Engineering change notice (ECN – design, retrofit)
- Quality control report (QCR)
- Supplier deviation request/ corrective action request (SCAR)
- etc...



STEP 1: D1 - ESTABLISH THE TEAM

- Establish the team with a team leader who has the knowledge, time, authority and skill to solve the problem and implement corrective actions

Note that XFRACAS can display all steps for a problem at once, or it can display the steps one at a time, which forces users to finish each step before moving on. The sample pictures that follow display all steps.

STEP 1: D1 (SAMPLE SCREENS)

ACME-1 - Acme Enterprises Proprietary and Confidential Information - Internet Explorer

http://xfracas/PRR.aspx

ACME-1 - Acme Enterprises ...

Home System Admin Options

Links

- ReliaSoft Website
- weibull.com

My Reports

- Incidents Created by Me

ACME-1 | Engine Does Not Make Full Power

Acme Enterprises

Owner: NAME, USER
Priority: High
Last Occurrence: N/A

Creator: NAME, USER
Process Status: Describe the Problem
Expected Closure Date: 08/27/2015

Created Date: 07/28/2015
First Occurrence: N/A

Establish the Team

Title: Engine Does Not Make Full Power

Team Members: None Assigned

Owner: NAME, USER

Priority: High

Expected Closure Date: Aug 27 2015 Time: 02:44 AM

Part Category Code: Remove A.3 ver. vA.3 : Sub-System A.3

Describe the Problem

- Implement and Verify Containment Actions
- Identify and Verify Root Cause
- Choose and Verify Permanent Corrective Actions
- Implement Permanent Corrective Actions
- Prevent Recurrence
- Congratulate the Team

Assign Team Members

Users

- USER, CATHY
- USER, DAVID
- USER, ELLEN
- USER, FRANK

Team Member Role

Team Member

Add Team Member

Current Team Members

- USER, ANN - Team Leader
- USER, BOB - Team Member

Remove Selected

Save Cancel



STEP 2: D2 - DESCRIBE THE PROBLEM

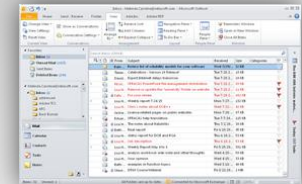
- ◉ **Describe the problem in measurable and specific terms**
 - Incidents and/or projects can be associated with the problem, along with references to other documents
 - The following slide shows D2, highlighting how actions can be used in this and subsequent steps

STEP 2: D2 (SAMPLE SCREENS)

The screenshot displays the XFRACAS web application in an Internet Explorer browser. The page title is "ACME-1 - Acme Enterprises Proprietary and Confidential Information - Internet Explorer". The address bar shows "http://xfracas/PRR.aspx". The navigation menu includes Home, System, Admin, Options, and a search bar. The main content area is titled "ACME-1 | Engine Does Not Make Full Power" and "Acme". It shows a problem description "Engine loses power." and a table of action items. The table has columns for Action Number, Short Description, Due Date, and Owner. One action item is listed: "Please find out why engine is losin..." with a due date of "08/05/2015" and owner "USER, BOB". The page also includes sections for "Establish the Team", "Describe the Problem", "Problem Description Status", "References", "Associated Files", and "Associated Incident Reports".

Action Number	Short Description	Due Date	Owner
6	Please find out why engine is losin...	08/05/2015	USER, BOB

- Action items are e-mailed to team members
- They are also added to their XFRACAS Portals
- Past due notices and reminders can also be utilized



Action items can be assigned to different team members, and can then be tracked

The "New Action" dialog box is shown, allowing users to create a new action item. It includes fields for "Action Type" (set to "Problem"), "Problem Number" (set to "ACME-1"), and "Problem Owner" (set to "USER NAME"). There are also fields for "Assign to" (set to "NAME, USER"), "Due Date" (set to "Aug 6 2015"), and "Category" (set to "Description"). A large text area for "Description" is provided at the bottom. The dialog box has "Create" and "Cancel" buttons.

STEP 3: D3 - CONTAIN THE PROBLEM

- ④ **Contain the problem by defining (and implementing) intermediate containment actions**
 - These actions should temporarily resolve customer issues (other incidents that may arise) until permanent corrective action can be implemented
 - The following slide shows D3, highlighting the FRB sign-off process

STEP 3: D3 (SAMPLE SCREENS)

Problem ACME-1 Reviewer List Selection Utility

Select up to 5 people to review Problem #ACME-1 step 3.
New reviewers will automatically receive e-mail regarding their selection.

Available Reviewers List

D3 Approver

USER, ANN
USER, BOB
USER, CATHY
USER, FRANK

Selected Reviewers List

USER, ANN - D3 Approver
USER, FRANK - D3 Approver

Save Cancel Help

Problem ACME-1

Created Date: 07/28/2015
First Occurrence: 07/23/2015

Containment Actions: None

Completed By: NAME, USER

Completed Date: Jul 29 2015 Time: 09:34 AM Local Time

FRB Approved By: [Edit Reviewer List](#)

Reviewer Name	Category	Sign-off Date
USER, ANN	D3 Approver	Sign off: <input type="radio"/> Yes <input type="radio"/> No
USER, FRANK	D3 Approver	N/A

Identify and Verify Root Cause

Choose and Verify Permanent Corrective Actions

Implement Permanent Corrective Actions

The current step in the process is highlighted in red

Set FRB members for containment approval

Sign-off available based on login credentials

STEP 4: D4 - ROOT CAUSE

- ④ Identify/define, describe and verify the root cause of the problem, and list possible long-term corrective actions
 - Root cause analysis can be done using several different methods
 - Supporting documents (e.g., fishbone diagram, brainstorming, testing results) can be attached to action items for both root cause analysis and root cause verification

STEP 4: D4 (SAMPLE SCREEN)

ACME-1 - Acme Enterprises Proprietary and Confidential Information - Internet Explorer

http://xfracas/PRR.aspx

Home System Admin Options

XFRACAS SEP Reports Charts Dashboard Incident Problem Project Customer Support Save Print Preview Export E-mail URL Copy URL Delete

Portal View Create Problem

USER NAME

Links

- ReliaSoft Website
- weibull.com

My Reports

- Incidents Created by Me

ACME-1 | Engine Does Not Make Full Power

Acme Enterprises

Establish the Team

Describe the Problem

Implement and Verify Containment Actions

Identify and Verify Root Cause

Failure Mode (0):

Root Cause Analysis:

Root Cause Analysis Actions:

Action Number	Short Description	Due Date	Owner
2	Determine root cause.	08/06/2015	USER, BOB

Root Cause Status: None

Root Cause Verification:

Root Cause Verification Actions: None

Completed By:

Completed Date: Jul 2015 Time: 10:07 AM Local Time

FRB Approved By: [Edit Reviewer List](#) Reviewer Name: N/A Category: Sign-off Date:

Choose and Verify Permanent Corrective Actions

Analyze root cause

Verify root cause

Assign single or multiple failure modes

STEP 5: D5 - CHOOSE CORRECTIVE ACTION

- ⦿ Choose the corrective action(s) that will resolve the problem (root cause) for the customer and will not cause undesirable side effects
 - Choose from among the corrective actions identified in the previous step
 - Selected actions may be fixes for products in the field and/or products on the manufacturing floor, as well as design changes or manufacturing process changes for future products

STEP 5: D5 (SAMPLE SCREEN)

ACME-1 - Acme Enterprises Proprietary and Confidential Information - Internet Explorer

http://xfracas/PRR.aspx

Home System Admin Options

XFRACAS SEP Reports Charts Dashboard Incident Problem Project Customer Support Save Print Preview Export E-mail URL Delete Copy URL

Portal View Create Problem

USER NAME

Links

ReliaSoft Website

weibull.com

My Reports

Incidents Created by Me

ACME-1 | Engine Does Not Make Full Power Acme Enterprises

Owner: NAME, USER **Creator:** NAME, USER **Created Date:** 07/28/2015

Priority: High **Process Status:** Choose and Verify Permanent Corrective Actions **First Occurrence:** 07/23/2015

Last Occurrence: 07/28/2015 **Expected Closure Date:** 08/27/2015

Establish the Team

Describe the Problem

Implement and Verify Containment Actions

Identify and Verify Root Cause

Choose and Verify Permanent Corrective Actions

Corrective Action Description:

Corrective Actions:

Action Number	Short Description	Due Date	Owner
8	Determine appropriate corrective ac...	08/11/2015	NAME, USER

Completed By:

Completed Date: Aug 2015 Time: 02:39 AM PM Local Time

FRB Approved By: [Edit Reviewer List](#) Reviewer Name: N/A Category: Sign-off Date:

Implement Permanent Corrective Actions

Prevent Recurrence

Congratulate the Team

STEP 6: D6 - IMPLEMENT/VALIDATE CA

- ⦿ **Implement/validate the permanent corrective actions needed and choose ongoing controls to ensure that the root cause is eliminated**
 - Make sure the fix(es) implemented resolved the issue
 - Ensure that no additional failure modes were introduced
 - Determine efficacy of fixes (i.e., what percentage of failures due to a given failure mode have been resolved)

STEP 6: D6 (SAMPLE SCREEN)

ACME-1 - Acme Enterprises Proprietary and Confidential Information - Internet Explorer

http://xfracas/PRR.aspx

Home System Admin Options

Action #

XFRACAS SEP Reports Charts Dashboard Incident Problem Project Customer Support Save Print Preview Export E-mail URL Delete Copy URL

Portal View Create Problem

USER NAME

Links

- ReliaSoft Website
- weibull.com

My Reports

- Incidents Created by Me

ACME-1 | Engine Does Not Make Full Power

Acme Enterprises

Owner: NAME, USER
Priority: High
Last Occurrence: 07/28/2015

Creator: NAME, USER
Process Status: Implement Permanent Corrective Actions
Expected Closure Date: 08/27/2015

Created Date: 07/28/2015
First Occurrence: 07/23/2015

Establish the Team

Describe the Problem

Implement and Verify Containment Actions

Identify and Verify Root Cause

Choose and Verify Permanent Corrective Actions

Implement Permanent Corrective Actions

Implement Corrective Action Description: Supplier changed to ABC Fuel Systems

Implementation Actions:

Action Number	Short Description	Due Date	Owner
9	Find a new fuel system supplier.	08/11/2015	NAME, USER

Completed By:

Completed Date: Aug 2015 Time: 02:55 AM PM Local Time

FRB Approved By: Edit Reviewer List

Reviewer Name: N/A

Category

Sign-off Date

Prevent Recurrence

Congratulate the Team

STEPS 7 - 8: D7 - D8 - PREVENT RECURRENCE, CONGRATULATE TEAM

- ⦿ **Step 7: Identify and implement steps that need to be taken to prevent recurrence (i.e., lessons learned)**
- ⦿ **Step 8: Congratulate the team and describe lessons learned during the process or add closure comments (usually an optional step)**
- ⦿ **Close the problem**
 - If applicable, request problem closure by the FRB
 - Problem can be closed using different statuses

STEP 7: D7 (SAMPLE SCREEN)

ACME-1 - Acme Enterprises Proprietary and Confidential Information - Internet Explorer

http://xfracas/PRR.aspx

ACME-1 - Acme Enterprises ...

Home System Admin Options

Action #

XFRACAS SEP Reports Charts Dashboard Incident Problem Project Customer Support Save Print Preview Export E-mail URL Copy URL Delete

Portal View Create Problem

USER NAME

Links

- ReliaSoft Website
- weibull.com

My Reports

- Incidents Created by Me

ACME-1 | Engine Does Not Make Full Power Acme Enterprises

Owner: NAME, USER
Priority: High
Last Occurrence: 07/28/2015

Creator: NAME, USER
Process Status: Prevent Recurrence
Expected Closure Date: 08/27/2015

Created Date: 07/28/2015
First Occurrence: 07/23/2015

- Establish the Team
- Describe the Problem
- Implement and Verify Containment Actions
- Identify and Verify Root Cause
- Choose and Verify Permanent Corrective Actions
- Implement Permanent Corrective Actions

Prevent Recurrence

Prevent Recurrence Description:

Prevent Recurrence Actions:

Action Number	Short Description	Due Date	Owner
10	Determine ways to prevent the selec...	08/11/2015	NAME, USER

Completed By:

Completed Date: Aug 2015 Time: 02:59 AM PM Local Time

FRB Approved By: Edit Reviewer List
Reviewer Name: N/A
Category:
Sign-off Date:

Congratulate the Team

STEP 8: D8 (SAMPLE SCREEN)

ACME-1 - Acme Enterprises Proprietary and Confidential Information - Internet Explorer

http://xfracassqlvm/10/SQL/V10Doc/PRR.aspx

Home System Admin Options

Action #

XFRACAS SEP Reports Charts Dashboard Incident Problem Project Customer Support Save Print Preview Export E-mail URL Delete Copy URL

Portal View Create Problem

USER NAME Full Power Acme Enterprises

Links

- ReliaSoft Website
- weibull.com

My Reports

- Incidents Created by Me

Close the problem

Closure Requested

Owner: NAME, USER
Priority: High
Last Occurrence: 07/28/2015

Creator: NAME, USER
Process Status: Congratulate the Team
Expected Closure Date: 08/27/2015

Created Date: 07/28/2015
First Occurrence: 07/23/2015

- Establish the Team
- Describe the Problem
- Implement and Verify Containment Actions
- Identify and Verify Root Cause
- Choose and Verify Permanent Corrective Actions
- Implement Permanent Corrective Actions
- Prevent Recurrence
- Congratulate the Team

Recognize Team Description: Team commended via e-mail to company.

Completed By: USER, FRANK

Completed Date: Aug 6 2015 Time: 03:04 PM Local Time

FRB Approved By: [Edit Reviewer List](#) Reviewer Name: N/A Category: Sign-off Date:

Closed status

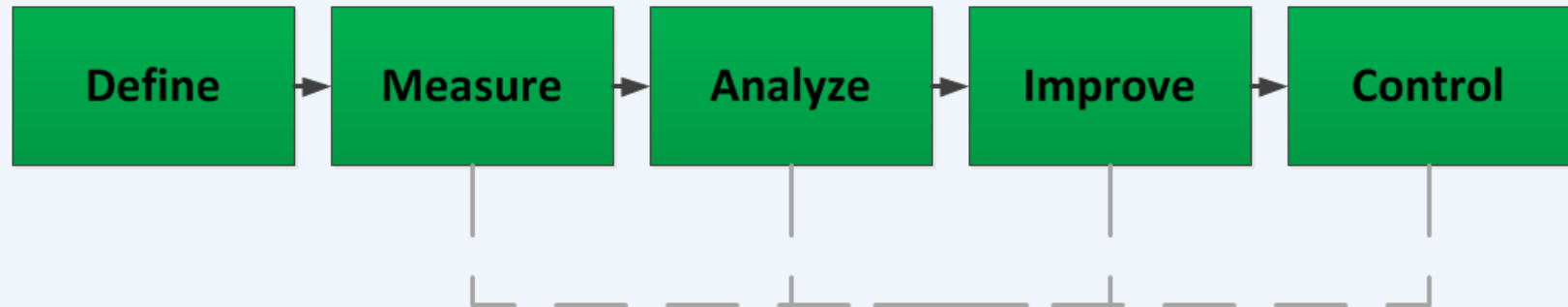
Set Close Status

- 09: Closed - Resolved
- 10: Closed - Unresolved
- 11: Closed - Enhancement Requested

SOLVING PROBLEMS

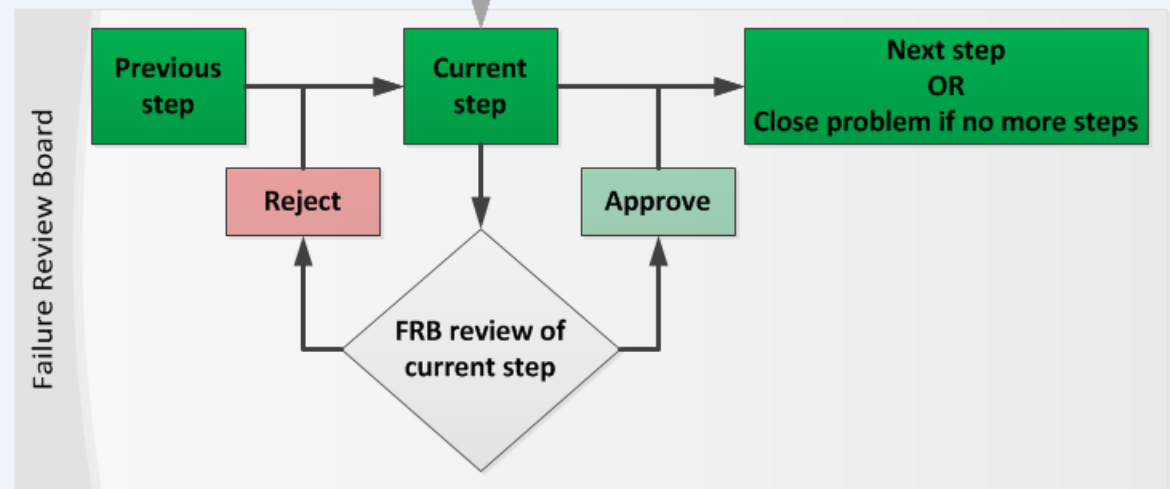
- The following slides show alternative problem resolution methodologies

PROBLEM RESOLUTION PROCESS - DMAIC

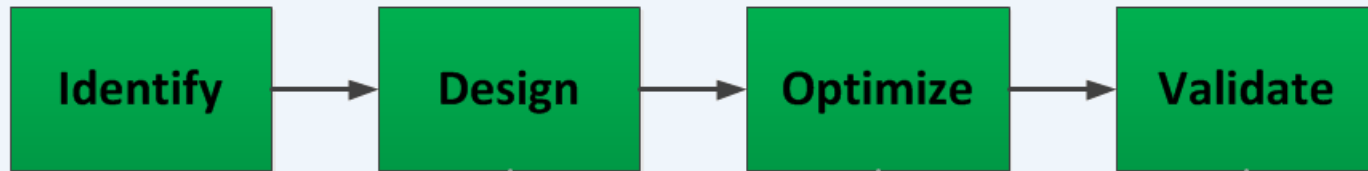


During any step, you can attach documents, such as:

- Technical service bulletin (TSB)
- Engineering change notice (ECN – design, retrofit)
- Quality control report (QCR)
- Supplier deviation request/corrective action request (SCAR)
- etc...

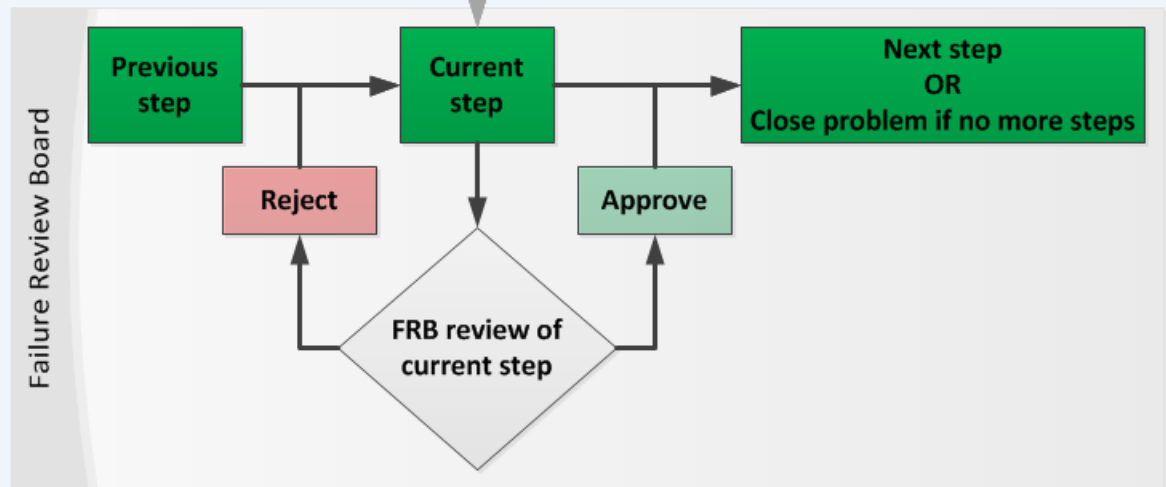


PROBLEM RESOLUTION PROCESS - IDOV



During any step, you can attach documents, such as:

- Technical service bulletin (TSB)
- Engineering change notice (ECN – design, retrofit)
- Quality control report (QCR)
- Supplier deviation request/ corrective action request (SCAR)
- etc...



Not Just FRACAS

Additional Interfaces to Address
Other Facets

ADDITIONAL INTERFACES

- ⦿ **XFRACAS is designed to cover all facets of the incident and problem resolution process over the entire life cycle of your product, including:**
 - Failure analysis (FA) information on returned parts
 - Complete customer/vendor contact information
 - Incident histories
 - Installation details
 - System configuration information
 - And other functionality

CUSTOMER MANAGEMENT

- You can view complete customer information for deployed systems from multiple interfaces while trying to resolve an incident or a problem, or during the initial incident creation. This provides an at-a-glance view of:
 - Customer contact information
 - Installation details
 - Customer incident history
 - Etc.

MANAGE CUSTOMERS AND SUPPORT ISSUES

By customer and system:

- Installation location information
- System incident history
- System configuration
- Incidents associated with customer
- System health metrics
- Etc.

The screenshot displays the XFRACAS web application interface. The top navigation bar includes links for Home, System, Admin, and Options. The main content area is titled 'ACME-1 | Company B - Company B Tucson Plant'. It features a sidebar with 'USER NAME' and 'Links' (ReliaSoft Website, webull.com). The main content area is divided into several sections:

- Shipment Date:** N/A
- Commission Date:** 08/03/2015
- Decommission Date:** N/A
- Delivery Date:** N/A
- Location:** Company B Tucson Plant
- Distributor:** Distributor A
- Run Hrs / Starts / kW Hrs:** 850 / N/A / N/A
- Estimated System Hours:** 850
- System Configuration:** SN: SN Aa, System A A ver 1.0
- MTBF* / MTBCE*:** 850 / 850
- MTBI* / MTBIE*:** 850 / 850
- Operational Availability:** 100.0000%
- MTBCE* / MTBCE*:** 850 / 850
- Chargeable Incidents:** 1
- System Downtime Hours:** 0
- Under Warranty:** Yes - Expires 08/03/2016
- MTBCE* / MTBCE*:** 1226 / 1226
- Non-Chargeable Incidents:** 0

The **Customer/Location Information** section includes fields for Unit Owner (Company B), Location (Company B Tucson Plant), Address (34024 W Broadway), City (Tucson), State, Zip (85701), Country, Contact Name (Doe, Jonathan), Contact Phone (520-886-0410), Contact Fax (520-886-0399), and Contact E-mail (jdoe@companyb.com).

The **Warranty Information** section includes fields for Initial Warranty (Months from Shipment: 15, Warranty Type: To Distributor), Months from Commission (12), Extended Warranty (Months:), and Terms ().

The **Incident History** section shows a table with columns for Incident #, Occur Date, Status, and Description. The table contains one incident: ACME-1, Occur Date: 07/23/2015, Status: Open, Description: Component A-1 failed.

The bottom section includes links for Replaced Parts, Installation Details, and Accessories.

FAILURE ANALYSIS PAGE

Incident repair
and failure analysis

Original Part SN	Original Part Name	Orig Part #	Rev	Failure Analysis Report
	Failure Type	Part Disposition	Hours to Failure	
	Return Type	RMA Number - Rcvd	SO Number	
SN A.1a	Component A.1	A.1	vA.1	ACME-1
	Primary Failure	Scrap	850.00	
	Component Failure	N/A - N/A	N/A	

- ⦿ XFRACAS also provides additional interfaces for failure analysis information for all parts removed/replaced during the incident disposition
 - One or more failure analysis reports can be associated with each removal or replacement

The screenshot displays the XFRACAS Failure Analysis web application. The interface includes a top navigation bar with links like Home, System, Admin, Options, and various report types. The main content area shows a detailed failure analysis for 'ACME-1'. Key sections include:

- FA Information:** Fields for FA Creator, Incident Report #, System Part #, Incoming Part #, RMA Number, and ATP Field Service Tech.
- Visual Inspection:** Fields for Technician Name, Date, Time, and a section for Visual Inspections and Fault History.
- Initial Repairs / Comments:** Fields for Technician Name, Date, Time, and a section for Initial Repairs / Comments.
- Detailed Analysis:** Fields for Technician Name, Date, Time, and a section for Detailed Analysis.
- ATP / Burn-In:** Fields for Technician Name, Date, Time, and sections for First Attempt and Second Attempt.
- SAP Items:** Fields for Request Work Order and SAP Items.

PROJECTS

- **Projects allow you to manage related problems, in much the same way that problems are used to manage related incidents. You can create actions to be performed at the project level, just as you can create actions for incidents and problems.**

Administrative Interfaces

Managing and Configuring the System

ADMINISTRATIVE INTERFACES

- ⦿ Administrative interfaces allow you to configure XFRACAS to meet your particular needs
- ⦿ From the system administrative interfaces, the administrator can easily:
 - Manage user accounts by adding/removing system users and editing their profiles and permission levels
 - A partial screen is shown next

MANAGE USERS (SAMPLE SCREEN)

Users - Acme Enterprises Proprietary and Confidential Information - Internet Explorer
http://xfracas/admin/AdminUser.aspx

Home System Admin Options

Users User Groups Applicants Active Directory Security Manage Preferences Details Lists User Categories Action Categories Criticality Diagnostics Resource Editor Tools Entities Import Report Viewer Create Users

USER NAME Users Acme Enterprises

Current Entity Users: 7
Current System Users: 28
Current Entities: 7
Days Remaining: 159

Select Name to Edit:

System Wide Information

First Name
Middle Name
Last Name
Employee ID
City State
Country Time Zone Local Time
Language
E-Mail Address
Login
Retired User Account ☐ Yes ☒ No
Account Expiration Date Aug Time: AM PM Local Time
[Entities](#) No Entities assigned

Acme Enterprises Information

Retired User Account ☐ Yes ☒ No
Account Expiration Date Aug Time: AM PM Local Time
Reporting Organization
Reports To
[User Groups](#) No Groups assigned

Categories	
D2 Approver	<input type="radio"/> Yes <input checked="" type="radio"/> No
D3 Approver	<input type="radio"/> Yes <input checked="" type="radio"/> No
D4 Approver	<input type="radio"/> Yes <input checked="" type="radio"/> No
D5 Approver	<input type="radio"/> Yes <input checked="" type="radio"/> No



MAINTAIN/MANAGE OTHER DATA

- ⦿ **Maintain/manage contact and look-up information including:**
 - Contacts
 - Field repair people/technicians
 - Customers
 - Companies
 - Locations
 - Etc.
- ⦿ **A sample contact management screen is shown next**

MANAGE CONTACTS (SAMPLE SCREEN)

Contacts - Acme Enterprises Proprietary and Confidential Information - Internet Explorer

http://xfracas/admin/AdminContacts.aspx

Home System Admin Options

Action #

User Groups Applicants Active Directory Security

User Categories Action Categories Criticality

Manage Preferences Details Lists

Configure

Diagnostics Resource Editor Tools

Entities Import Report Viewer

Save New Delete

Contacts

USER NAME **Contacts** Acme Enterprises

Contact: Contact, John

Contact

First Name: John MI:

Last Name: Contact

Company: ReliaSoft Corporation

Location: ReliaSoft Corporate Headquarters

Address: 1450 S. Eastside Loop City: Tucson

Address 2: State: Arizona

Zip: 85710-6703 Country: United States

Title:

Phone: 520-886-0410 Fax:

Cell/Pager: E-mail:

Category: ☐ Unit Contact ☐ External User ☐ ASP Field Tech

Contact Details

Certification Type: Certification Level:

Certification Renewal: Aug 2015 Time: 09:46 AM Local Time

DEFINE AND MANAGE PRODUCTS

- ◉ **Define and manage product configuration templates and edit/create systems**
 - Unlimited part indenture level when defining systems (e.g., system, subsystem, subsystem... nth subsystem)
 - The following slide shows a system creation screen
- ◉ **Alternatively, you can use XML templates to import the configuration (e.g., “Bill of Materials”) from your own product management system**

MANAGE SYSTEM CONFIGURATION TEMPLATES OR INDIVIDUAL SYSTEMS (SAMPLE SCREEN)

Serialized - Acme Enterprises Proprietary and Confidential Information - Internet Explorer

http://xfracas/admin/SystemSerialized.aspx

Serialized - Acme Enterprises...

Home System Admin Options

Template Serialized Create System Find System

Create Serialized Add Non-Serialized Add Existing Serialized Delete Serialized Disassociate Export

System Serialized Part

USER NAME Serialized Acme Enterprises

[Find part on system...](#)

- System A: A ver.vA SN:SN Aa
 - Component A.1: A.1 ver.vA.1 SN:A.1b
 - Component A.2: A.2 ver.vA.2 SN:SN A.2a
 - Sub-System A.3: A.3 ver.vA.3 SN:SN A.3a
 - Component A.3.1: A.3.1 ver.vA.3.1 SN:SN A.3.1a
 - Sub-Component A.3.1.1: A.3.1.1 ver.vA.3.1.1 SN:SN A.3.1.1a
 - Sub-System A.4: A.4 ver.vA.4 SN:SN A.4a
 - Component A.4.1: A.4.1 ver.vA.4.1 SN:SN A.4.1a
 - Component A.4.1: A.4.1 ver.vA.4.1 SN:SN A.4.2a
 - Component A.1: A.1 ver.vA.1 SN:SN A.1a [07/23/2015]

Information

Serial Number	SN Aa
Build Date	07/23/2015 04:02 PM
Retired Date	
Lot Code	
Manufacturing Code	
Starting Age	0
Serial HID	34435
Part Number	A
Part Name	System A
Part Version	vA
HID	394
Part ID	186
Level	1
System Parts	10
5 Children	



DEFINE/ASSIGN RESPONSIBLE ENGINEERS FOR SYSTEMS, SUBSYSTEMS, ETC. (SAMPLE SCREENS)

The screenshot displays the XFRACAS web application interface within an Internet Explorer browser window. The browser title is "Template - Acme Enterprises Proprietary and Confidential Information - Internet Explorer" and the address bar shows "http://xfracas/admin/SystemTemplate.aspx". The application has a navigation menu with "Home", "System", "Admin", and "Options". A toolbar contains icons for "Template", "Serialized", "Create Template", "Find Template", "Xfmea Import", "Create", "Associate", "Assign Owner", "Edit", "Disassociate", "Remove Owner", "Delete", "CC List", and "Export".

The main content area is divided into two panes. The left pane, titled "USER NAME", shows a tree view of the system hierarchy under the "Template" tab. The tree structure is as follows:

- System A: A ver.vA
 - Component A.1: A.1 ver.vA.1
 - Component A.2: A.2 ver.vA.2
 - Sub-System A.3: A.3 ver.vA.3
 - Component A.3.1: A.3.1 ver.vA.3.1
 - Sub-Component A.3.1.1: A.3.1.1 ver.vA.3.1.1
 - Sub-System A.4: A.4 ver.vA.4
 - Component A.4.1: A.4.1 ver.vA.4.1
 - Component A.4.2: A.4.2 ver.vA.4.2

The right pane, titled "Information", displays details for the selected part: "A.4.2 Component A.4.2 vA.4.2". The details include "Part Number", "Part Name", "Part Version", "Retired Date", "HID", "Part ID", "Level", "System Pa", "0 Children", "Owner", and "CC List".

An "Assign Template Part Owner" dialog box is open in the foreground. It contains a list of users with "USER, FRANK" selected. The dialog has "Save", "Cancel", and "Help" buttons.

SET THE SYSTEM PREFERENCES AND CUSTOMIZE THE BEHAVIOR OF THE SYSTEM (SAMPLE SCREEN)

Preferences - Acme Enterprises Proprietary and Confidential Information - Internet Explorer

http://xfracas/admin/AdminPreferences.aspx

Home System Admin Options

Action #

Users User Groups Applicants Active Directory Security

Manage Preferences Details Lists Configure

User Categories Action Categories Criticality

Diagnostics Resource Editor Tools

Entities Import Report Viewer

Save Preferences

USER NAME Preferences Acme Enterprises

System-Wide Preferences

Acme Enterprises - Boolean Preferences:

Preference Name	Change Description/Setting
Action - Allow Setting Due Date Before Current Date	<input checked="" type="radio"/> True <input type="radio"/> False
Analysis - Fixed Daily Operating Hours	<input type="radio"/> True <input checked="" type="radio"/> False
Analysis - Weibull++ Export Rollup	<input type="radio"/> True <input checked="" type="radio"/> False
CSI - Commission Date Required	<input checked="" type="radio"/> True <input type="radio"/> False
CSI - Create Incident Link Transfers Hours from CSI	<input checked="" type="radio"/> True <input type="radio"/> False
CSI - Display All Authorized Service Technicians	<input checked="" type="radio"/> True <input type="radio"/> False
CSI - Display Calculated System Downtime	<input checked="" type="radio"/> True <input type="radio"/> False
CSI - Display Chargeable Incident Count	<input checked="" type="radio"/> True <input type="radio"/> False
CSI - Display CSI Wizard	<input checked="" type="radio"/> True <input type="radio"/> False
CSI - Display Delivery Date	<input checked="" type="radio"/> True <input type="radio"/> False
CSI - Display MTBCF	<input checked="" type="radio"/> True <input type="radio"/> False
CSI - Display MTBF	<input checked="" type="radio"/> True <input type="radio"/> False
CSI - Display MTBI	<input checked="" type="radio"/> True <input type="radio"/> False
CSI - Display MTBNCF	<input checked="" type="radio"/> True <input type="radio"/> False
CSI - Display Non-Chargeable Incident Count	<input checked="" type="radio"/> True <input type="radio"/> False
CSI - Enable Operational Availability	<input checked="" type="radio"/> True <input type="radio"/> False
CSI - Extended Warranty Purchase Anytime	<input checked="" type="radio"/> True <input type="radio"/> False
CSI - Show All Unit Contact Names	<input checked="" type="radio"/> True <input type="radio"/> False
E-mail - Action Owner on Update	<input type="radio"/> True <input checked="" type="radio"/> False
E-mail - Action Status Update	<input checked="" type="radio"/> True <input type="radio"/> False
E-mail - Action Status Update Associated Owner Checked	<input type="radio"/> True <input checked="" type="radio"/> False
E-mail - Action Status Update Creator Checked	<input type="radio"/> True <input checked="" type="radio"/> False
E-mail - Action Status Update Team Checked	<input type="radio"/> True <input checked="" type="radio"/> False
E-mail - BCC Administrator on XFRACAS Data Sent	<input type="radio"/> True <input checked="" type="radio"/> False
E-mail - CC Incident Owner Action Due Date	<input checked="" type="radio"/> True <input type="radio"/> False
E-mail - CC Problem Owner Action Due Date	<input checked="" type="radio"/> True <input type="radio"/> False

SET FIELD NAMES AND DISPLAY/HIDE FIELDS (SAMPLE SCREENS)

The screenshot displays the XFRACAS web application interface. The main window is titled "Details - Acme Enterprises Proprietary and Confidential Information - Internet Explorer". The URL bar shows "http://xfracas/admin/AdminDetailFields.aspx". The navigation menu includes "Home", "System", "Admin", and "Options". The "Admin" menu is expanded, showing "Users", "Applicants", "Active Directory", "Manage", "Preferences", "Details", "Lists", "User Categories", "Action Categories", "Criticality", "Diagnostics", "Resource Editor", "Entities", "Import", and "Report Viewer".

The main content area is titled "USER NAME" and "Details". It shows a list of fields for "Acme Enterprises". The fields are categorized into "Action Fields", "Company Fields", "Contact Fields", and "CSI Fields". The "CSI Fields" section is expanded, showing a list of fields with their details:

- * Build Designation: (Installation Details, 1) - Select List, Administrative Controlled
- * Primary Application: (Installation Details, 2) - Select List, Administrative Controlled
- * Mode of Operation: (Installation Details, 3) - Select List, Administrative Controlled
- * Market Segment: (Installation Details, 4) - Select List, Administrative Controlled
- * Modem Phone Number: (Installation Details, 5) - Alphanumeric Input Box
- * Associated Files: (Installation Details, 5) - (Attachments Table)
- * IP Address: (Installation Details, 6) - Alphanumeric Input Box
- * Status: (Installation Details, 7) - (Status)
- * Accessories: (Accessories, 1) - Accessory

The "CSI Detail Field" dialog box is open, showing "Detail Settings for Selected Entities". The settings are:

- Section: Installation Details
- Field Type: Select List, Administrative Controlled
- Field Name: System Type
- Field Description: System Type
- Display Order: 1
- Default Value: N/A
- Existing Dropdown: CSI/Problem - System Type
- Read-only: (dropdown)

The dialog box also includes a section for "Add or Remove Entities" with a list of entities: "Acme Enterprises", "Globex Ltd.", and "Initech Corp.". The status shows "(1/3 selected)".

MAINTAIN LISTS USED TO PROVIDE SELECTION OPTIONS IN USER INTERFACES (SAMPLE SCREEN)

Lookup Lists - Acme Enterprises Proprietary and Confidential Information - Internet Explorer

http://xfracas/admin/AdminLookupList.aspx

Home System Admin Options

Action #

Users: User Groups, Applicants, Active Directory, Security

Manage: Manage, Preferences, Details, Lists, Configure

User Categories: Action Categories, Criticality

Diagnostics, Resource Editor, Tools

Entities: Import, Report Viewer

USER NAME: Lookup Lists

Acme Enterprises

Company Sales Region

Course Certification Level

Course Certification Type

CSI Detail - Build Designation

CSI Detail - Market Segment

CSI Detail - Mode of Operation

CSI Detail - Primary Application

CSI Extended Warranty Terms

CSI/Problem - Component

CSI/Problem - Fuel Type

CSI/Problem - System Configuration

CSI/Problem - System Type

Currency Type

FA ATP Test Result

FA Customer Return Type

FA Status

Name: FA Status

Sort By: Code

Display: Description

Asc Desc

Save Export

Description Code/Name Default/Retired Dt

- Open	1	
- Suspended	2	
- Pending	3	

More Issues

MODIFY OR ALTER THE STEPS IN THE 8D PROCESS (SAMPLE SCREEN)

Choose which problem steps are shown

Hide, display or require an FRB for each step

Preferences - Acme Enterprises Proprietary and Confidential Information - Internet Explorer

Home System Admin Options Action #

User Groups Applicants Active Directory Users Security

Manage Preferences Details Lists Action Categories Criticality Tools Preferences

USER NAME Preferences Acme Enterprises

System-Wide Preferences

Acme Enterprises - Boolean Preferences:

Acme Enterprises - Date Preferences:

Acme Enterprises - Display Option Preferences:

Preference Name	Change Description/Setting
Incident - Display Part Incident Type	Not Displayed
Incident - Display Serialized Incident Type	Displayed (Default)
Incident - Display Simple Incident Type	Not Displayed
Problem - Display FRB - Describe the Problem	Not Displayed
Problem - Display FRB - Implement and Verify Containment Actions	Displayed
Problem - Display FRB - Identify and Verify Root Cause	Displayed
Problem - Display FRB - Choose and Verify Permanent Corrective Actions	Displayed
Problem - Display FRB - Implement Permanent Corrective Actions	Displayed
Problem - Display FRB - Prevent Recurrence	
Problem - Display FRB - Congratulate the Team	
XFRACAS - Language	
XFRACAS - Skin	Standard

Acme Enterprises - E-mail Preferences:

Acme Enterprises - Integer Preferences:

Preferences - Acme Enterprises Proprietary and Confidential Information - Internet Explorer

Home System Admin Options Action #

User Groups Applicants Active Directory Users Security

Manage Preferences Details Lists Action Categories Criticality Tools Preferences

USER NAME Preferences Acme Enterprises

Problem - Display Incidents by Chargeability	<input checked="" type="radio"/> True <input type="radio"/> False
Problem - Display Incidents by Status	<input type="radio"/> True <input checked="" type="radio"/> False
Problem - Display Requested Closure Date	<input type="radio"/> True <input checked="" type="radio"/> False
Problem - Show Step - Implement and Verify Containment Actions	<input checked="" type="radio"/> True <input type="radio"/> False
Problem - Show Step - Identify and Verify Root Cause	<input checked="" type="radio"/> True <input type="radio"/> False
Problem - Show Step - Implement Permanent Corrective Actions	<input checked="" type="radio"/> True <input type="radio"/> False
Problem - Show Step - Congratulate the Team	<input checked="" type="radio"/> True <input type="radio"/> False
Problem - Display Team Members	<input checked="" type="radio"/> True <input type="radio"/> False
Problem - Enable Created Date Restriction	<input checked="" type="radio"/> True <input type="radio"/> False
Problem - FRB Sign-Off CC Restriction	<input type="radio"/> True <input checked="" type="radio"/> False
Problem - FRB Sign-Off Restriction	<input type="radio"/> True <input checked="" type="radio"/> False
Project - Closure Restriction Level 1	<input type="radio"/> True <input checked="" type="radio"/> False
Project - Closure Restriction Level 2	<input checked="" type="radio"/> True <input type="radio"/> False
Project - Display Actual Completion Date	<input checked="" type="radio"/> True <input type="radio"/> False
Project - Display Associated Incidents	<input type="radio"/> True <input checked="" type="radio"/> False
Project - Display End Result	<input checked="" type="radio"/> True <input type="radio"/> False
Project - Display Revised Completion Date	<input checked="" type="radio"/> True <input type="radio"/> False
Project - Display Scope of Project	<input checked="" type="radio"/> True <input type="radio"/> False
Project - Display Target Completion Date	<input checked="" type="radio"/> True <input type="radio"/> False
Project - Display Team Members	<input checked="" type="radio"/> True <input type="radio"/> False
Project - Show Associated FA Reports	<input checked="" type="radio"/> True <input type="radio"/> False

System Architecture

Scalable, Robust Web-based System

SCALABLE, ROBUST SYSTEM ARCHITECTURE

- ⦿ ReliaSoft's FRACAS system has been designed as a web-based system to serve the needs of large organizations
- ⦿ XFRACAS is based on the .NET Framework. It is:
 - n-tier
 - Scalable
 - Distributable
 - Robust
 - Able to be deployed across multiple servers or on a single box

ARCHITECTURE



ARCHITECTURE

⦿ **Server Requirements:**

- Windows 2008 R2 or newer
- .NET 4.0
- IIS with support for serving ASP.NET
- SQL Server 2005 or newer OR Oracle 10g or newer (32-bit and 64-bit versions of all, full version only)

⦿ **Client Requirements (System Users):**

XFRACAS is compatible with any browser that supports the following doctype:

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"  
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
```

This includes Internet Explorer, Chrome, Firefox or Safari residing on a Windows operating system, a Mac operating system or even a tablet (such as iOS, Android, etc.)

Advanced Reliability Analysis

Direct Integration with ReliaSoft's
Desktop Applications

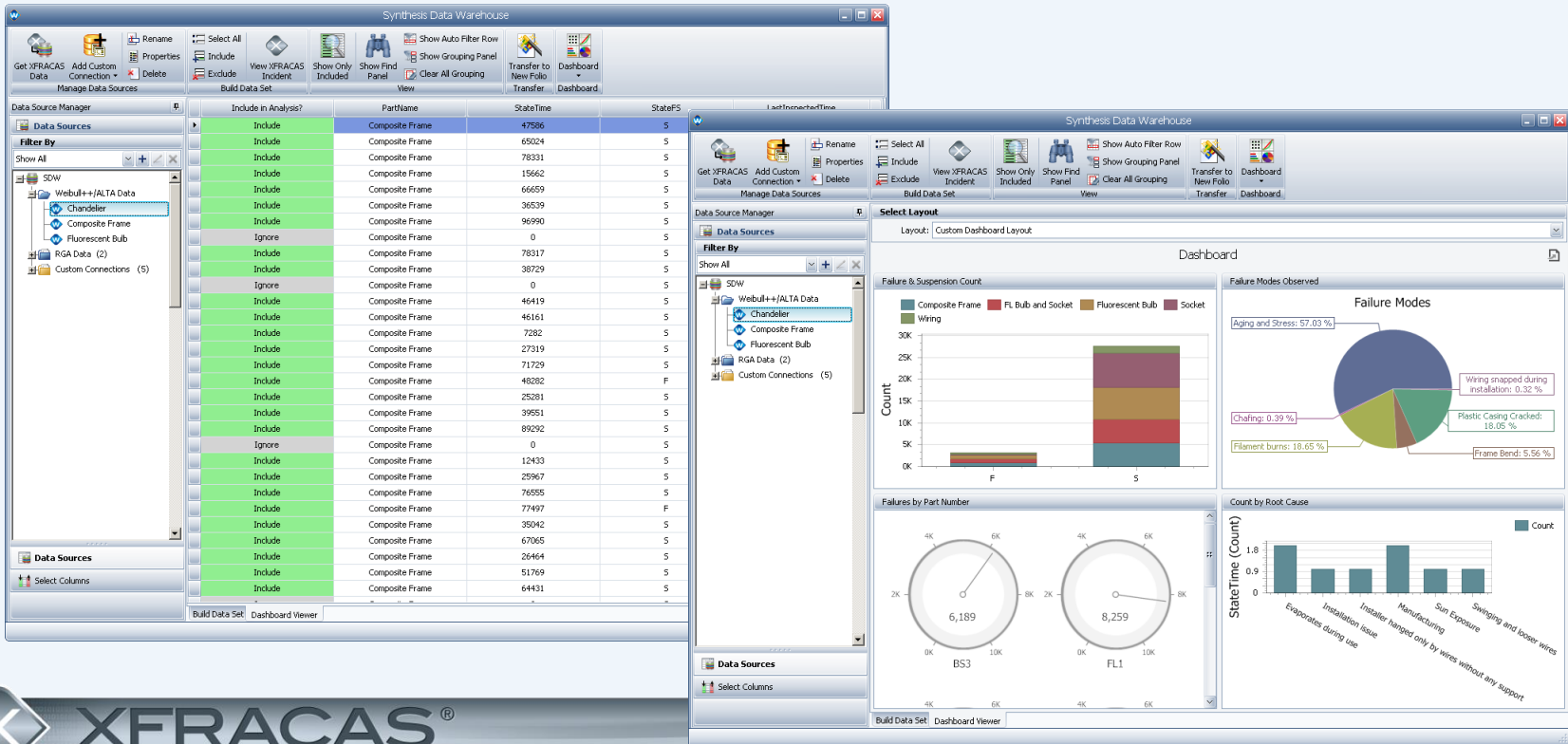
ADVANCED RELIABILITY ANALYSIS

- ⦿ The rigor and diligence used during the incident reporting and subsequent problem resolution process result in clean, usable data that can be directly integrated with ReliaSoft's advanced analysis tools
 - Life data analysis, reliability growth analysis and management, warranty forecasting, maintenance optimization, reliability allocation, etc...



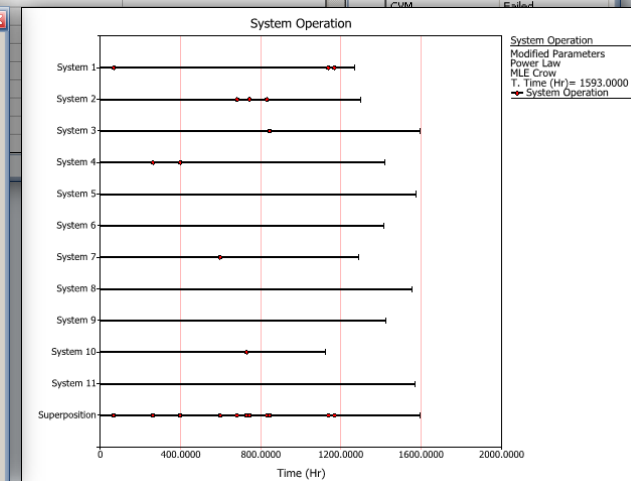
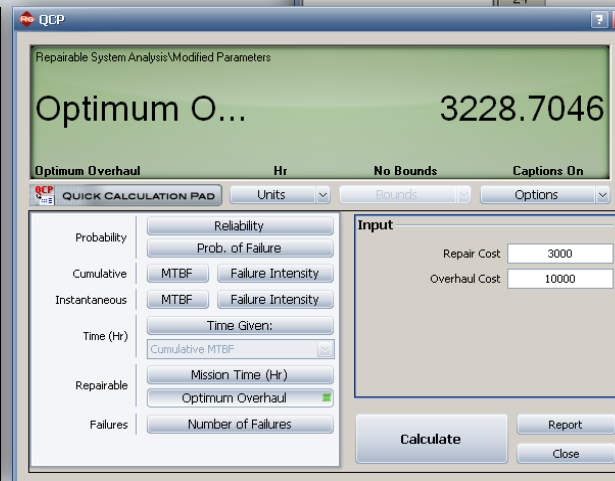
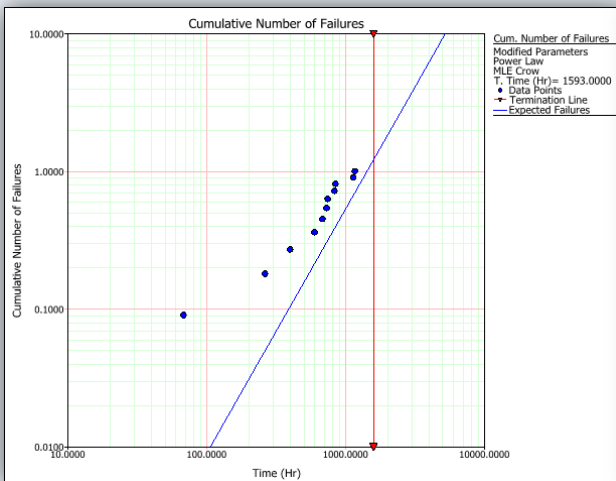
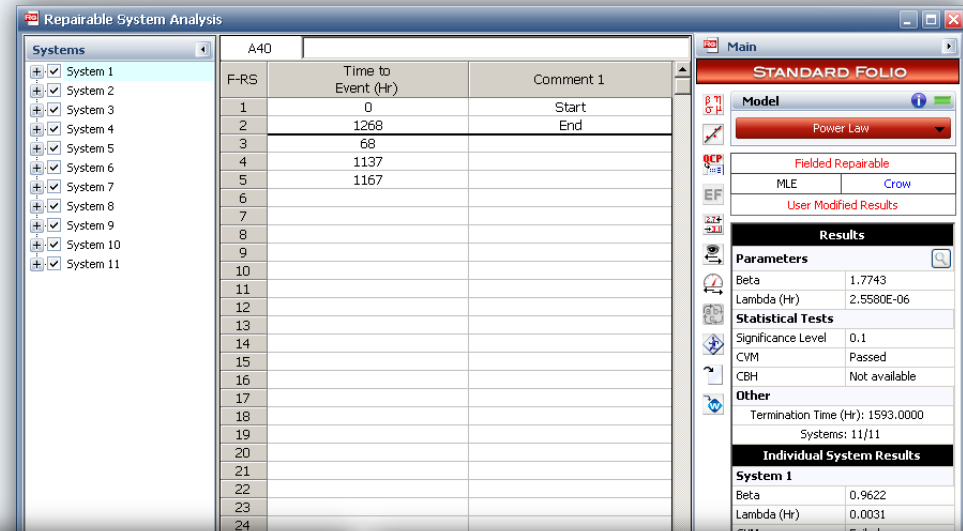
SYNTHESIS DATA WAREHOUSE (SDW)

- Extract XFRACAS data into the Synthesis Data Warehouse for direct analysis in Weibull++, ALTA or RGA.
 - Results from these analyses can be used in other Synthesis desktop applications.
- Customize and save XFRACAS reports as data sources in the SDW. Create custom dashboards to fit your specific needs.



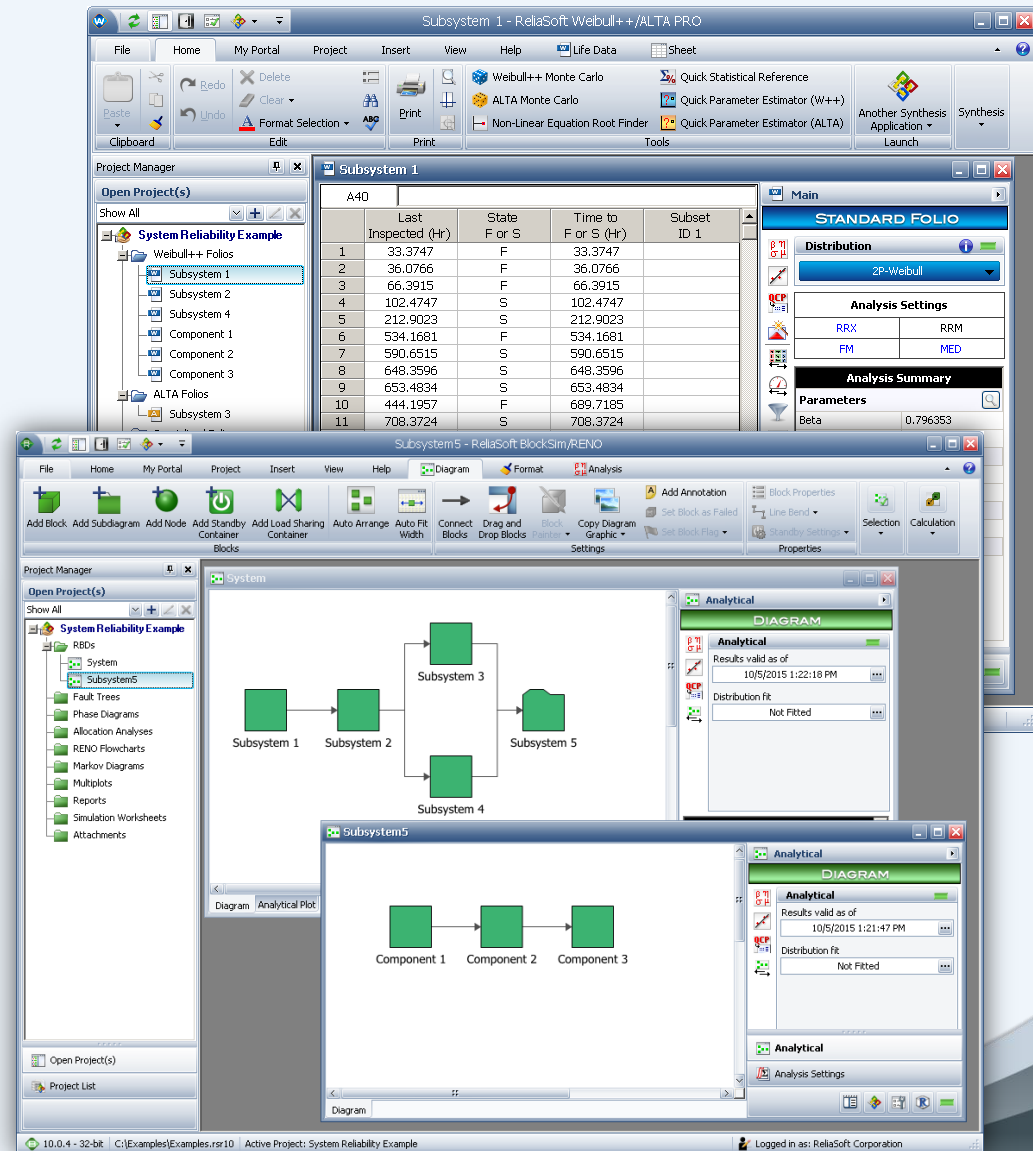
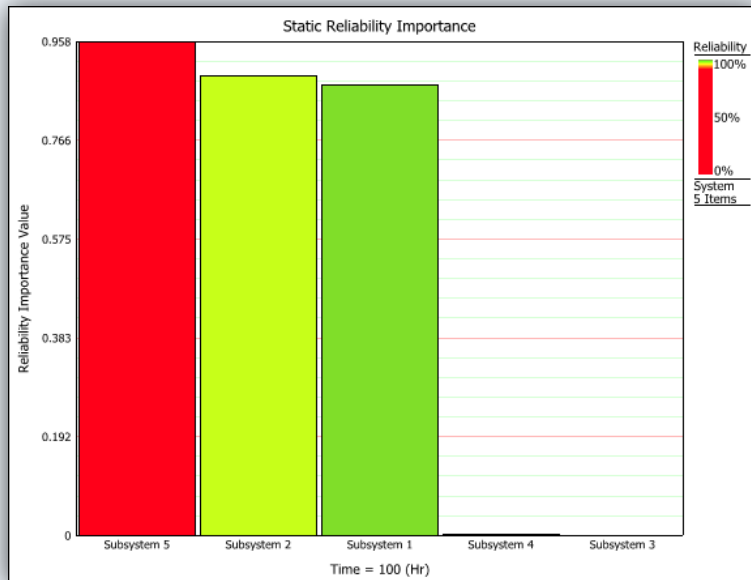
RELIABILITY GROWTH EXAMPLE

- Bring data from XFRACAS into RGA in order to:
 - Create equivalent system and analyze growth, compute reliability metrics, etc.
 - Determine optimum overhaul times, etc.



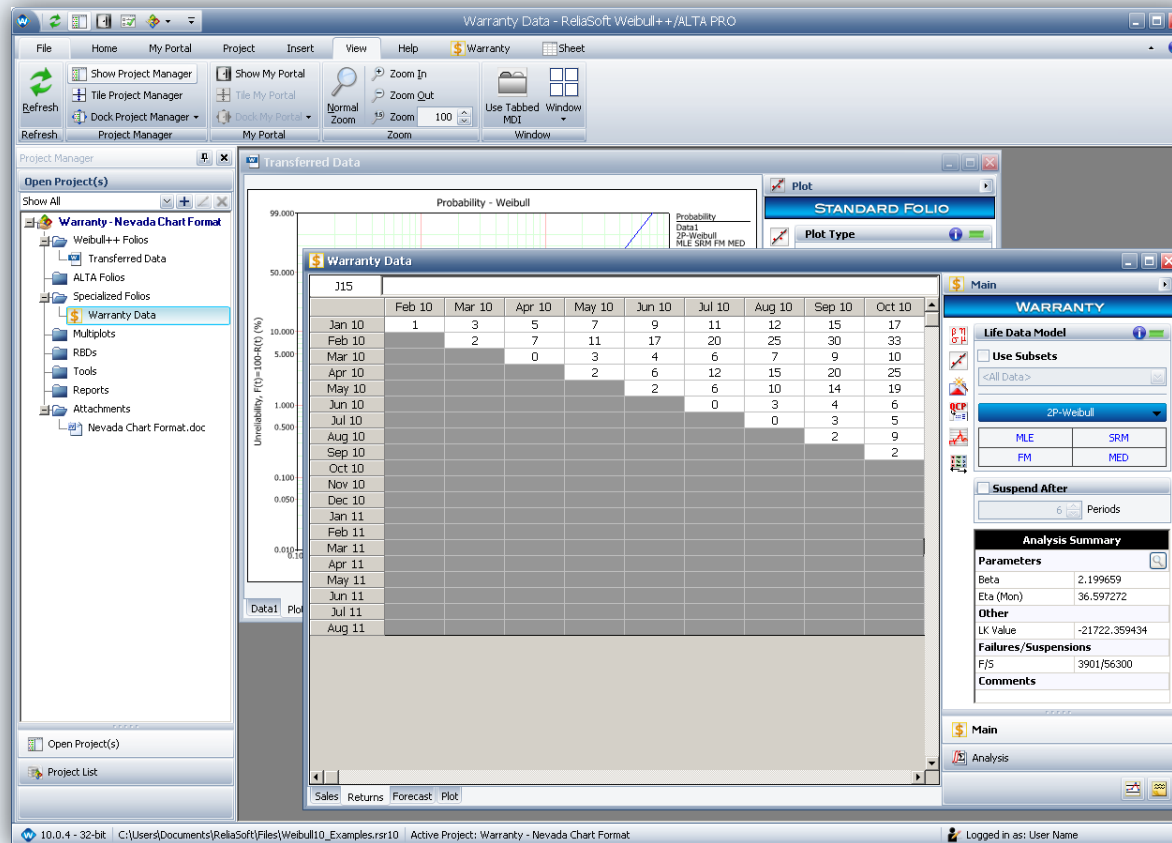
SYSTEM RELIABILITY EXAMPLE

- Hone in on issues
 - Use Weibull++ and BlockSim to model, analyze and study the system and its components



LIFE DATA ANALYSIS EXAMPLE

- Perform warranty analysis and warranty forecasts, and monitor trends

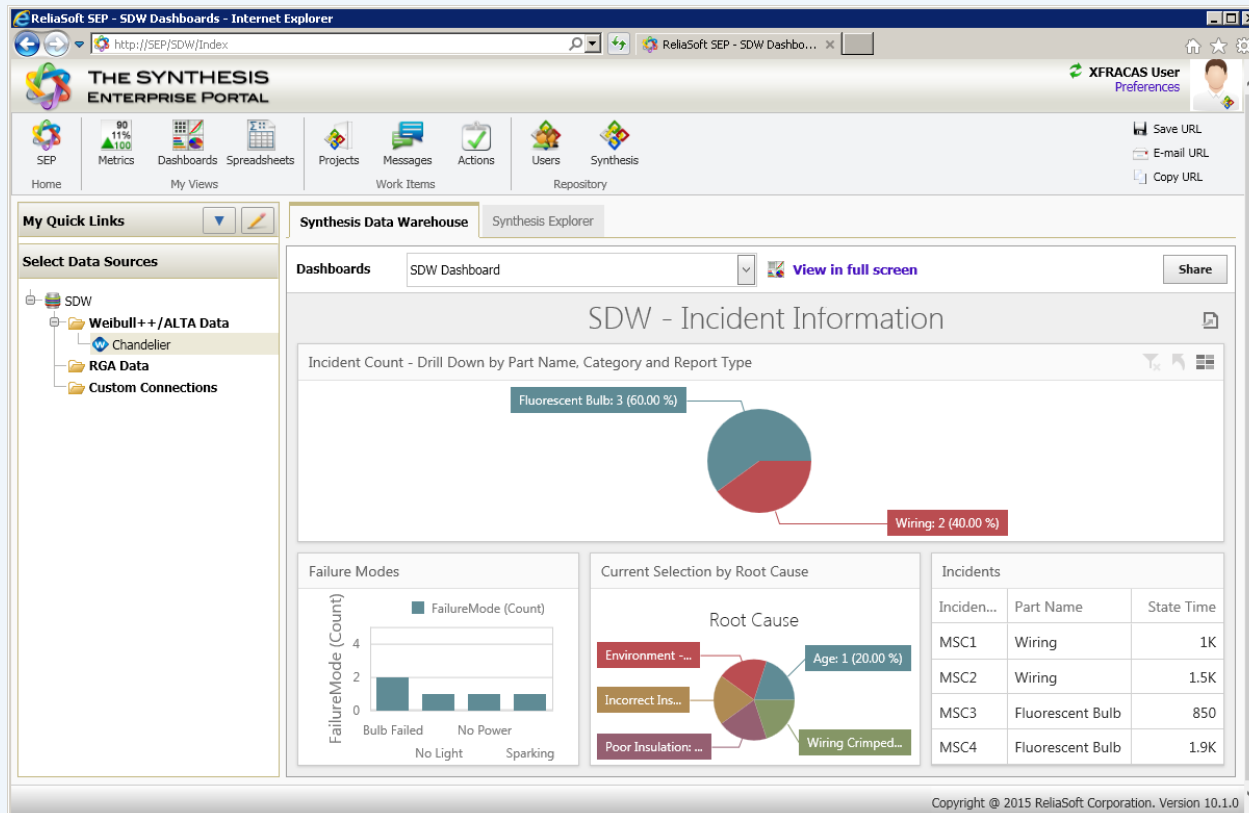


ANALYSIS OPTIONS DEPEND ON THE DATA

- ⦿ Depending on how XFRACAS is configured and how you choose to process incidents, different analysis options will be available
 - For example, if the system and data entry are based on fully serialized systems, then complete time-to-failure data by system, subsystem and component will be available for in-depth analysis

VIEW DATA IN THE SYNTHESIS ENTERPRISE PORTAL

- If your organization has implemented the Synthesis Enterprise Portal (SEP), those users will be able to view the SDW dashboards from any web-enabled device, even if they don't have direct access to XFRACAS. The SEP also provides a link to the XFRACAS site for users who have access to both.



ReliaSoft®

EMPOWERING THE RELIABILITY PROFESSIONAL



TOOLS TO EMPOWER
THE RELIABILITY PROFESSIONAL



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Tucson

São Paulo

Warsaw

Chennai

Singapore

Worldwide Headquarters (North America)

ReliaSoft Corporation
1450 S. Eastside Loop
Tucson, AZ 85710-6703, USA
Phone: (+1) 520-886-0410
(USA/Canada Toll Free: 1-888-886-0410)
Fax: (+1) 520-886-0399
E-mail: Sales@ReliaSoft.com
Web site: www.ReliaSoft.com

Regional Centers

See <http://Directory.Reliasoft.com> for complete contact info.

Europe and Middle East

ReliaSoft Corp. Poland Sp. z o.o.
Warsaw, Poland

Asia Pacific

ReliaSoft Asia Pte Ltd
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Chennai, India

