X-Force Alarm Client

Splash Screen

Splash Screen: A splash screen is a graphical control element consisting of a window containing image, a logo, and the current version of the software.

Splash screen typically used for notify the user that the program is in the process of loading. They provide feedback that a process is underway. Occasionally, progress bar within the splash screen indicates the loading progress. A splash screen disappears when the application's main windows appears.

Splash screen progress bar percentage wise list of application processes are as below.

20% - It will check that if application is having a valid license file on path or not, if it doesn't contains a license file than it will start application as remote client else it will check that existing license fule is valid or not. If license is currupt than it will show a message "Invalid license file. Contact SSM InfoTech! ". If license is fine than it will set its property. If license is for enterprise than it will check for wnterprise feature that if it has feature of enterprise channels or not. If not than it will display a message "You are not having license of channel. Contact SSM InfoTech!".Authorization will successfully loaded.

30% -It will replace white space with null characters and open database configuration window.If user has not checked a check box "Always use this database" then it will ask for database configuration else not.

40% - It will check for X-Force Alarm Client.xml file exists or not.If not than it will create that XML file and store database configuration into that.It will find a PasswordOnExit.xml file, if yes than it will store exit time password.

50% - It will get value from xml file for generating report either using 'Excel' or 'GemBox'

60% - It will check the application version with database. If version is different than it will display error message "Application Version is not Compatible with Database".If version columns is null than it will display error message "Application Version is not Configured in Database". If database doesn't contain column named version than it will display error message "Please Configure Application Version in Database".If application is not configured in database than it will display error message "Application is not Configured in Database". After displaying any of the error message application will exit.

70% - It will set the priority of application for log files.

90% - It will display error message if LastLogindate is greater than current date, else it will update server info.If it doesn't have No of clients in database than also it will display error message "You do Not Have Remote client License. Kindly contact SSM Infotech for License".If it doesn't find any configuration in database than it will display error message "No Server Configuration Found. Please first do the server configuration from X-Force Alarm Web".

100% - It will check for the login, it will check user authorization details. If user has checked a box named "RememberMe" than it will load username and password.If username and password are invalid than it will display an error message "Invalid user credentials".

10%,80%, - It is not having any process right now, in future if any feature are added then it will be used for that.

Application will start.

Pre Requisite

Before starting X-Force Alarm CLient Application, firstly we need necessary things:

1) Give Every One Rights to the folder where X-Force Alarm CLient application is installed.

2) User have to Keep License file Named "ssmxforce.lic" in the root folder where application is installed. if license file is not valid or expired application should exit automatically.If there is no license than appplication will start in remote client mode.

3) If any configuration is saved previously then application should load that configuration

It required following features in license :

```
FEATURE CONCURRENT-USER 15.25.04.0000 31-Dec-2019 5 \
    HOSTID=9C-B6-54-0B-B9-A8 MAC ISSUER=""SSM InfoTech Solutions"" \
    NOTICE="" |  | ""| SIGN="NLOTODMUAER9F2XM4XUN3OFILA7COPXZXH6TKLLSKHO="
```

If application is used on enterprise level than following feature is needed:

```
FEATURE AMS-ENTERPRISE-CHANNEL 15.25.04.0000 31-Dec-2019 1 \
    HOSTID=9C-B6-54-0B-B9-A8 MAC ISSUER=""SSM InfoTech Solutions"" \
    NOTICE="" |  | ""| SIGN="DYXFEYHJHBKMB8R9ZU1EX+AOCXBSMNEV+3OYVTO45U8="
```

If user wants to export report in excel than following feature is needed:

```
FEATURE AIMS-EXCELREPORT 15.25.04.0000 31-Dec-2019 1 \
    HOSTID=9C-B6-54-0B-B9-A8 MAC ISSUER=""SSM InfoTech Solutions"" \
    NOTICE="" |  | ""| SIGN="LN12PUWX6WLVJFBRQMDJPHXB9JPRKEFUSRLRHPGOLIO="
```

```
FEATURE AIMS-REPORT-TEXT 15.25.04.0000 31-Dec-2019 1 \
    HOSTID=9C-B6-54-0B-B9-A8 MAC ISSUER=""SSM InfoTech Solutions"" \
    NOTICE="" |  | ""| SIGN="5JDISCKE7SJZZWZLHIS/GCT79+GOPB46PYQG6FBPZVW="
```

Quickset

Quickset : Basically it is a customized filter that once created and can be used when generate report. If user has make a quickset once than he/she just needs to select a quickset from the drop down that filter will be applied on the selected report.

This is a kind of filter configuration facility which can be used for all reports with just one-time creation.

To open Quick set configuration, follow below stated path :
o Start application > Log in > Click on Filter.

To create a quick set, follow stated path:

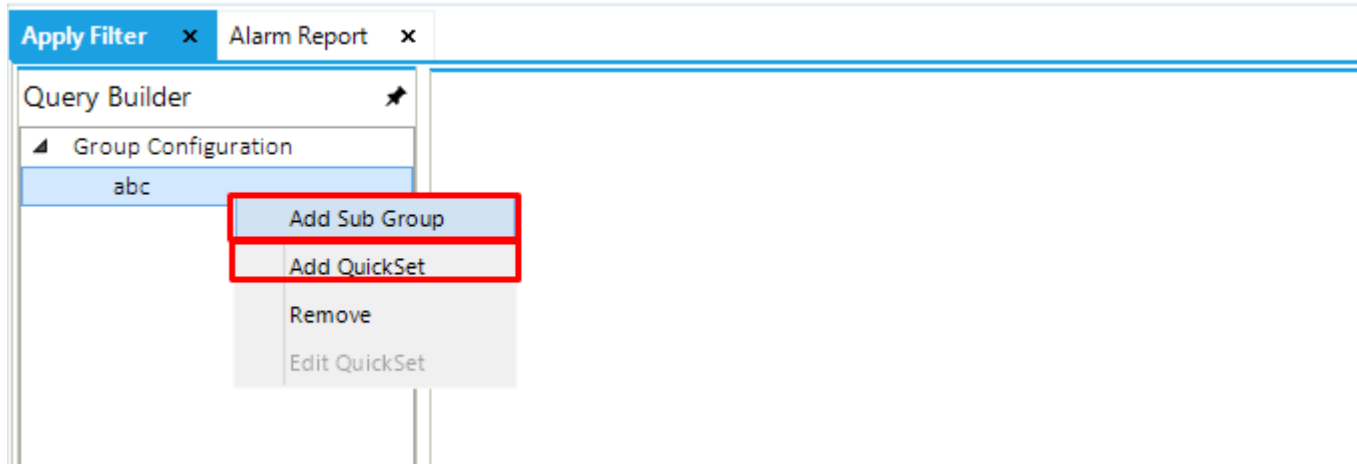Filter > Group Configuration > Right click > Add Group > Provide unique name.

User can create sub-group(s) in a group or can directly add Quick set

-> · Quick set configuration
    -> Query Builder

Apply Filter ✕   Alarm Report ✕

Query Builder

Enter Query Name   Quickset_name ▾   Clear QuickSet   Save Quickset   Apply Criteria   Close

Field Selection   **Query Builder**   Order By

IValue
LetterBug
Limit
MsgType
NewValue
Oprbit
Parameter
Priority
Provider
RecvTime
Remark
sOldValue
StateText
TagName
UNIT

Field Name :
Operator :
First Value :

Insert   Browse All

(   )

AND   OR   NOT

Remove   Clear

☐ Select All   Type & Press Enter To Search

Field List :   ChannelName,ChangeText,BlockName

▸ UNIT= A1

Order By :   AlarmType DESC

Reports

▷ ☐ Alarm System Performance
◢ ☐ General Reports
     ☐ Age of Oldest Alarm
     ☐ Alarm Performance O
     ☐ Alarm Rate
     ☐ Alarm Report
       ▷ ☐ Burst Reports
     ☐ Duration Analysis
     ☐ Frequency Analysis
     ☐ Frequency Breakup
     ☐ Frequency Monitoring
     ☐ History Alarm
     ☐ Key Performance Indi.
     ☐ Operator Action
     ☐ Symptomatic Alarms
     ☐ System Alarm
     ☐ Treemap Analysis
     ☐ Trip Analysis

Apply

o Field selection

Apply Filter ☒   Alarm Report ☒

Query Builder

Enter Query Name   Quickset_name ▼   Clear QuickSet   Save Quickset   Apply Criteria   Close

Field Selection   Query Builder   Order By

☐ AlarmName
☐ AlarmState
☐ AlarmText
☐ AlarmType
☐ Alias1
☐ Comment
☐ Console
☐ EngUnits
☐ EventStamp
☐ GroupName
☐ IOldValue
☐ IValue
☐ LetterBug
☐ Limit
☐ MsgType

∧

∨

Apply Fields

☑ ChannelName
☑ ChangeText
☑ BlockName

Field List :   ChannelName,ChangeText,BlockName

Order By :

Reports

▷ ☐ Alarm System Performanc
▲ ☐ General Reports
  ☐ Age of Oldest Alarm
  ☐ Alarm Performance O
  ☐ Alarm Rate
  ☐ Alarm Report
  ▷ ☐ Burst Reports
  ☐ Duration Analysis
  ☐ Frequency Analysis
  ☐ Frequency Breakup
  ☐ Frequency Monitoring
  ☐ History Alarm
  ☐ Key Performance Indi.
  ☐ Operator Action
  ☐ Symptomatic Alarms
  ☐ System Alarm
  ☐ Treemap Analysis
  ☐ Trip Analysis

Apply

o Order By

Apply Filter ✕   Alarm Report ✕

Query Builder

Enter Query Name   Quickset_name ▼ | Clear QuickSet | Save Quickset | Apply Criteria | Close |

Field Selection   Query Builder   **Order By**

☐ LetterBug
☐ Limit
☐ MsgType
☐ NewValue
☐ Oprbit
☐ Parameter
☐ Priority
☐ Provider
☐ RecvTime
☐ Remark
☐ sOldValue
☐ StateText
☐ TagName
☐ UNIT
☐ Alias1

∧

∨

| Asc | Desc |

Apply Sorting

☑ AlarmType

Field List :   ChannelName,ChangeText,BlockName

Order By :   AlarmType DESC

Reports

▷ ☐ Alarm System Performan
▲ ☐ General Reports
   ☐ Age of Oldest Alarm
   ☐ Alarm Performance C
   ☐ Alarm Rate
   ☐ Alarm Report
   ▷ ☐ Burst Reports
   ☐ Duration Analysis
   ☐ Frequency Analysis
   ☐ Frequency Breakup
   ☐ Frequency Monitorin
   ☐ History Alarm
   ☐ Key Performance Ind
   ☐ Operator Action
   ☐ Symptomatic Alarms
   ☐ System Alarm
   ☐ Treemap Analysis
   ☐ Trip Analysis

Apply

o Report selection for particular quick set

o For storing quick set user must store it by following below path:

♣ Do all required changes and then click on "Save Quickset"

o For applying effect after any modification in quick set then user can do it in either way as shown below:

Apply Filter ✕   Alarm Report ✕

Query Builder

Enter Query Name   [Quickset_name ▾]   [Clear QuickSet]   [Save Quickset]   [**Apply Criteria**]   [Close]

| Field Selection | **Query Builder** | Order By |

IValue
LetterBug
Limit
MsgType
NewValue
Oprbit
Parameter
Priority
Provider
RecvTime
Remark
sOldValue
StateText
TagName
UNIT

Field Name :   UNIT
Operator :   =
First Value :   Value Enter

[Insert]   [Browse All]

[( ]   [ )]

[AND]   [OR]   [NOT]

[Remove]   [Clear]

☐ Select All   Type & Press Enter To Search

Field List :   ChannelName,ChangeText,BlockName

▸ UNIT= A1

Order By :   AlarmType DESC

Reports

- ▸ ☑ Alarm System Performanc
- ▾ ☐ General Reports
  - ☑ Age of Oldest Alarm
  - ☑ Alarm Performance O
  - ☐ Alarm Rate
  - ☐ **Alarm Report**
  - ▸ ☐ Burst Reports
  - ☐ Duration Analysis
  - ☐ Frequency Analysis
  - ☐ Frequency Breakup
  - ☐ Frequency Monitoring
  - ☐ History Alarm
  - ☐ Key Performance Indi.
  - ☐ Operator Action
  - ☐ Symptomatic Alarms
  - ☐ System Alarm
  - ☐ Treemap Analysis
  - ☐ Trip Analysis

[**Apply**]

o To reset quick set settings user can use Clear Quick Set as shown below:

o User can now directly use it as a filter for its configured report(s).

Now generated report will have this filter.

Reports which are selected During creating quickset can use that quickset, in other reports this quickset will not be loaded.

Export Report

· Report is exported for user reference and it will be based on user need. Whenever user wants to take backup of generated report then it will be exported in selected format.
· There are several reports which produces huge amount of data which may have thousands or lacs of data as their child records which might be exported or not that would be decided at the time of exporting report.

User can export report using different formats :
Excel, HTML, PDF, CSV.

User can mail respactive report using Mail feature.
User can print respactive report.
User can exit by clickin on exit Icon with permission.

Excel :

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Time In Alarm Report

| Report Name | Time In Alarm Report |
| Time Span | 30-Dec-2017 06:00:00 to 30-Dec-2017 06:10:00 |

Sheet1

HTML

C:\Program Files (x86)\AlarmSuite\ExportReport\Time In Alarm 25 May 2018 23

C:\Program Files (x86)\Alar...

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Time In Alarm Report
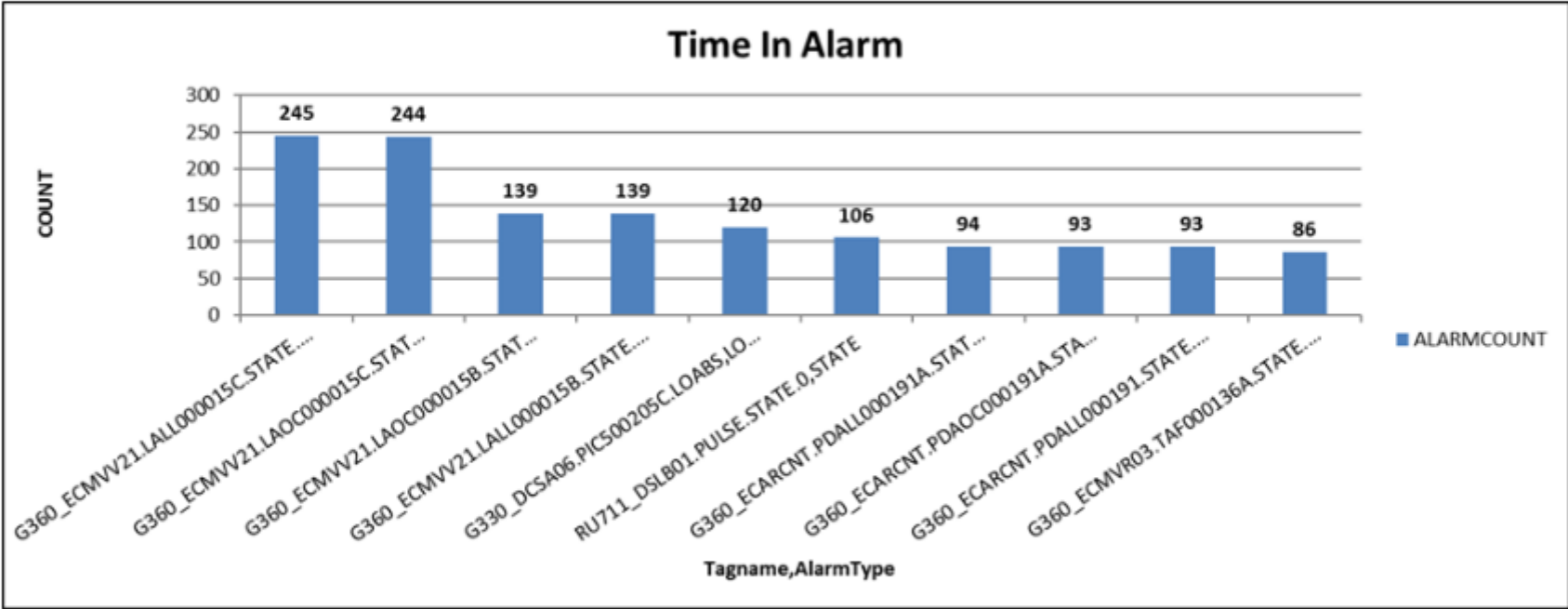
Report Name	Time In Alarm Report
Time Span	30-Dec-2017 06:00:00 to 30-Dec-2017 06:10:00
Execution Time	05-06-2018 23:57
Count	170

TAGNAME	ALARMTYPE	ACCUMULATION	ALARMCOUNT	AVERAGE	PEAK	MEDIAN	PRIORITY	COMMENT
G360_ECMVV21.LALL000015C.STATE.0	STATE	0.0:02:57	245	00:00:00	00:00:03	0.0:00:01	3	TR-01 SLAG VENT KOD V021 LVL
G360_ECMVV21.LAOC000015C.STATE.0	STATE	0.0:07:04	244	00:00:01	00:00:08	0.0:00:01	3	TR-01 SLAG TANK VENT KO DRM V021

CSV

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	SSM Infotech													
2	Alarm Report													
3														
4	Report Name :	Alarm Report												
5	Execution Time :	06-06-2018 00:00												
6	Filter :													
7	Count :	1000												
8														
9	CHANNELNAME	EVENTSTAMP	TAGNAME	COMMEN	MSGTYPE	ALARMTYI	NEWVALU	ENGUNITS	ALARMST/	REMARK				
10	DCS_PIB107_CH7	59:58.7	RU711_DS	COMMUN	RTN	STATE	0		UNACK_RTN					
11	DCS_PIB105_CH5	59:58.7	G361_EFM	TR-02 SULI	ALM	STATE	0		UNACK_ALM					
12	DCS_PIB105_CH5	59:58.7	G361_EFM	TR-02 SULI	RTN	STATE	0		UNACK_RTN					
13	DCS_PIB105_CH5	59:58.7	G361_EFM	TR-02 SULI	ALM	STATE	0		UNACK_ALM					
14	DCS_PIB103_CH3	59:58.0	G650_DCS	LIN BACK I	ALM	HIABS	-170	PNT, Units	UNACK_ALM					
15	DCS_PIB107_CH7	59:57.7	RU711_DS	COMMUN	ALM	STATE	0		UNACK_ALM					
16	DCS_PIB105_CH5	59:57.7	G361_EFM	TR-02 SULI	ALM	STATE	0		UNACK_ALM					
17	DCS_PIB105_CH5	59:57.7	G361_EFA	TR-02 ACII	ALM	STATE	0		UNACK_ALM					
18	DCS_PIB105_CH5	59:57.7	G361_EFA	TR-02 ACII	RTN	STATE	0		UNACK_RTN					
19	DCS_PIB105_CH5	59:57.7	G361_EFM	TR-02 SULI	RTN	STATE	0		UNACK_RTN					
20	DCS_PIB105_CH5	59:57.7	G361_EFA	TR-02 ACII	RTN	STATE	0		UNACK_RTN					
21	DCS_PIB105_CH5	59:57.7	G361_EFM	TR-02 SULI	RTN	STATE	0		UNACK_RTN					
22	DCS_PIB104_CH4	59:57.6	G330_DCS	H2S FRAC	ALM	LOABS	0.0358	MEAS, Uni	UNACK_ALM					
23	DCS_PIB105_CH5	59:57.2	G361_EFA	TR-02 ACII	ALM	STATE	0		UNACK_ALM					
24	DCS_PIB105_CH5	59:57.2	G361_EFA	TR-02 ACII	RTN	STATE	0		UNACK_RTN					

◄ ► **Alarm Report 06 Jun 2018 00_00_** ⊕

PDF

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Alarm Report

Report Name :	Alarm Report
Execution Time :	06-06-2018 00:01
Filter :	
Count :	1000

CHANNELNAME	EVENTSTAMP	TAGNAME	COMMENT	MSGTYPE	ALARMTYPE	NEWVALUE	ENGUNITS	ALARMSTATE	REMARK
DCS_PIB107_CH7	31-Dec-2017 23:59:58.700	RU711_DSLB01.PULSE.STATE.0	COMMUNICATION CHEKING TO DCS	RTN	STATE	0		UNACK_RTN	
DCS_PIB105_CH5	31-Dec-2017 23:59:58.700	G361_EFMTT01.F1OO2000097.STATE.0	TR-02 SULFR PIT SWEEP AIR FLW	ALM	STATE	0		UNACK_ALM	
DCS_PIB105_CH5	31-Dec-2017 23:59:58.700	G361_EFMTT01.FALL000097C.STATE.0	TR-02 SULFUR PIT SWEEP AIR FLW	RTN	STATE	0		UNACK_RTN	
DCS_PIB105_CH5	31-Dec-2017 23:59:58.700	G361_EFMTT01.FAOC000097C.STATE.0	TR-02 SULFUR PIT SWEEP AIR FLW	ALM	STATE	0		UNACK_ALM	
DCS_PIB103_CH3	31-Dec-2017 23:59:58.000	G650_DCS106.TI700039.HIABS	LIN BACK PMP A COOLED DOWN	ALM	HIABS	-170	PNT, Units="C	UNACK_ALM	
DCS_PIB107_CH7	31-Dec-2017 23:59:57.700	RU711_DSLB01.PULSE.STATE.0	COMMUNICATION CHEKING TO DCS	ALM	STATE	0		UNACK_ALM	
DCS_PIB105_CH5	31-Dec-2017 23:59:57.700	G361_EFMTT01.FALL000097C.STATE.0	TR-02 SULFUR PIT SWEEP AIR FLW	ALM	STATE	0		UNACK_ALM	
DCS_PIB105_CH5	31-Dec-2017 23:59:57.700	G361_EFAGCNT.FALL000090C.STATE.0	TR-02 ACID GAS TO RF ZONE 1	ALM	STATE	0		UNACK_ALM	
DCS_PIB105_CH5	31-Dec-2017 23:59:57.700	G361_EFAGCNT.FAOC000090C.STATE.0	TR-02 ACID GAS TO RF ZONE 1	RTN	STATE	0		UNACK_RTN	
DCS_PIB105_CH5	31-Dec-2017 23:59:57.700	G361_EFMTT01.FAOC000097C.STATE.0	TR-02 SULFUR PIT SWEEP AIR FLW	RTN	STATE	0		UNACK_RTN	
DCS_PIB105_CH5	31-Dec-2017 23:59:57.700	G361_EFAGCNT.F1OO2000090.STATE.0	TR-02 ACID GAS TO RF ZONE 1	RTN	STATE	0		UNACK_RTN	
DCS_PIB105_CH5	31-Dec-2017 23:59:57.700	G361_EFMTT01.F1OO2000097.STATE.0	TR-02 SULFR PIT SWEEP AIR FLW	RTN	STATE	0		UNACK_RTN	
DCS_PIB104_CH4	31-Dec-2017 23:59:57.600	G330_DCSA06.PICS00205C.LOABS	H2S FRAC FRM SO10A/B TO H2SF BL	ALM	LOABS	0.0358	MEAS, Units=kg/cm2 g	UNACK_ALM	
DCS_PIB105_CH5	31-Dec-2017 23:59:57.200	G361_EFAGCNT.FAOC000090C.STATE.0	TR-02 ACID GAS TO RF ZONE 1	ALM	STATE	0		UNACK_ALM	
DCS_PIB105_CH5	31-Dec-2017 23:59:57.200	G361_EFAGCNT.FALL000090C.STATE.0	TR-02 ACID GAS TO RF ZONE 1	RTN	STATE	0		UNACK_RTN	
DCS_PIB105_CH5	31-Dec-2017 23:59:57.200	G361_EFAGCNT.F1OO2000090.STATE.0	TR-02 ACID GAS TO RF ZONE 1	ALM	STATE	0		UNACK_ALM	
DCS_PIB104_CH4	31-Dec-2017 23:59:57.000	SMNGO1-104CP2-04230B	Norm FF 2 21 ERROR 3 0 0 0 Device Ident Fault	SYS	SMON	0			
DCS_PIB105_CH5	31-Dec-2017 23:59:57.000	G360_ECARCNT.PDAOC000191C.STATE.0	COMB AIR FR SO0B TO ANNULS F001	RTN	STATE	0		UNACK_RTN	
DCS_PIB105_CH5	31-Dec-2017 23:59:57.000	G360_ECARCNT.PDALL000191C.STATE.0	TR-01 COMB AIR PDI TO RF ANNULS	ALM	STATE	0		UNACK_ALM	
DCS_PIB104_CH4	31-Dec-2017 23:59:56.800	G330_EEMV023.LI900032AH.STATE.1	MV-V023 LPCF	ALM	STATE	0	32	UNACK_ALM	
DCS_PIB106_CH6	31-Dec-2017 23:59:56.700	G761_EFT328.PAF463A.STATE.0	RO-III HP PM-ADISCH	RTN	STATE	0		UNACK_RTN	

Mail for generated report

· User can mail for generated report using 2 alternatives.
o Using Outlook

SR NO	FIELD NAME	DESCRIPTION
1	FROM	Sender's Mail ID
2	To	Mail Group to whom mail is to be sent
3	CC	CC Mail Group
4	BCC	BCC Mail Group

5	Mail Type	<Outlook> it requires same email ID of whose mail profile is configured in local system
6	Subject	Subject of Mail
7	Message	Mail Body description
8	Attachment	Selected report format will be attached with generated mail
9	Add	It will add mail ID of selected group in text box
10	Clear	All settings will get reset
11	Send Now	It will be using for triggering mail
12	Close	To close Mail window

o Using SMTP server

SR NO	FIELD NAME	DESCRIPTION
1	FROM	Sender's Mail ID
2	To	Mail Group to whom mail is to be sent
3	CC	CC Mail Group
4	BCC	BCC Mail Group

5	Mail Type	<SMTP> it requires SMTP server name or IP of it to send mail from local system
6	Server	SMTP Server name or SMTP server IP
7	Subject	Subject of Mail
8	Message	Mail Body description
9	Attachment	Selected report format will be attached with generated mail
10	Add	It will add mail ID of selected group in text box
11	Clear	All settings will get reset
12	Send Now	It will be using for triggering mail
13	Close	To close Mail window

User can send generated report to printer directly for printing.

Filter | Select QuickSet ▼ | ⟳ Refresh | 🧹 Clear Filter | 📊 Excel | e Html | PDF | CSV | ✉ Mail | 🖨 **Print** | Exit

Alarm Report ✕

Field : [   ] ▼   Operator : [   ] ▼   Max Records : 1000 ▼   Records : 1000 ☐ Update Interval : 20 ⏶⏷ sec(s)

Drag a column here to group by this column.

CHANNELNAME ▼	EVENTSTAMP ▼	TAGNAME ▼	COMMENT ▼	MSGTYPE ▼	ALARMTYPE ▼	NEWVALUE ▼	ENGUNITS ▼	ALARMSTATE ▼	REMARK ▼
Contains: ▼	Equals: ▼	Contains: ▼	Contains: ▼	Contains: ▼	Contains: ▼	Contains: ▼	Contains: ▼	Contains: ▼	Contains: ▼
▶ DCS_PIB104_CH4	30-Dec-2017 23:5...	G330_DCSB99...	MV-C006 SLM...	ALM	BAD	0		UNACK_ALM	
DCS_PIB105_CH5	30-Dec-2017 23:5...	G361_EFMVR0...	TR-02 H2 REAC...						
DCS_PIB105_CH5	30-Dec-2017 23:5...	G360_ECARCN...	TR-01 COMB A...						
DCS_PIB105_CH5	30-Dec-2017 23:5...	G360_ECARCN...	TR-01 COMB A...						
DCS_PIB105_CH5	30-Dec-2017 23:5...	G360_ECARCN...	COMB AIR FR...						

Printing Report

Print

General

Select Printer

🖨 Generic / Text Only_1006   🖨 Send To OneNote 2010
🖨 Generic / Text Only_1007   🖨 Send To OneNote 2013
🖨 Microsoft XPS Document Writer   🖨 Test_Tri

◀ [▐▌▐▌▐▌   ] ▶

Status: Ready   ☐ Print to file   [Preferences]
Location:
Comment: [Find Printer...]

Page Range
◉ All
○ Selection   ○ Current Page   Number of copies: 1 ⏶⏷
○ Pages: [0]
Enter either a single page number or a single   ☑ Collate
page range. For example, 5-12   1²3 1²3

[Print]   [Cancel]   [Apply]

DCS_PIB105_CH5	30-Dec-2017 23:5...	G360_ECMVR...	TR-01 H2 REAC...						
DCS_PIB104_CH4	30-Dec-2017 23:5...	G330_PPLCDI...	HEARTBIT-						
DCS_PIB104_CH4	30-Dec-2017 23:5...	G330_PPLC02...	INPUT/OUTPU...						
DCS_PIB104_CH4	30-Dec-2017 23:5...	SMNGO1-104...	Warning Error...						
DCS_PIB105_CH5	30-Dec-2017 23:5...	G360_ECMVV...	TR-01 SLAG TA...	RTN	STATE	0		UNACK_RTN	
DCS_PIB105_CH5	30-Dec-2017 23:5...	G360_ECMVV...	TR-01 SLAG VE...	ALM	STATE	0		UNACK_ALM	
DCS_PIB105_CH5	30-Dec-2017 23:5...	G355_DCS205...	VENT GAS FRM...	ALM	STATE	0		UNACK_ALM	
DCS_PIB105_CH5	30-Dec-2017 23:5...	G355_DCS205...	VENT GAS FRM...	RTN	STATE	0		UNACK_RTN	

General Reports

General Reports: The analyses in this category focus on the detailed analysis of alarm Events occurrence. This analyses provide in depth detail for the different parameters of the alarm events. Some analyses may not be available for some DCS systems. The alarm system performance category includes the following types of analyses:

Alarm Burst Report

The **Alarm burst** analysis present the Rush of Alarm events for the specified time Period.

Alarm Burst report allows to do analysis of data in 10 minutes Slots. It represent the alarm flow for each 10 minutes for the given time duration.

Alarm Burst = Alarm per 10 minutes.

Navigation: Report Menu -> General Reports -> Alarm Burst

To analyze Alarm Burst: Follow Steps as mention below to do Analysis with Alarm Burst Report.

1) Go to Reports Menu and select General Reports, in that select Alarm Burst Report and click on it.

2) Select Start Date and End Date Parameters from Criteria Toolbar

3) Duration Box allows to select duration in minutes to do the slots for the analysis. By default duration is 10 minutes.

4) Alarm count box allow you to select the count which you want to exclude or include in Report.i.e if alarm Count = 3 and Exclude in report is checked than it will display only that slot of duration which has Alarm count greater than 3.

5) Click on Refresh button from Operation Toolbar.

Alarm Performance Overview

The **Alarm Performance overview** present the day/hour wise alarm Activity analysis .it will display daily/hourly alarm Rate, Average alarm rate ,total alarm Occurrence ,etc.

Navigation: Report Menu -> Alarm system Performance -> Alarm Performance overview

To analyze Alarm Performance Overview: Follow Steps as mention below to do Analysis with Alarm Performance Overview Report.

1) Go to Reports Menu and select General Reports, in that select Alarm Performance Report and click on it.

2) Select Start Date and End Date Parameters from Criteria Toolbar

3) Select the type of analysis you want to do among: 1) alarm Performance overview (represent the daily analysis) and 2) Hourly performance overview (represent the hourly analysis).

4) Click on Refresh button from Operation Toolbar.
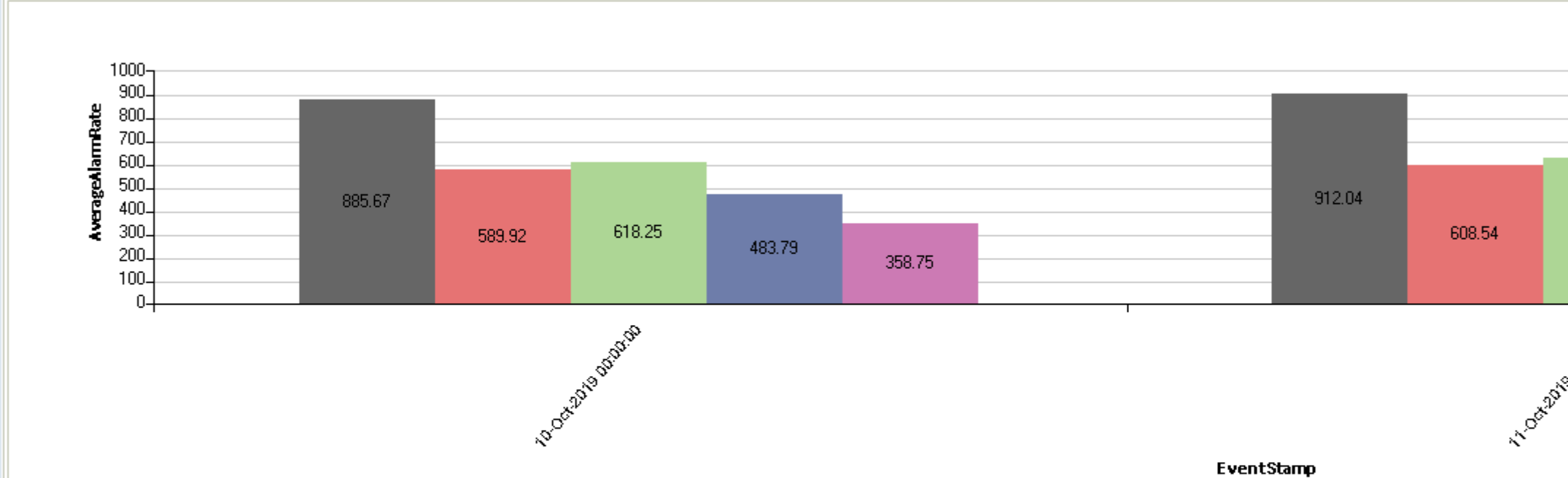
X-Force Alarm Client

System | Tools | Reports | Help

Filter [Select QuickSet ▼] | Refresh | Clear Filter | Show Records | Excel | Html | PDF | CSV | Print | Exit

☑ Select Date [10-Oct-2019 00 ▼] To [12-Oct-2019 00 ▼] | ☐ Frequency [Select Frequency ▼] [10 ▲▼] [Shift A ▼] | Records : 2

Alarm Performance Overview ✕ | History Alarms ✕ | Apply Filter ✕ | Alarm Report ✕

Type of Report : [Alarm Performance Overview ▼]

Group by: [Eventstamp ✕]

	Channelname ▼	MaxAlarmRate ▼	AverageAlarmRate ▼	AlarmCount ▼
	Contains:	Equals:	Equals:	Equals:

History Alarm Report

History Alarm Analysis : The History Alarm Report Present the History of Alarm events for the specified time period with message type ALM. This report will show all the data without any specific filters.

It will display data from vw_data_alarm_field for specified dates.
If user needs to verify data of history alarm report than user can fire a query on vw_data_alarm_field for certain eventstamp.
For example : select * from vw_data_alarm_field where eventstamp between 25-sep-2019 06:00:00 and 26-sep-2019 06:00:00 and MSGTYPE='ALM'

Navigation: Report Menu -> General Reports -> History Alarm

To analyze History of Alarm: Follow Steps as mention below to do Analysis with History Alarm.

1) Go to Reports Menu and select General Reports, in that select History Alarm and click on it.

2) Select Start Date and End Date Parameters from Criteria Toolbar

3) Set Interval time if you want to put History alarm Report to be updated automatically.

4) Click on Refresh button from Operation Toolbar

Alarm Rate

The **Alarm Rate** analysis Present day wise Rate of Alarm Events for the Specified Month Duration

Alarm Rate is the daily analysis of alarm .it helps to know the flow of alarm on daily basis.

Navigation: Report Menu -> General Reports -> Alarm Rate

To analyze Alarm Rate: Follow Steps as mention below to do Analysis with Alarm Rate Report.

1) Go to Reports Menu and select General Reports, in that select Rate Report and click on it.

2) Select Start Date and End Date Parameters from Criteria Toolbar

3) Select the month for which you want to do Daily alarm rate analysis.

4) In alarm Rate you can select the alarm rate.

5) Click on Refresh button from Operation Toolbar.

Symptomatic Alarm

The **Symptomatic Alarms** Revels the symptoms of alarm activity relevant to the Tagname with all alarm details .it displays tags and its concurrent activity before and after any particular Tagname.

This Report displays symptoms of alarm's events that is useful to analysis for further process.

Symptomatic Alarm Report displays tags and its concurrent listing of before and after data

Navigation: Report Menu -> General Reports -> Symptomatic Alarms

To analyze Symptomatic Alarms: Follow Steps as mention below to do Analysis with Symptomatic Alarms.

1) Go to Reports Menu and select General Reports, in that select Symptomatic Alarms Report and click on it.

2) Select Start Date and End Date Parameters from Criteria Toolbar.

3) Click on Refresh button from Operation Toolbar
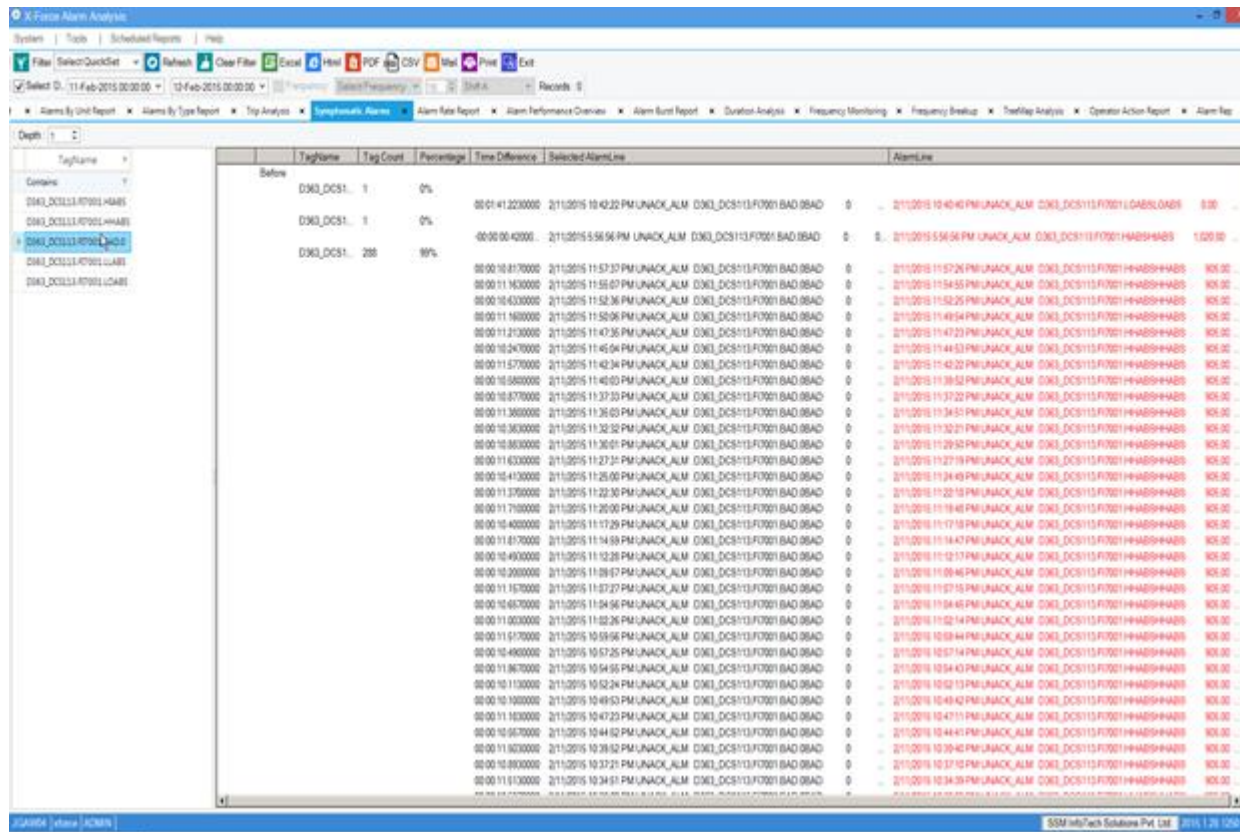
Trip Analysis

The **Trip analysis** graphically represent the Data of one hour in slots of minutes with total alarm occurrences.

Trip analysis report displays data of 1 hour .in that it displays first 10 minutes and then shows data of every 10 minutes in priority and count based.

Navigation: Report Menu -> General Reports -> Trip analysis

To analyze Trip analysis: Follow Steps as mention below to do Analysis with Trip analysis.

1) Go to Reports Menu and select General Reports, in that select Trip analysis Report and click on it.

2) Select Start Date and End Date Parameters from Criteria Toolbar.

3) Click on Refresh button from Operation Toolbar
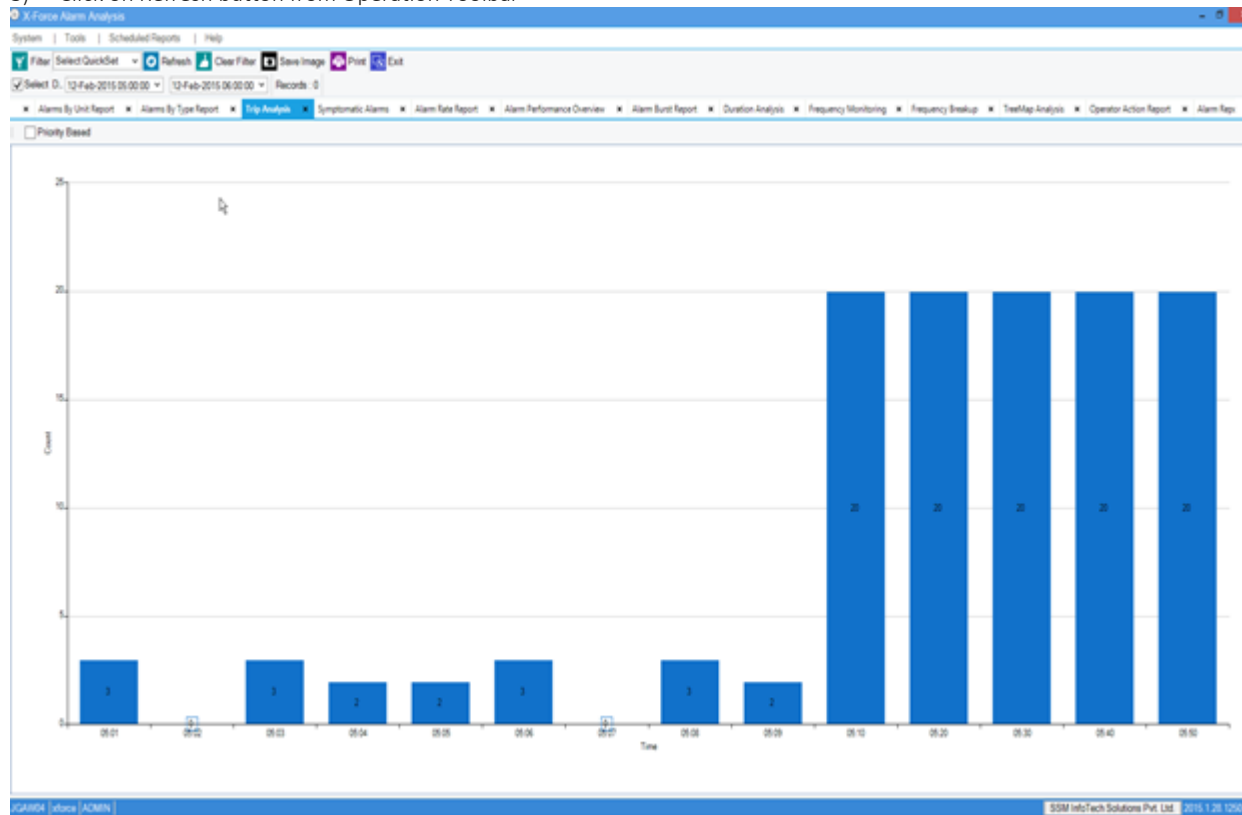
You have another checkbox on the top left : **Priority Based**

If you select this option than user will have columnstack chart , it will have priority wise data in a single bar for a minute.

X-Force Alarm Client

System | Tools | Reports | Help

Filter Select QuickSet ⟳ Refresh Clear Filter Save Image Print Exit

☑ Select Date 03-Oct-2019 00:00:00 03-Oct-2019 01:00:00 Records : 0

Trip Analysis ✕ | Symptomatic Alarms ✕ | Alarm Rate ✕ | Alarm Performance Overview ✕ | History Alarms ✕ | Apply Filter ✕ | Alarm Report ✕

☑ Priority Based

Count

700

600

500

400

300

200

100

42

31   16   7   30   16   5   13   8   15

Operator Action Report

The **Operator Action** Report present the list of Alarms which are generated due any action taken by operator for the specified time period.
It has MsgType as **OPR.**
When operator is taking any action on the system than this type of alarm will be generate.

Navigation: Report Menu -> General Reports -> Operator Action

To analyze Operator Action Report: Follow Steps as mention below to do Analysis with Operation Action.

1) Go to Reports Menu and select General Reports, in that select Operator Action and click on it.

1) Select Start Date and End Date Parameters from Criteria Toolbar

2) Click on Refresh button from Operation Toolbar

System Alarm Report

 The System Alarm analysis present the list of Alarms generated due to any system or software failure for the specified time period. In AIMS we have given unique identification to system alarm that is Message

Type **SYS.**

This types of alarm has MsgType as **SYS.**

User can find system alarm from **SYS** msgtype.

PFA

Navigation: Report Menu -> General Reports -> System Alarm
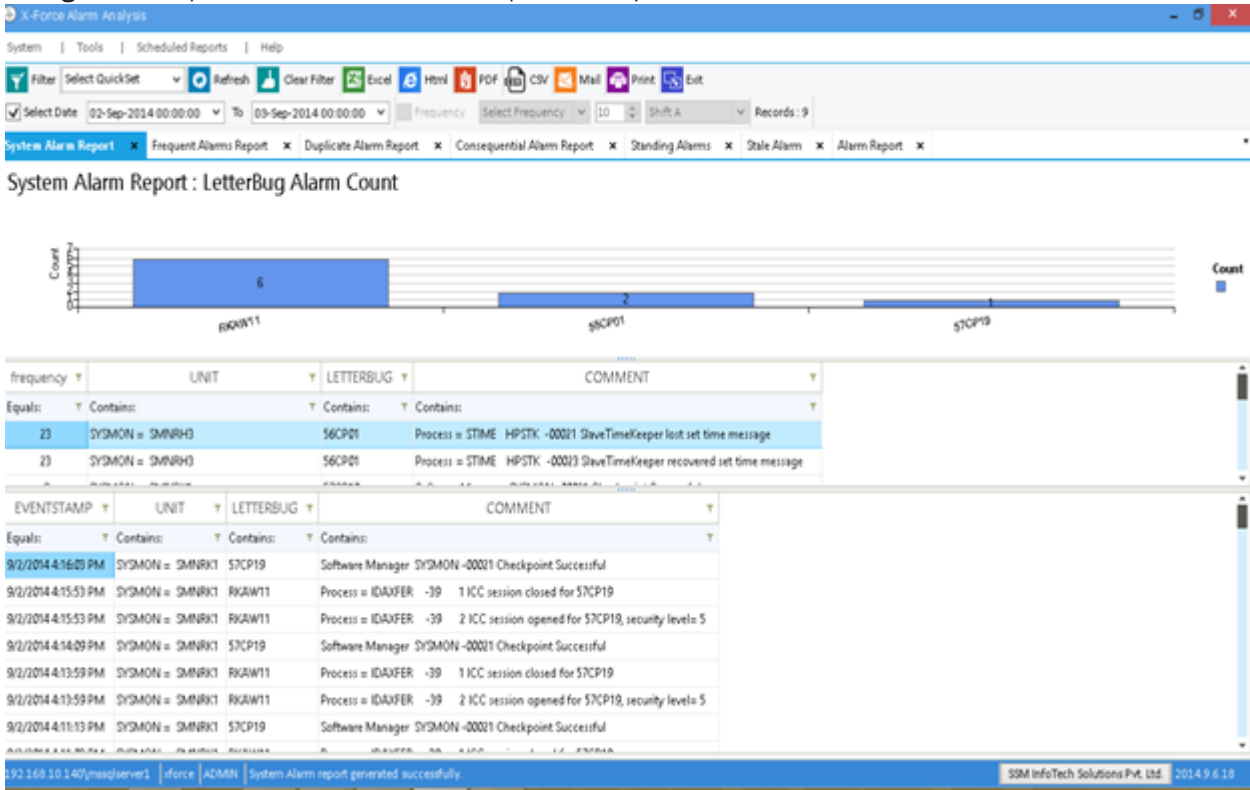
To analyze System Alarm: Follow Steps as mention below to do Analysis with System Alarm.

1) Go to Reports Menu and select General Reports, in that select system Alarm and click on it.

2) Select Start Date and End Date Parameters from Criteria Toolbar

3) Click on Refresh button from Operation Toolbar

KPI

Key Performance Indicator (KPI) : The Key Performance Indicator (KPI) summarizes Alarm Activities and display Comparative analysis against the predefined KPI Standards.it present Plant stability in comparison with KPI Standards by displaying different analysis in one Report.

In KPI Report KPIDescription, Acceptable Limit, Actual value, Deviation, Remarks columns are there,
Deviation=Actual value-Acceptable Limit

Navigation: Report Menu -> General Reports -> Key Performance Indicator

To analyze Key Performance Indicator: Follow Steps as mention below to do Analysis with Key Performance Indicator Report.

1) Go to Reports Menu and select General Reports, in that select Key Performance Indicator and click on it.

2) Select Start Date and End Date Parameters from Criteria Toolbar

3) Type a value for the number of minutes that defines a flood period (Flood Duration which is by Default 10 mins) and a value for the number of alarms at which to begin the flood (Flood Start Count which is by default 10)

4) In the Flood End Count box , type a value for the number of alarms at which to end a flood (must be less than the Begin flood at value and by default it is 5)

5) Click on Refresh button from Operation Toolbar.

Frequency Analysis

The **Frequency analysis** reveals important trends in alarm activity by displaying the number of times an alarm event occurred during the given time.it present Alarm Activity as per different Parameters of Alarm Events Behavior. It also display alarm occurrence differently with grouping of particular selected parameter in report.

Frequency analysis report Represents top highest frequency data for the given time duration .i.e. top records = 5 than it will display all tag details which has frequency 5 or less than 5.

Navigation: Report Menu -> General Reports -> Frequency Analysis

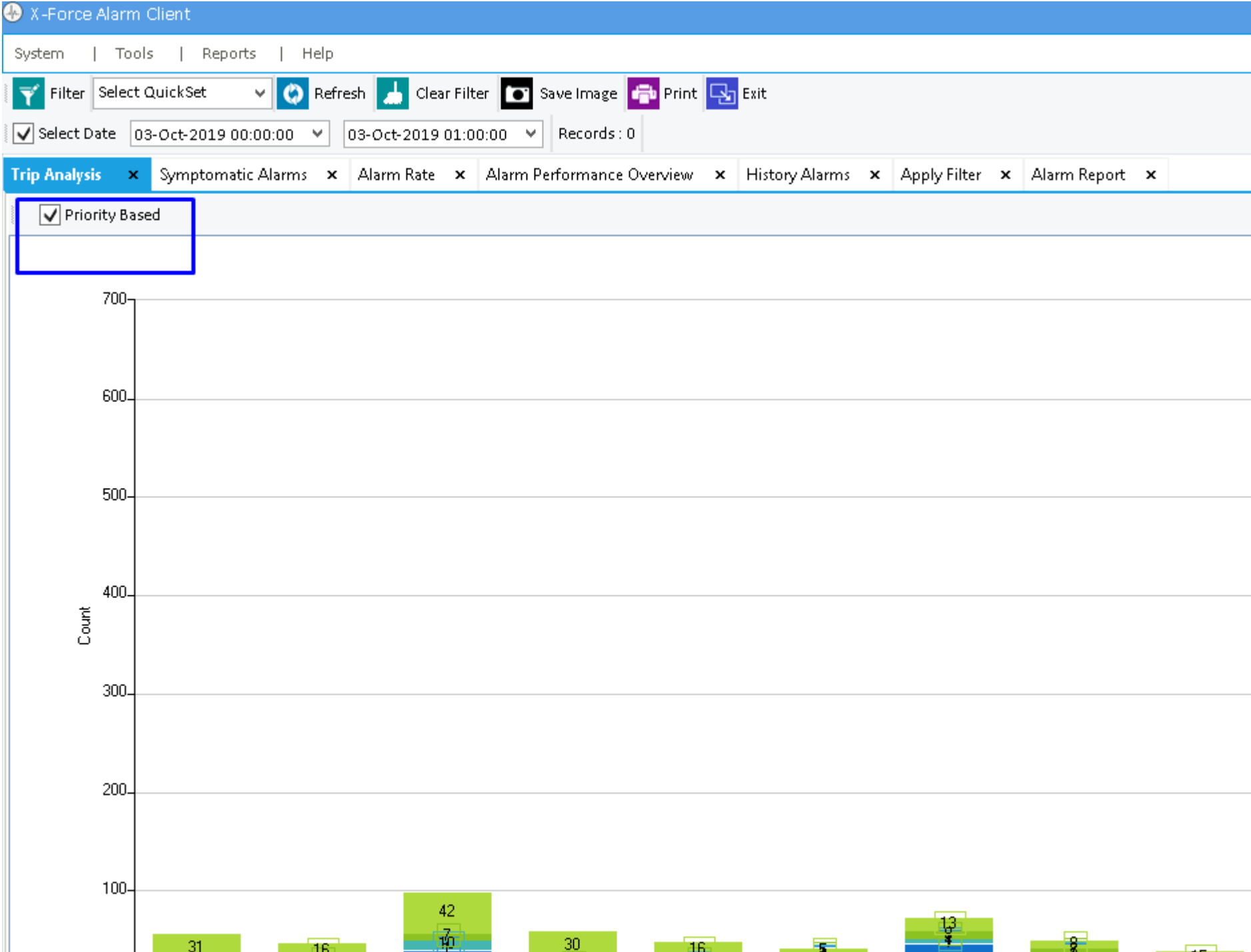**To analyze Frequency analysis:** Follow Steps as mention below to do Analysis with Frequency analysis.

1) Go to Reports Menu and select General Reports, in that select Frequency analysis and click on it.

2) Select Start Date and End Date Parameters from Criteria Toolbar

3) Enter Any Numeric Value in Top Records box, to display top frequency Alarm Details.

4) Click on Refresh button from Operation Toolbar.
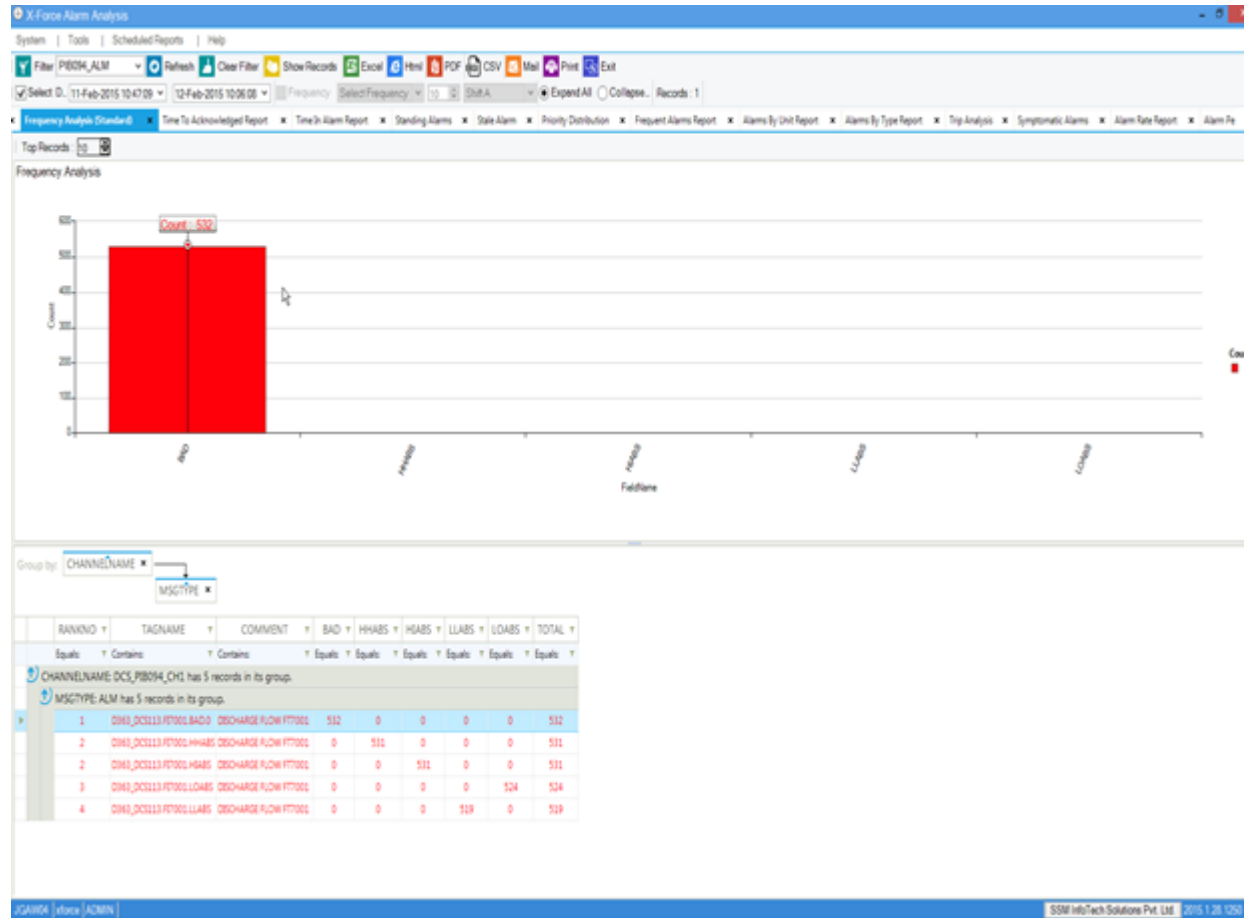
Tree Map Analysis

The **Treemap Analysis** present the alarm event's frequency details by displaying the number of times alarm event occurred .This report is the graphical representation of alarm frequency.

Navigation: Report Menu -> General Reports -> Treemap Analysis

To analyze Treemap Analysis: Follow Steps as mention below to do Analysis with Treemap Analysis.

1) Go to Reports Menu and select General Reports, in that select Frequency analysis and click on it.

2) Select Start Date and End Date Parameters from Criteria Toolbar

3) Enter Any Numeric Value in Top Records box, to display top frequency Alarm Details.

4) Click on Refresh button from Operation Toolbar
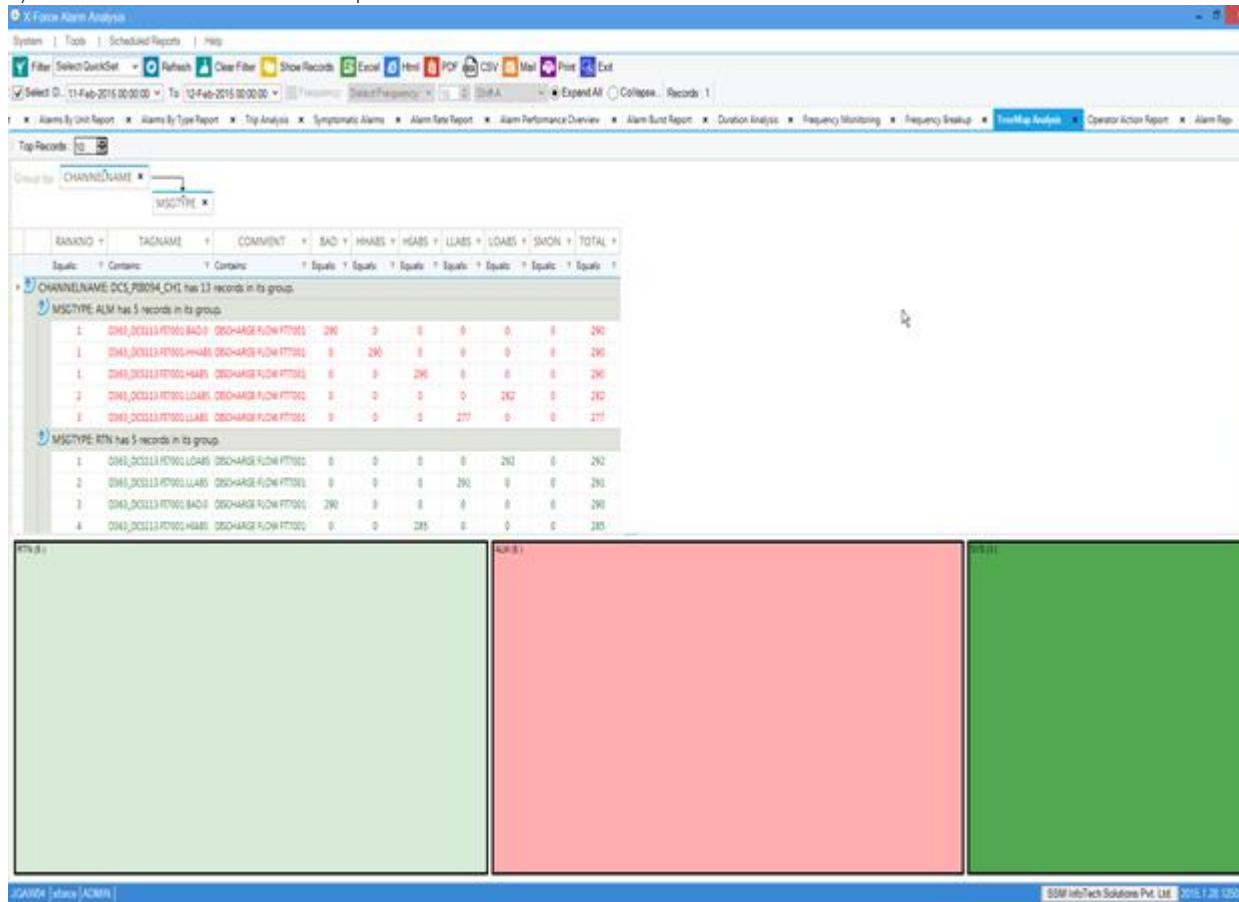
Frequency Breakup

The **Frequency Breakup** summarizes alarm activities and display alarm occurrence differently with grouping of particular selected alarm detail.

Navigation: Report Menu -> General Reports -> Frequency Breakup

To analyze Frequency Breakup: Follow Steps as mention below to do Analysis with Frequency Breakup

1) Go to Reports Menu and select General Reports, in that select Frequency Breakup and click on it.

2)   Select Start Date and End Date Parameters from Criteria Toolbar

3)   Click on Refresh button from Operation Toolbar.
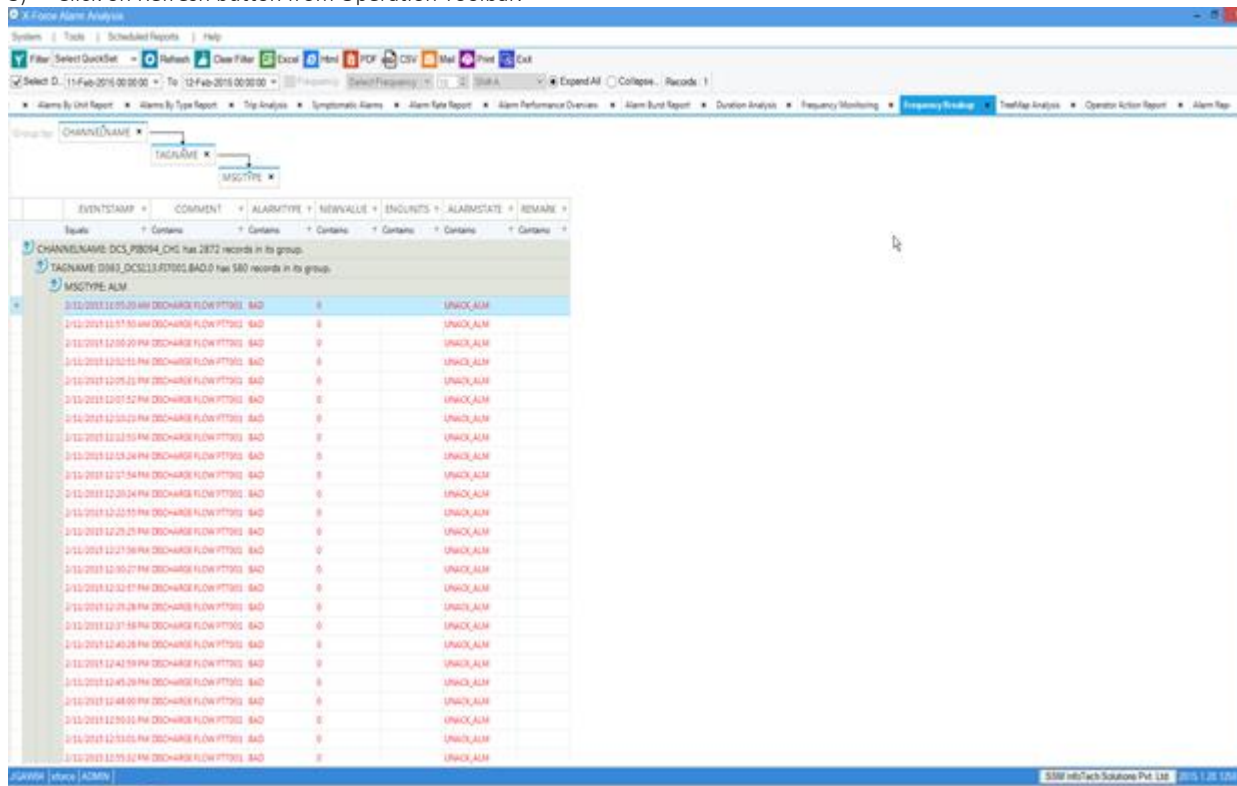
Frequency Monitoring

The **Frequency Monitoring** Reveals important detail about alarm activity by displaying Isolated details about each alarm and its occurrence. This report monitors the alarm activity for the specified range of alarm events frequency.

Frequency Monitoring reports allow to analyze the data between the specific Range of Alarm Frequency.

Navigation: Report Menu -> General Reports -> Frequency Monitoring

To analyze Frequency Monitoring: Follow Steps as mention below to do Analysis with Frequency Monitoring

1)   Go to Reports Menu and select General Reports, in that select Frequency Monitoring and click on it.

2) Select Start Date and End Date Parameters from Criteria Toolbar

3) Select Range of Frequency to generate report which contains the frequency of alarms with in the specified range.

4) Click on Refresh button from Operation Toolbar.
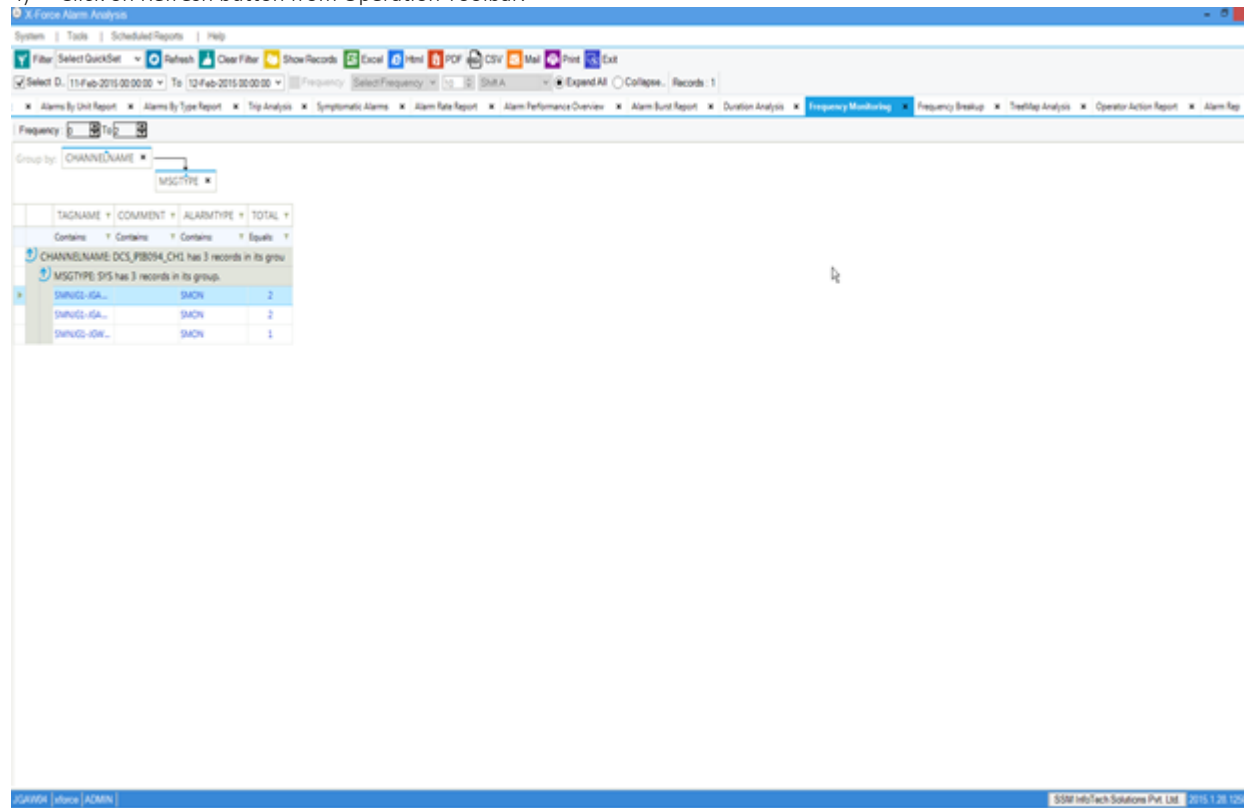
Duration Analysis

The **Duration Analysis** Recognize the Alarm event's Return and Acknowledge State exploration for the Specified time Duration.

Top 10 alarms as per maximum time stay active for the defined period

Duration analysis Report Analyze duration between any Alarm and Return events.it is used to check alarm to return duration as well as alarm to Acknowledge Duration.it will also display minimum and maximum Return and Acknowledge Duration.

This makes it possible to analyze Average, Maximum, Minimum time taken to acknowledge or Return of alarm to Normal. This makes possible to find out which alarms are defined wrongly. Detection of chattering alarms or long retaining Alarms is easy.

Navigation: Report Menu -> General Reports -> Duration Analysis

To analyze Duration Analysis: Follow Steps as mention below to do Analysis with Duration Analysis

1) Go to Reports Menu and select General Reports, in that select Duration Analysis and click on it.

2) Select Start Date and End Date Parameters from Criteria Toolbar

3) Click on Refresh button from Operation Toolbar.

Alarm System Performance

Alarm System Performance: The analyses in this category focus on information specific to the performance of the alarm management system. Alarm System Performance analyses are only available for data owners that have imported alarm event data into the system. Some analyses may not be available for some DCS systems. The alarm system performance category includes the following types of analyses:
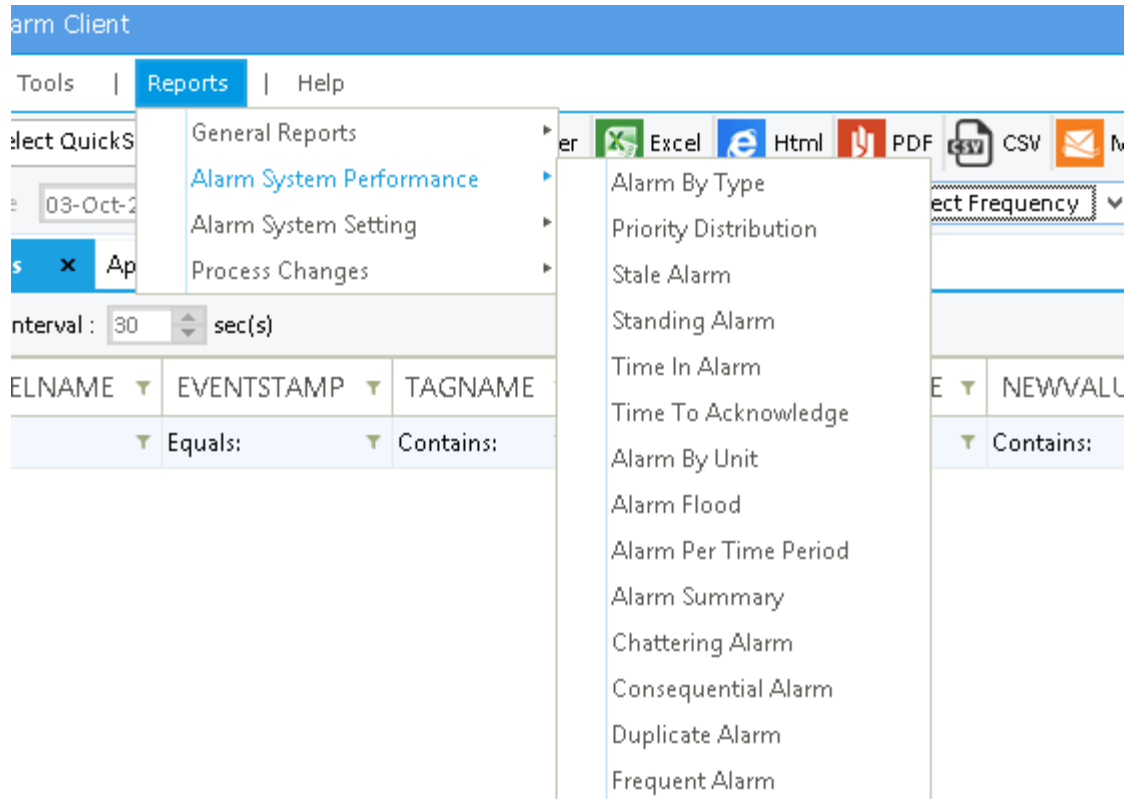
Alarm By Type

The **Alarm by Type** analysis summarizes alarm activities per alarm parameter for the specified time period.

Navigation: Report Menu -> Alarm system Performance -> Alarm by Type

To analyze Alarm by Type: Follow Steps as mention below to do Analysis with Alarm by Type Report.

1) Go to Reports Menu and select Alarm System Performance, in that select Alarm by Type Report and click on it.

2) Select Start Date and End Date Parameters from Criteria Toolbar

3) Click on Refresh button from Operation Toolbar.

The analysis results include the alarm parameter(s) (e.g., LL, HH, LO, etc., for Yokogawa, IOBAD, HIABS, etc., for Foxboro), and for each parameter, the number of alarm events and the corresponding percentage of the total number of alarm events. The analysis also displays the total number of alarm events.

Detail Description of Analysis:

Alarm Type	Represent Alarm Parameter (e.g., LL, HH, LO, etc., for Yokogawa)
Count	Number of Alarm events for particular Parameter
Percentage	(Sum of total no of Events / number of alarm events for particular Parameter) *100
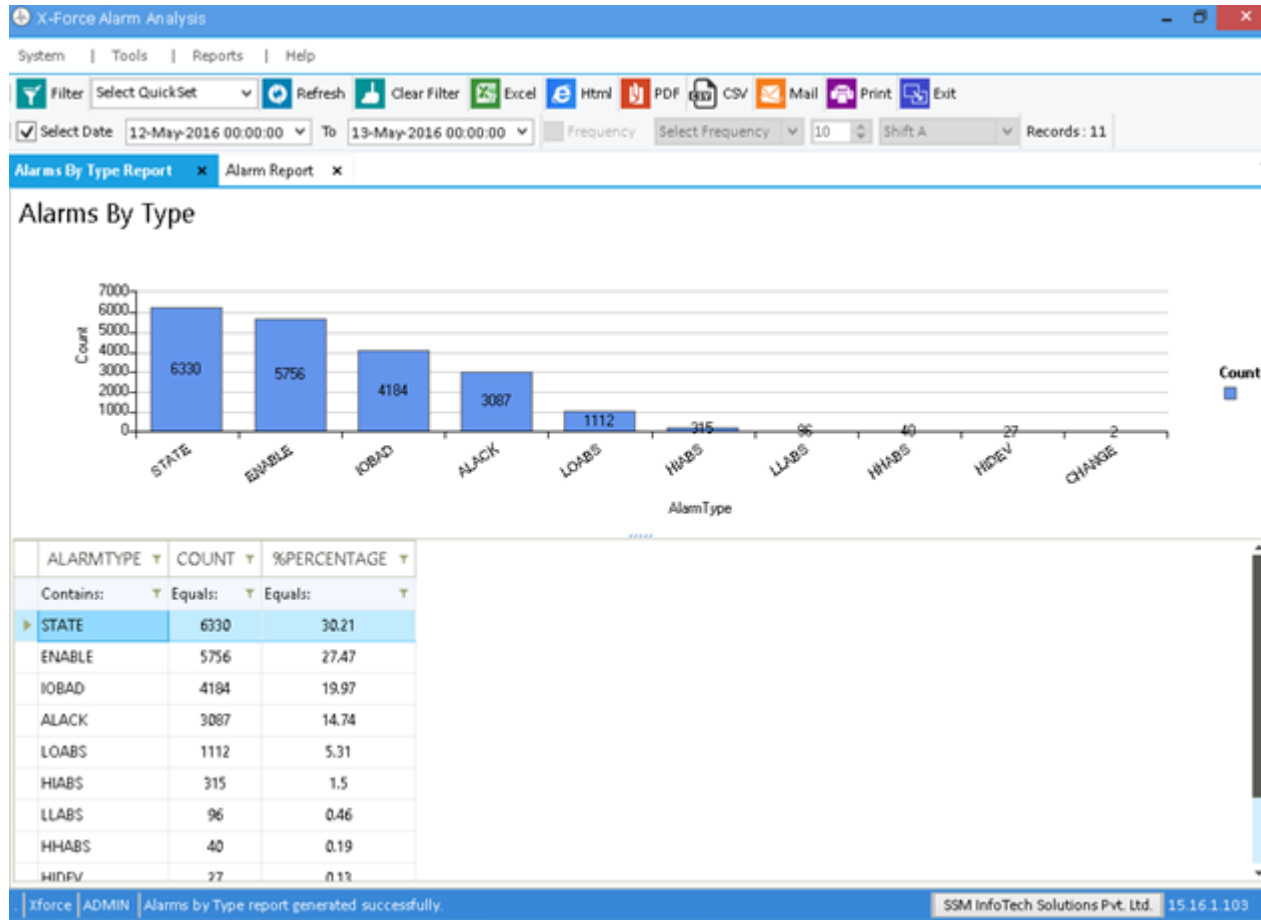
Priority Distribution

The **Priority Distribution** analysis identifies the number of alarms by priority.it will also display tagname, msgtype, Alarm type, channel name wise no of alarms for each of the configured priority etc. it will display

hourly and monthly no of alarms with respect to the selected eventstamp for priority. This report will also display count in % also.

Navigation: Report Menu -> Alarm system Performance -> Priority Distribution

To analyze Priority Distribution Report: Follow Steps as mention below to do Analysis with Priority Distribution Report

1) Go to Reports Menu and select Alarm System Performance, in that select Priority Distribution and click on it.

2) In **Field** box, select any of the field .you can do analysis with below listed fields

- Msgtype
- Alarm type
- Priority
- Tagname
- Channel name
- Eventstamp

3) Enable **Display count** will display no of alarms in number format otherwise by default it will display count in %.

4) Click on Refresh button in operation toolbar.
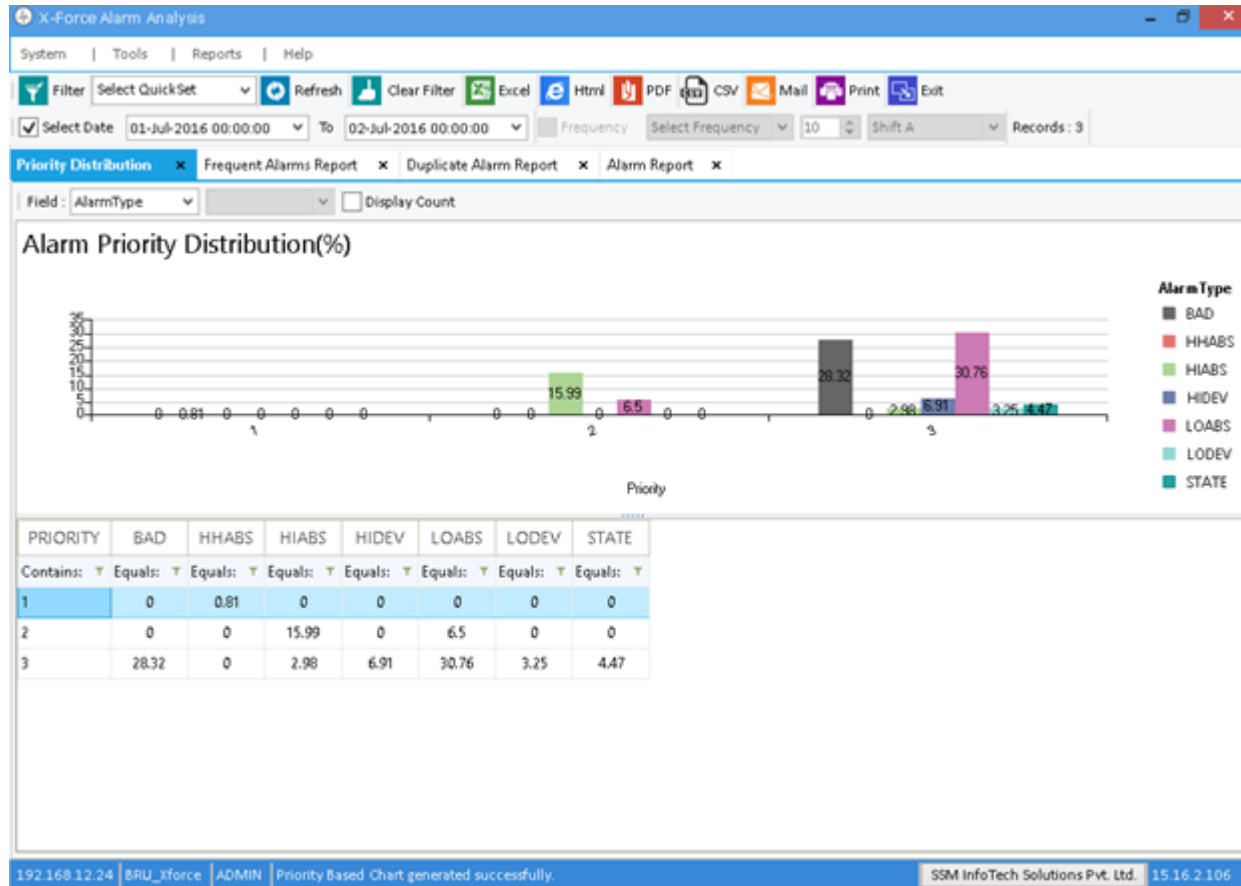
Stale Alarm

The **Stale Alarms** analysis displays entities that have been in an alarm state for an extended period of time (e.g., longer than a shift) without returning to the normal state.

In this Report, for particular Tagname & Alarmtype, we consider 1st occurrence of ALM time and then find out the return time for the same tag name and alarm type and if alarm to return time is exceed to specified limit (default is 8) then we consider Stale alarm.

If an alarm comes on system having MsgType ALM, then if current time and alarm generated time has difference is greater than 24 hours than it will be considered as a Stale Alarm for 3 months of time period.

Navigation: Report Menu -> Alarm system Performance -> Stale alarm

To analyze Priority Distribution Report: Follow Steps as mention below to do Analysis with Stale Alarm Report

1) Go to Reports Menu and select Alarm System Performance, in that select Stale Alarm and click on it.

2) In **Duration** box, enter the no of hours for stale alarm.

3) Click on Refresh button from Operation Toolbar.

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Stale Alarm Report

STALE ALARMS (BEFORE 24 HOURS)
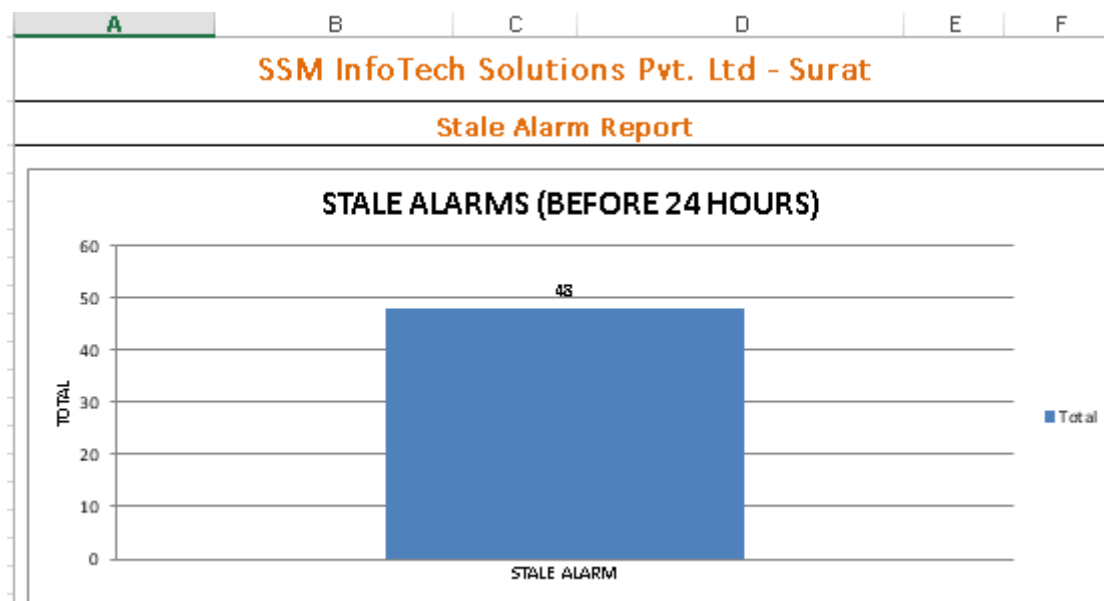
REPORT NAME:	ZCOKER_Stale Alarm Analysis Report_07-Jul-2019
TIME SPAN:	06-Jul-2019 04:00:00 to 07-Jul-2019 04:00:00
EXECUTION TIME:	'07-Jul-2019 04:21:09
FILTER:	ChannelName in ('ZCOKER_CH5') AND (MSGTYPE='ALM') AND Priority IN ('1','2','3') AND NOT
COUNT:	48

EVENTSTAMP	TAGNAME	ALAMRTYP	BLOCKDESCRIPTION	PRIORIT	DURATION
01-07-2019 15:11	UUZ733_DCS16:AI003	HIABS	CT # 3 ORP	3	133
01-07-2019 15:11	Z371_DCS04Q:EZLO086	STATE	1R08 COKE DRUM MOV SP-6H OP	3	133
01-07-2019 15:06	Z371_DCS058:LICB52	HIABS	1V58 PARLL FRAC OVHD BOOT L	2	133
01-07-2019 15:06	Z371_DCS058:FICB53_M	STATE	Z371 FICB53 IN MANUAL	2	133
01-07-2019 15:05	Z371_DCS05B:LIC002	LOABS	1C01 FRACT HCGO DRAW OFF P-1	1	133
01-07-2019 15:05	UUZ733_DCS25:PDI907	HIABS	CT # 3 SSF BED –A	3	133
01-07-2019 15:05	Z371_DCS03H:HZLC713	STATE	1R05 CCD VALVE	3	133
01-07-2019 15:05	UUZ733_DCS13:33SSF_	STATE	CT # 3 SSF – A	3	133
01-07-2019 15:05	UUZ733_DCS13:33SSF_	STATE	CT # 3 SSF – B	3	133
01-07-2019 15:05	Z371_DCS04X:PIC07_LO	STATE	R07 CFD PIC C07 LOW ALRM	3	133
01-07-2019 15:05	Z371_DCS03H:EZLC052(	STATE	1R05 COKE DRUM MOV SP-2E CL(	3	133
01-07-2019 15:00	Z371_DCS058:FICB56	LOABS	UNST NAPH TO ABS/STRPR 2C	3	133
01-07-2019 14:57	Z371_DCS062:LIC045	HIABS	1C05 BD DRUM BOTTOMS	3	134
01-07-2019 14:57	Z371_DCS02M:LIR40A	HHABS	R04 21M LEVEL	2	134

Standing Alarm

The **Standing Alarms** analysis displays a list of alarms that sounded within a specified time span but have not returned to normal.

Standing Alarm Report contains only events which are not returned to normal in last 24 hours and event is in the alarm state from 8 hours or greater.

If an alarm comes with MsgType as ALM in last 24 hours, and that alarm is not getting its RTN alarm till 8 hour than it will be considered as standing alarm.
If an alarm is generating at 24-Sep-2019 06:00:00 PM, we are generating this report for 24-sep-2019 06:00:00 AM to 25-sep-2019 06:00:00 AM, it has no RTN till 25-sep-2019 06:00:00 AM, than it will be considered as Standing alarm for those 24 hours.
Difference between Alarm generated time and report generated time is more than 8 hours.

Navigation: Report Menu -> General Reports -> Age of Oldest Alarm

To analyze standing Alarm: Follow Steps as mention below to do Analysis with Age of Oldest Alarm.

1) Go to Reports Menu and select General Reports, in that select Age of Oldest Alarm and click on it.

2) Select Start Date and End Date Parameters from Criteria Toolbar

3) Set Duration (in Hours) to check standing Alarm Before specified Duration .by default it will consider 8 Hours as per Standard Definition.

4) Click on Refresh button from Operation Toolbar

Note: For Reliance This Report Will Be Consider as Standing alarm Report

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STANDING ALARM REPORT

STANDING ALARM (ACTIVE ALARM AND IS PRESENT CONTINUOUSLY > 8 HRS IN LAST 24 HRS)
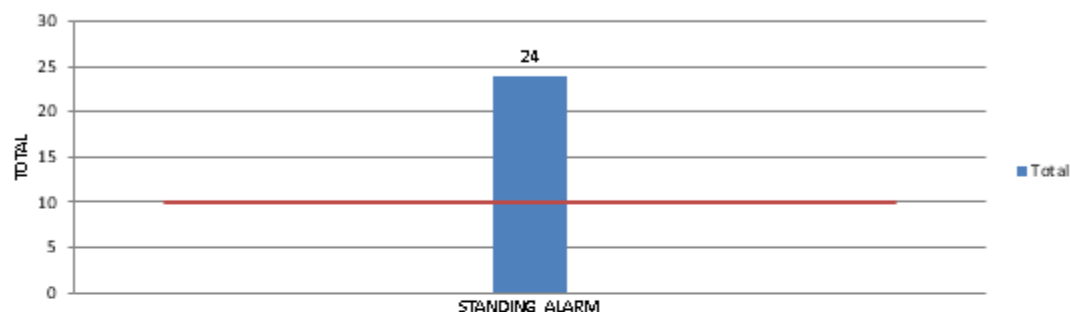
REPORT NAME:	ZCOKER_Standing Alarm Analysis Report_07-Jul-2019
REPORT NAME:	06-Jul-2019 04:00:00 to 07-Jul-2019 04:00:00
REPORT NAME:	'07-Jul-2019 04:20:30
REPORT NAME:	ChannelName in ('ZCOKER_CH5') AND (MSGTYPE='ALM') AND Priority IN ('1','2','3') AND NOT (ALA
REPORT NAME:	24

EVENTSTAMP	TAGNAME	ALARMTYP	BLOCKDESCRIPTION	PRIORIT	DURATION
06-Jul-2019 19:57:44	Z371_DCS062:LIC045	HIABS	1C05 BD DRUM BOTTOMS	3	9
06-Jul-2019 19:57:43	Z371_DCS02M:LIR40A	HHABS	R04 21M LEVEL	2	9
06-Jul-2019 19:57:42	Z372_DCS091:TIC026	LOABS	2S01 STRPR BOTM DRAW TEMP	3	9
06-Jul-2019 19:57:41	Z371_DCS035:TIC336	LOABS	1F03 HTR PASS3 COT	3	9
06-Jul-2019 19:57:40	Z371_DCS017:TI100	HIABS	F01 HTR LP STM OUTLET TEMP	3	9
06-Jul-2019 19:54:58	Z371_MCC172:ML019D	STATE	1P19D ANTIFOAM INJ PMP	3	9
06-Jul-2019 19:53:09	Z371_DCS073:TI555	LOABS	1C22 BD DRUM INLET	3	9
06-Jul-2019 19:53:08	Z371_DCS04Q:EZLO081	STATE	1R08 COKE DRUM MOV SP-1H OP	3	9
06-Jul-2019 19:53:00	Z371_DCS04Q:EZLC084	STATE	1R08 COKE DRUM MOV SP-4H CL	3	9
06-Jul-2019 19:52:58	Z371_DCS016:TIC116	LOABS	1F01 HTR PASS1 COT	3	9
06-Jul-2019 19:52:57	Z371_DCS04Q:EZLO082	STATE	1R08 COKE DRUM MOV SP-2H OP	3	9
06-Jul-2019 19:52:52	Z371_DCS04Q:EZLC088	STATE	1R08 COKE DRUM MOV SP-8H CL	3	9
06-Jul-2019 19:50:18	UUZ733_DCS16:AI003	HIABS	CT # 3 ORP	3	9
06-Jul-2019 19:44:28	Z371_DCS058:LICB52	HIABS	1V58 PARLL FRAC OVHD BOOT L	2	9

Time in Alarm

The **Time in Alarm** analysis documents the length of time an entity spends in an alarm state before returning to its normal state.

Time in alarm report contains data which shows alarm return pair so that any user can identify when event goes in to normal state from the alarm state.

It calculates the time for an entity that for how much it is in alarm state before returning to normal state.

This analysis is not the same as the Time to Acknowledge analysis because an alarm event may return to its normal state without the operator's acknowledgement.

In this Report, it displays total ALM & RTN Alarms Paring details for particular TAGNAME & ALARMTYPE.

Navigation: Report Menu -> Alarm system Performance -> Time in Alarm

To analyze Time in Alarm Report: Follow Steps as mention below to do Analysis with Time in Alarm Report

1) Go to Reports Menu and select Alarm System Performance, in that select Time in Alarm and click on it.

2) Click on Refresh button from Operation Toolbar.

The analysis results include a list of entities, and for each entity, the associated alarm parameter, accumulated time in alarm, number of alarm events, average time in alarm per alarm event, and the entity point description. The analysis also displays the total number of alarm events and the total number of unique alarm events.

Time in alarm Report just represent Alarm to Return Data.

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TIME IN ALARM REPORT

TIME IN ALARM
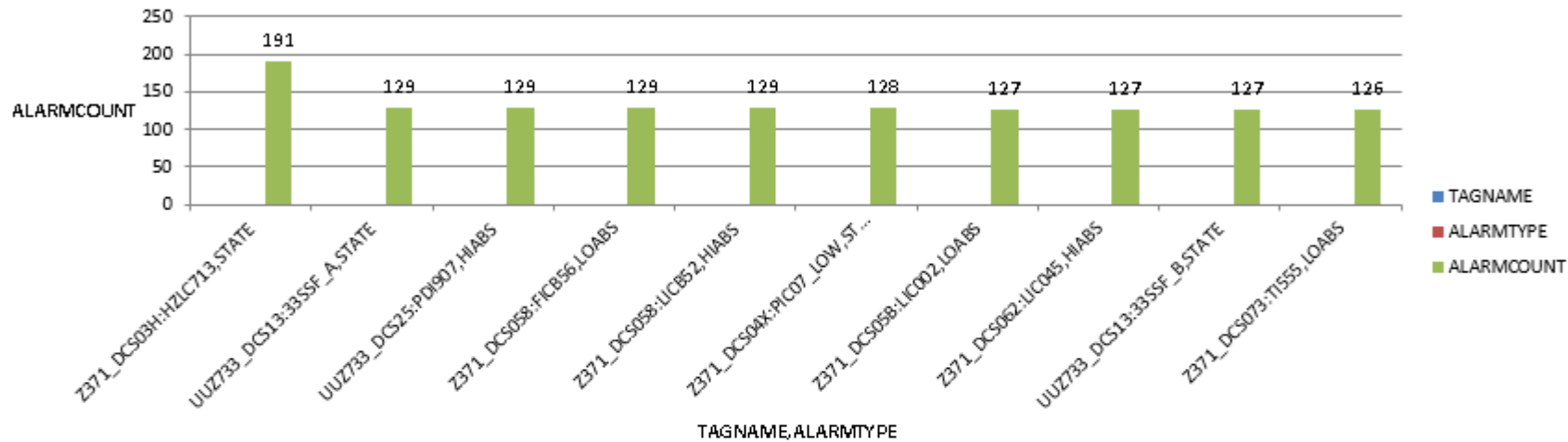
REPORT NAME:	ZCOKER_Time in Alarm Report_16-Jun-2019
TIME SPAN:	15-Jun-2019 04:00:00 to 16-Jun-2019 04:00:00
FILTER:	ChannelName in ('ZCOKER_CH5') AND Priority IN ('1','2','3') AND NOT (ALARMTYPE in('ALACK','DISABL','ENABLE','CHANGE'))
EXECUTION TIME:	'16-Jun-2019 04:20:42
COUNT:	**36**

TAGNAME	ALARMTYPE	ACCUMULATION	COUNT	AVERAGE	PEAK	MEDIAN	PRIORITY	BLOCKDESCRIPTION
Z371_DCS03H:HZLC713	STATE	95.7:04:35	191	11:58:27	23:49:55	0.11:59:32	3	1R05 CCD VALVE
		EVENTSTAMP	RTNEVENTSTAMP					
			2019-06-15 09:42:25					
			2019-06-15 10:04:35					
			2019-06-15 08:35:55					
			2019-06-15 07:07:19					
			2019-06-15 07:29:28					

Time to Acknowledge

The **Time to Acknowledge** analysis indicates the average operator response time to alarm events.

The **Time to Acknowledge** analysis indicates the average operator response time to alarm events. This analysis is not the same as the Time in Alarm analysis because an alarm event may return to its normal state without the operator's acknowledgement.

Time to Ack Report just describes all Alarm to Acknowledge Data with all alarm parameters in given time Duration.

In this Report, it displays total ALM & ACK Alarms Paring details for particular TAGNAME & ALARMTYPE.

The analysis results include a list of entities, and for each entity, the associated alarm parameter, accumulated time to acknowledge, number of alarm events, average time to acknowledge per alarm event. The analysis also displays the total number of alarm events and the total number of unique alarm events.

Note: This analysis is not available for all systems. This report is only available for the DCS which will provide Acknowledgement Data.

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System | Tools | Reports | Help

Filter [Select QuickSet ▼] | Refresh | Clear Filter | Excel | Html | PDF | CSV | Mail | Print | Exit

☑ Select Date [04-Oct-2019 00:00:00 ▼] To [05-Oct-2019 00:00:00 ▼] | ☐ Frequency | Shiftly ▼ | 10 ▲▼ | Shift A ▼ | Records : 148 | ☐ Export Details

Time To Acknowledge ✕ | Time In Alarm ✕ | Priority Distribution ✕ | Alarm By Type ✕ | Duration Analysis ✕ | Frequency Monitoring ✕ | Frequency Breakup ✕ | Alarm Report ✕

Time To Acknowledge

Bar chart — Count (y-axis 0 to 2000) vs TagName, AlarmType (x-axis):
- Z311_DCS012:FI479,IOBAD: 1780
- WASP_52CP01:TAH199,STATE: 222
- BLK4_SLUDGE:R08_HV728,STATE: 129
- Z311_DCS028:AI016,HIABS: 113
- Z311_DCS018:TI239,HIABS: 112
- Z311_DCS018:TI209,HIABS: 109
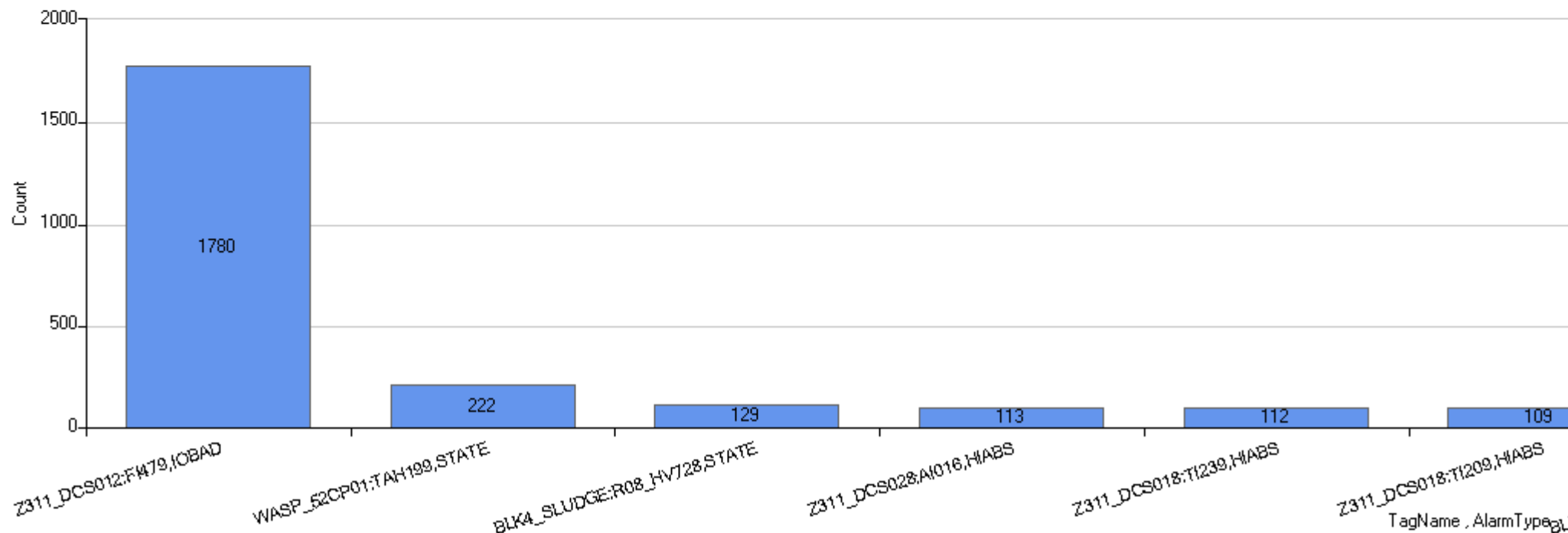
		TAGNAME	ALARMTYPE	ACCUMULATION	ALARMCOUNT	AVERAGE	MEDIAN	PEAK	PRIORITY	BLOCKDESCRIPTION
		Contains:	Contains:	Contains:	Equals:	Contains:	Contains:	Contains:	Contains:	Contains:
	⊙	BLK4_SLUDGE:R08_HV728	ALACK	0.23:51:21	1	23:51:21	0.23:51:21	23:51:21	1	CLOSE HV728 SLUDGE VLV
▶	⊙	BLK4_SLUDGE:R08_HV728	STATE	64.2:54:18	129	11:55:46	0.11:54:33	23:51:37	3	CLOSE HV728 SLUDGE VLV
	⊙	WASP_52CP01:TAH199	STATE	110.19:41:30	222	11:58:50	0.11:57:35	23:53:20	5	F01 Z2 PASS FLOW OUTLET TEMP

Alarm Flood

The **Alarm Flood** analysis summarizes alarm activities during flood periods .**Alarm Flood** is the phenomenon of presenting more alarms in a given period of time than a human operator can effectively respond. It specifies the amount of time, alarm system is in a flood condition in a specified time range

Navigation: Report Menu -> Alarm system Performance -> Alarm Flood

The **Alarm Flood** Report provides a mechanism to define the number of alarms that must occur with a specified number of minutes in order for the alarms to be considered a flood.

To analyze Alarm Flood: Follow Steps as mention below to do Analysis with Flood Report

1) Go to Reports Menu and select Alarm System Performance, in that select Alarm Flood Report and click on it.

2) Select Start Date and End Date Parameters from Criteria Toolbar

3) Type a value for the number of minutes that defines a flood period (Flood Duration which is by Default 10 mins) and a value for the number of alarms at which to begin the flood (Flood Start Count which is by default 10)

4) In the Flood End Count box , type a value for the number of alarms at which to end a flood (must be less than the Begin flood at value and by default it is 5)

5) Click on Refresh button from Operation Toolbar.

Detail Description of Analysis:

Flood start time	the time at which Alarm events occurrences exceed to the Flood start Count
Flood Start count	the number of alarms at which to begin the flood
Flood End Time	the time at which Alarm events occurrences drop to the value of Flood End Count
Flood End count	the number of alarms at which to end a flood
Alarm count	The no of alarm events between the Flood Start time and End time
Flood Duration	The time (in hours) for which flood Condition remains on system. Time Difference between Flood start Time and End Time.
Flood Unit	Specifies the duration for flood condition
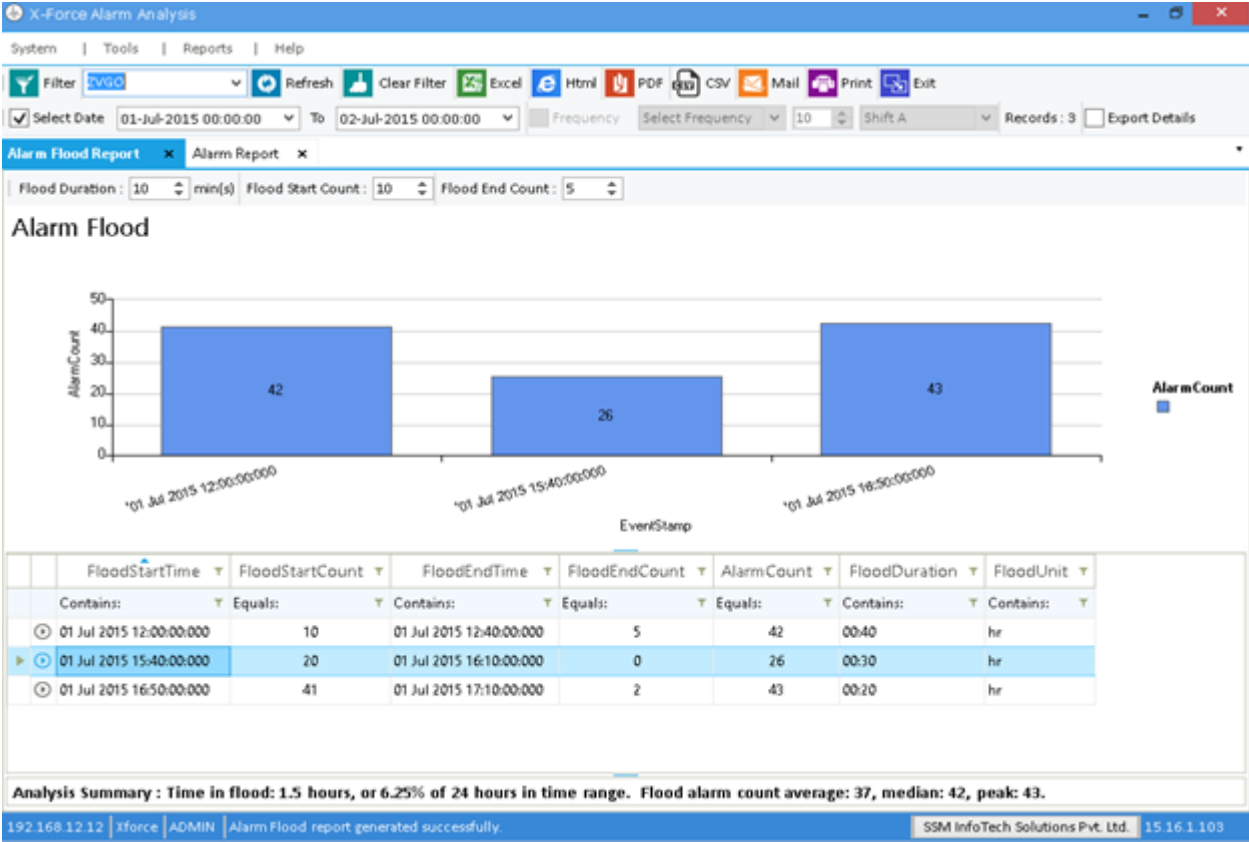
The analysis results include the alarm Events Details for the alarms which occurs during the Alarm Flooding. Alarm details will be expanded by clicking on Expand button at the right side of the report.

Alarm Flood Analysis also provide summary of the report as display in below image.

Analysis Summary : Time in flood: 1.5 hours, or 6.25% of 24 hours in time range. Flood alarm count average: 37, median: 42, peak: 43.

In above Summary Line:

▪ **Time in Flood: 1 .5 hours** is total of flood Duration in hours (Here Calculation is : sum of flood duration which is 1.30.now convert .30 into hours i.e. 30/60 = 0.5 so total duration in hours is 1 + .5 = 1.5 hours)

▪ **6.25% of 24 Hours in time Range** represent total flood duration in percentage in the time range of Start Date and End date. (here calculation is : 1.5*100/24 = 6.25)

▪ **Flood alarm count average :37** represent the average of all flood alarm count

▪ **Median : 42** represent median of Flood count (median Calculation : sort all available Alarm Count values in Asc order and then middle value of among all is your median)

▪ **Peak: 43** represent maximum Flood Count Value.

Note: if Flood is not end in between the report time Duration than Flood end count will be consider as   alarm count at the time of report end time.

Alarm By Unit

The **Alarm by Unit** analysis reveals important details about alarm events for each unit during the given time period.

Note: This analysis is not available for all systems.

**Navigation:** Report Menu -> Alarm system Performance -> Alarm by Unit

To analyze Alarm by Unit: Follow Steps as mention below to do Analysis with Alarm by Unit Report.

1) Go to Reports Menu and select Alarm System Performance, in that select Alarm by Unit Report and click on it.

2) Select Start Date and End Date Parameters from Criteria Toolbar

3) Click on Refresh button from Operation Toolbar.

The analysis result include a list of units, and for each unit, the number of alarm (ALM) events, the number of alarm return (RTN) events, the number of alarm acknowledge (ACK) events, and the ratio of ACK/ALM events. The analysis also displays the total number of ALM, RTN, and ACK events.

Detail Description of Analysis:

Unit	Represent Unit (e.g. STATE, IOBAD, etc. for Foxboro, KG/CM2, and %, etc. For Yokogawa.
ALM	no of Alarm events
%ALM	Sum of unit wise ALM events / sum of all Alarm events *100
RTN	no of RTN events
ACK	no of ACK events
%ACK	Sum of unit wise ACK events/ sum of all ACK events *100
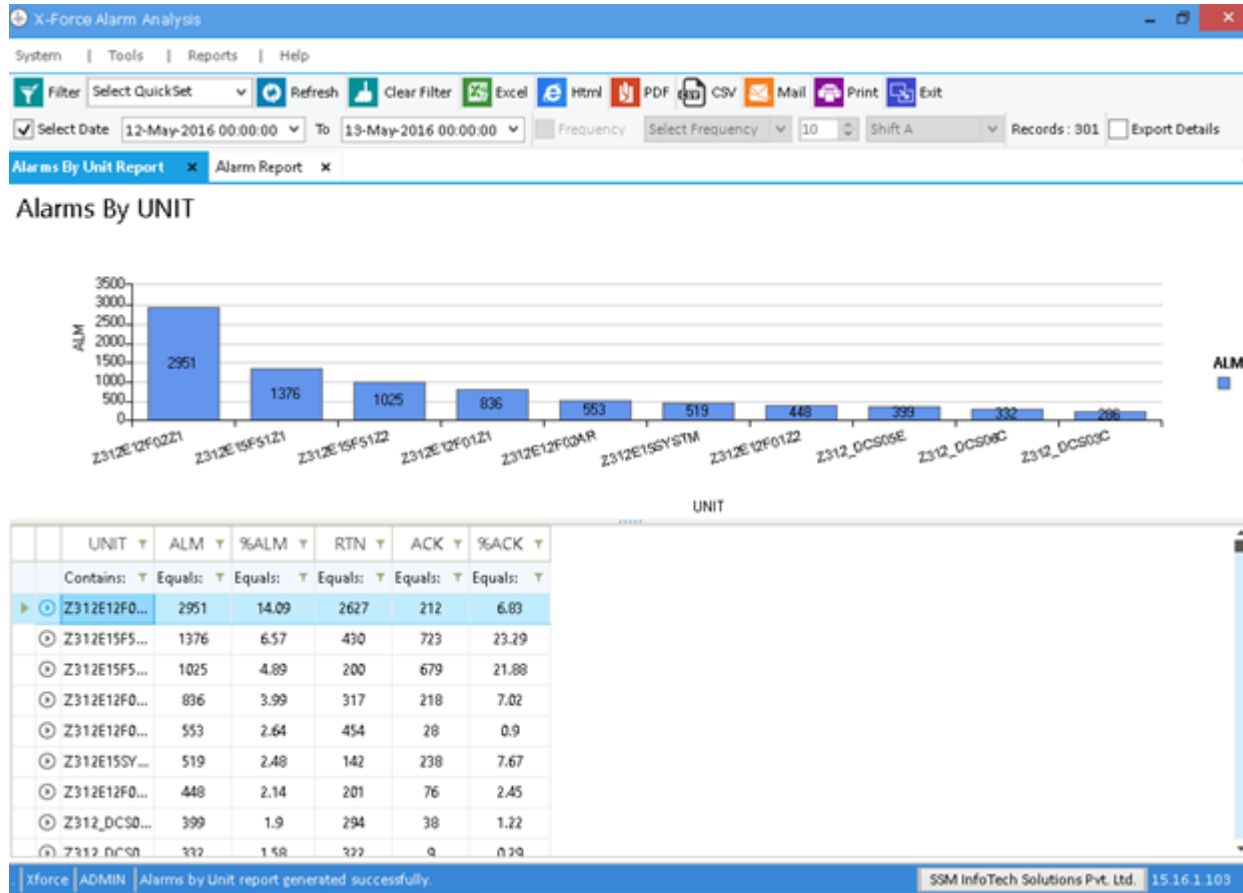
Alarm Per Time Period

The **Alarm per Time Period** analysis summarizes alarm activities based on define duration interval. This report will specify the alarm occurrence in particular time interval in context with Priority and ALM, RTN, ACK Message type. In simple terms the alarm per Time Period will represent the frequency of ALM, RTN, ACK, Priority (As per Configuration) in specific duration interval (As selected in report parameter .default is 60 Minutes.)

Navigation: Report Menu -> Alarm system Performance -> Alarm per Time Period

To analyze Alarm per Time Period: Follow Steps as mention below to do Analysis with Alarm per Time Period Report

1) Go to Reports Menu and select Alarm System Performance, in that select Alarm per Time Period Report and click on it.

2) Select Start Date and End Date Parameters from Criteria Toolbar

3) Type Duration for time Interval (duration unit will be minutes)

4) Click on Refresh button from Operation Toolbar.

Detail Description of Analysis:

Period	Time Period for analysis. this will be divided as per the selected Duration interval
ALM	Frequency of for the Alarm events
1	Alarm occurrence for the 1.here 1 is the priority
2	Alarm occurrence for the 2 here 2 is the priority
3	Alarm occurrence for the 3.here 3 is the priority
5	Alarm occurrence for the 5.here 5 is the priority
500	Alarm occurrence for the 500.here 500 is the priority
998	Alarm occurrence for the 998 .here 998 is the priority
999	Alarm occurrence for the 999.here 999 is the priority
RTN	Alarm occurrence for Return Alarm events
ACK	Alarm occurrence for the ACK Alarm events.

In this report priority (1, 2, 3, 500, etc.) may be differ as per the Configuration.
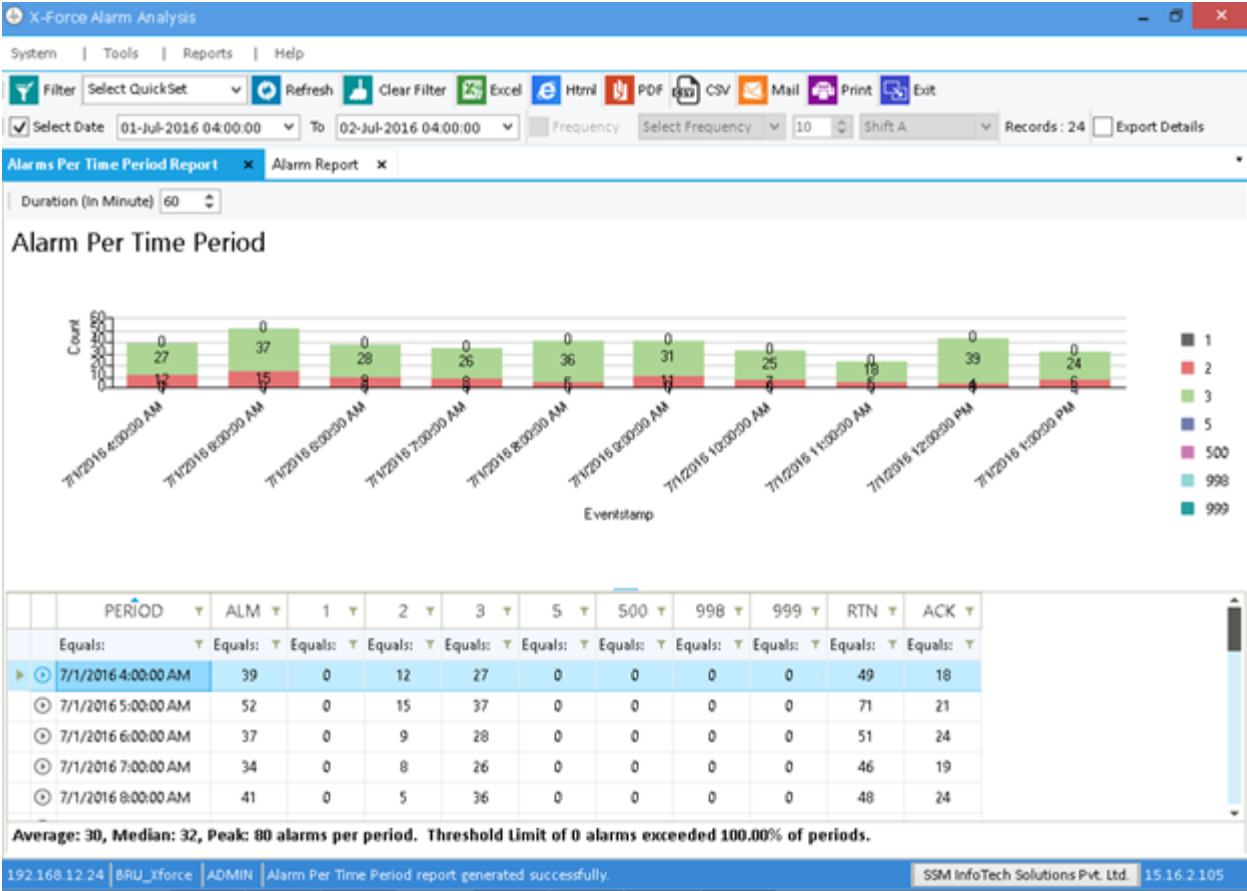
The analysis results include the alarm Events Details for the alarms which occurs during the Particular Time Period. Alarm details will be expanded by clicking on Expand button at the right side of the report. Alarm per Time Period Analysis also provide summary of the report as display in below image.

Average: 30, Median: 32, Peak: 80 alarms per period. Threshold Limit of 0 alarms exceeded 100.00% of periods.

In above Summary Line:

- **Average** is Average of all period ALM Count.

- **Median** is the Middle value among all Period of ALM Count.

- **Peak** is the Maximum among all period count of ALM Count.

NoNote: if Priority parameter is not vacant for Alarm events than this report will not be generated.

Alarm Summary

The **Alarm Summary** analysis presents a comprehensive summary of alarm performance by running several different analyses over a specified time range. The summary data includes alarms per time period analysis, priority distribution, flood periods, chattering alarms, and operator changes. The resulting data is presented in a single page report format for easy viewing.

Navigation: Report Menu -> Alarm system Performance -> Alarm Summary

The **Alarm Summary** tab provides a mechanism to configure what goal value should be displayed for each metric on the **Alarm Summary** analysis. This allows you to quickly see where a metric's value is not equal to its goal value when viewing the **Alarm Summary** analysis.

To analyze Alarm Summary: Follow Steps as mention below to do Analysis with Alarm Summary Report

1) Go to Reports Menu and select Alarm System Performance, in that select Alarm Summary Report and click on it.

2) Select Start Date and End Date Parameters from Criteria Toolbar

3) Select Flood Duration, Flood start Count, Flood End Count, Chatter count and Chatter duration Parameter.

Click on Refresh button from Operation Toolbar.

X-Force Alarm Analysis

System | Tools | Reports | Help

Filter | Select QuickSet | Refresh | Clear Filter | Excel | Html | PDF | CSV | Mail | Print | Exit

☑ Select Date 01-Jul-2016 00:00:00 ▾ To 02-Jul-2016 00:00:00 ▾ | Frequency Select Frequency ▾ 10 | Shift A ▾ | Records : 33

Alarm Summary Report ✕ | Alarms Per Time Period Report ✕ | Alarm Report ✕

Flood Duration : 10 min(s) Flood Start Count : 10 Flood End Count : 5 Chatter Count 3 Chatter Duration (In Sec.) 60

Alarm Summary

Metric	Value	Goal	Last Period	Last Month	Last Quarter
Annunciated Alarm Rate :					
Matric	**Value**	**Goal**	**Last Period**	**Last Month**	**Last Quarter**
Daily Average	738	<=150	897	1067	365
Hourly Average	30.75	<= 5	37.38	44.46	15.21
Hourly Peak	80	<= 15	76	278	278
10 Min Peak	33	<= 10	21	154	154
Days Average(6am To 6 pm)	330		408	534.83	182.86
Evenings Average(6pm To 6am)	408		489	532.17	182.14
Alarm Floods :					
Matric	**Value**	**Goal**	**Last Period**	**Last Month**	**Last Quarter**
Time in Floods	5.51		7.99	290.24	297.75
% Time in Floods	22.96		33.29	40.31	13.78
Avg Flood Events	37.3		46.17	84.54	82.18
Peak Flood Events	93	<= 20	170	1994	1994
Longest Duration	1.17		2.17	12.67	12.67
Annunciated Priorities :					
Matric	**Value**	**Goal**	**Last Period**	**Last Month**	**Last Quarter**
% Emergency	0.81	<= 5%	1.45	0.12	0.12
% High	22.49	approx. 15%	23.97	20.58	20.28
% Low	76.69	approx. 80%	74.58	78.98	79.28
Chattering Alarms					
Matric	**Value**	**Goal**	**Last Period**	**Last Month**	**Last Quarter**
# of Chattering alarms	3	0	10	102	106
# of Occurances	30	0	69	6447	6832

Metric	Value	Goal	Last Period	Last Month	Last Quarter
% of Unique Alarms	3.37	0	22.22	39.08	37.06
% of Total Alarms	4.07	0	7.69	20.13	20.75
Operator Changes					
Metric	**Value**	**Goal**	**Last Period**	**Last Month**	**Last Quarter**
Hourly Average	102.46		42.75	66.96	22.75
Hourly Peak	384		201	1610	1610
Trip Point Changes	0		0	0	0
Priority Changes	0		0	0	0
Alarms Inactivated	0		0	0	0

192.168.12.24 | BRU_Xforce | ADMIN | Alarm Summary report generated successfully.   SSM InfoTech Solutions Pvt. Ltd.   15.16.2.105

Metrics are presented in a grid for the following categories: Annunciated Alarm Rate, Annunciated Priority, Alarm Floods, Chattering Alarms, and Operator Changes. For each metric, the grid includes six columns:

♣ **Metric** - the name of the metric calculated on that row. See the following table for the metrics included for each category. See the table below for a list of the metrics displayed for each category.

♣ **Value** - the value of the metric over the period defined as the rolling period in the parameter set.

♣ **Goal** - a text string you define in the parameter set stating the goal value for the metric

♣ **Last Period** - the value for the metric over the previous period.

♣ **Last Month** - the value for the metric calculated over the last fully completed calendar month. For example, if you run the analysis with a *Run for time* of September 8, the Last Month will be calculated for the month of August.

♣ **Last Qtrs.** - the value for the metric calculated for the last fully completed calendar quarter   For example, if you run the analysis with a *Run for time* of September 8, the Last Qtrs. will be calculated for the last April-June quarter).

Category	Metrics Displayed
Annunciated Alarm Rate	**Daily Average** - Number of alarm events per day averaged for the specified time range. **Hourly Average** - Number of alarm events per hour averaged for the specified time range. **Hourly Peak** - The max number of alarm events in a given hour for the specified time range. **10 Min Peak** - The max number of alarm events in a given 10 minute period for a specified time range. **Days Average (6am-6pm)** - The number of alarm events averaged for the day shift for the specified time range.

	Evenings Average (6pm-6am) - The number of alarm events averaged for the night shift for the specified time range.
Alarm Floods	**Time in Floods** - The amount of time the alarm system is in a flood condition in a specified time range. Floods start when the alarm system exceeds 10 alarm events / 10 minutes and ends when the alarm system drops below 5 alarm events / 10 minutes. **% Time in Floods** - The percent of time the alarm system is in a flood condition divided by total time in the specified time range. **Avg Flood Events** - This is the average number of alarm events during all the flood periods for the specified time range. **Peak Flood Events** - This is the max number of alarm events during all the flood periods for the specified time range. **Longest Duration** - This is the time for the longest flood.
Annunciated Priorities	**% Emergency** - Percentage of alarm events that are an emergency priority (Priority 1) divided by the total number of alarm events **% High** - Percentage of alarm events that are a high priority (Priority 2) divided by the total number of alarm events **% Low** - Percentage of alarm events that are a low priority (Priority 3, 4, and 5) divided by the total number of alarm events
Chattering Alarms	**# Of Chattering Alarms** - Total unique alarms that have at least one sequence of activations that qualifies as "Chattering" within the time range. **# of Occurrences** - Total number of alarm events that are included in the identified chattering alarms **% of Unique Alarms** - Total from item (a.) divided by the total unique alarms in the data set for that time range **% of Total Alarms** - Total from item (b.) divided by the total number of alarm events in the data set for that time range.

Chattering Alarm

The **Chattering Alarm Report** identifies entities that generate a burst of alarm activity that cycles in and out of alarm very rapidly. The length of the alarm and the amount of alarms for the time period define the criteria for chattering alarms. This is defined for the chattering alarm report parameter tab configuration.

A typical chattering alarm is a temperature sensor that cycles in and out of alarm ten times within a minute. The detection of a chattering alarm requires a threshold for the number of alarms per time period. For optimum performance, chattering alarm should be configured for a rolling count of the number of alarms per time period.

Chattering alarms may also be called bad actors because of the possibility of a false alarm. Bad actors are chattering alarms that can distract the operator.

Navigation: Report Menu -> Alarm system Performance -> Chattering Alarm

To analyze Chattering Alarm: Follow Steps as mention below to do Analysis with Chattering Alarm Report

1) Go to Reports Menu and select Alarm System Performance, in that select Chattering Alarm and click on it.

2) Select Start Date and End Date Parameters from Criteria Toolbar

3) Enter specific number of minutes in order to be considered chattering in Duration (Default is 1 minutes)

4) Enter number of times an alarm must occur for burst in Count parameter for Chattering analysis (Default is 3)

5) Click on Refresh button from Operation Toolbar.

Detail Description of Analysis:

Tagname	This are the constraints of alarm Events Parameters for which chattering Cycle is occur
BlockDescription	
Alarmtype	
Priority	
AlarmCount	Sum of every Chattering Cycle.
ACKAVG	Average of ACK duration. This value will be calculated in day.HH.mm.ss format
ACKMIN	Minimum value of ACK duration. This value will be calculated in day.HH.mm.ss format
ACKMAX	Maximum value of ACK duration. This value will be calculated in day.HH.mm.ss format
RTNAVG	Average of RTN duration. This value will be calculated in day.HH.mm.ss format
RTNMIN	Minimum value of RTN duration. This value will be calculated in day.HH.mm.ss format
RTNMAX	Maximum value of RTN duration. This value will be calculated in day.HH.mm.ss format
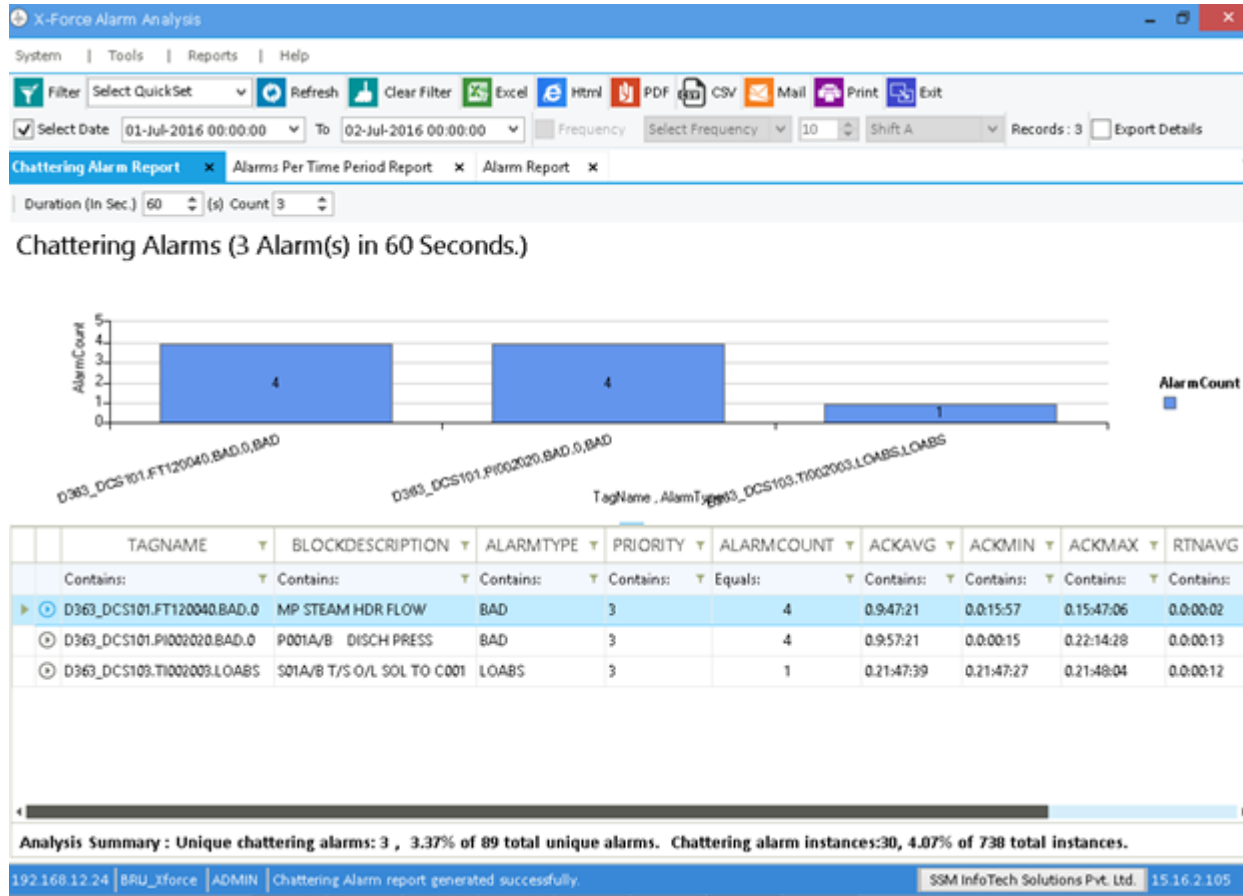
The Chattering Configuration tab provides a mechanism to configure the number of times an alarm must occur over a specific number of minutes in order to be considered chattering. For example, you may consider all alarms that occurred three or more times in one minute to be chattering. For this example, when executing the Chattering Alarms analysis, only alarms that have occurred 3 times or more in one minute will be included in the analysis.

The analysis results include the alarm Events Details for the Chattering Alarm Cycle. Alarm details will be expanded by clicking on Expand button at the right side of the report.

Chattering Alarm analysis also display details of Each Cycle with below Details:

TAGNAME	BLOCKDESCRIPTION	ALARMTYPE	PRIORITY	ALARMCOUNT	ACKAVG	ACKMIN	ACKMAX	RTNAVG
Contains:	Contains:	Contains:	Contains:	Equals:	Contains:	Contains:	Contains:	Contains:
D363_DCS101.FT120040.BAD.0	MP STEAM HDR FLOW	BAD	3	4	0.9:47:21	0.0:15:57	0.15:47:06	0.0:00:02
D363_DCS101.PI002020.BAD.0	P001A/B DISCH PRESS	BAD	3	4	0.9:57:21	0.0:00:15	0.22:14:28	0.0:00:13
D363_DCS103.TI002003.LOABS	S01A/B T/S O/L SOL TO C001	LOABS	3	1	0.21:47:39	0.21:47:27	0.21:48:04	0.0:00:12

EVENTSTAMP	ACKEVENTSTAMP	ACKDURATION	RTNEVENTSTAMP	RTNDURATION	PRIORITY
01-Jul-2016 02:11:56		0.21:48:04	01-Jul-2016 02:12:31	0.0:00:35	3
01-Jul-2016 02:12:32		0.21:47:28	01-Jul-2016 02:12:33	0.0:00:01	3
01-Jul-2016 02:12:33		0.21:47:27	01-Jul-2016 02:12:34	0.0:00:01	3

Eventstamp	Event stamp of particular alarm event
ACKEventstamp	Acknowledge eventstamp of alarm event.
ACKDuration	Time difference between alarm and its Acknowledge event occurrence
RTNEventstamp	Return eventstamp of alarm event
RTNDuration	Time difference between alarm and its return event occurrence
Priority	Priority of alarm event

Chattering Alarm Analysis also provide summary of the report as display in below image.

Analysis Summary : Unique chattering alarms: 3 , 3.37% of 89 total unique alarms. Chattering alarm instances:30, 4.07% of 738 total instances.

In above Summary Line:

- **Unique Chattering Alarm 3**   is no of Chattering cycle in between the specific time Duration.

- **3.37% of 89 Total Unique Alarms** represent unique Chattering alarm Frequency in percentage in the time range of Start Date and End date. (here calculation is : (3/89)* 100 = 3.37)

- **Chattering alarm instance: 30** represent the sum of all alarm occur in each Chattering Cycle.

- **4.07% of 738 total instances** represent frequency of chattering alarm in the time range of start date and end date (here calculation is : (30/738)*100= 4.07)

Consequential Alarm

A **consequential alarm** becomes active as a result of another alarm. The Consequential Alarms analysis indicates entities that have gone into an alarm state and other entity/alarm combinations that became active before and after the alarm event.

Alarm consequence can be defined as the likelihood of one alarm to trigger one or more identified alarms. For example, a power fault in a plant power station may result in one or more alarms for the power station, and additional alarms for any equipment that is supplied power from that station. The main alarm is the parent alarm while the alarms triggered as a result of the parent are consequential alarms.

The **Consequential Report** allows the configuration of four criteria used in calculating which alarms should be considered consequential. For example, you may want only alarms occurring within 15 minutes of another alarm more than 75% of the time to be considered consequential. This report also allows you to exclude chattering alarms and alarms that occur less than a specified frequency.

In this Report, for particular Tagname & Alarmtype, we consider 1st occurrence of ALM time and then find out any other Tagname & Alarmtype came in +/- 15minutes then we consider it as 1 occurrence of that Tag. Likewise, it this sequence happens 5 or more time and also Percentage of occurrence >75% then we consider it as Consequential alarm.

Navigation: Report Menu -> Alarm system Performance -> Consequential Alarm

To analyze Consequential Alarm: Follow Steps as mention below to do Analysis with Consequential Alarm Report

1) Go to Reports Menu and select Alarm System Performance, in that select Consequential Alarm and click on it.

2) In the **Occurrences >** box, type the percent of time that the potential consequential alarm must occur in the specified time span relative to the source alarm event. Default value is 75%.

3) In the **Count** box, type the number of occurrences under which evaluated alarms will be excluded. Default value is 3.

4) Check the **Exclude chattering alarms** option to exclude chattering alarms from the analysis. By default exclude chatter is disable.

5) In **Duration** box, Enter the time span (in minutes) that alarms will be analyzed before and after the source alarm event. Default duration is 15 minutes.

6) Click on Refresh button from Operation Toolbar.
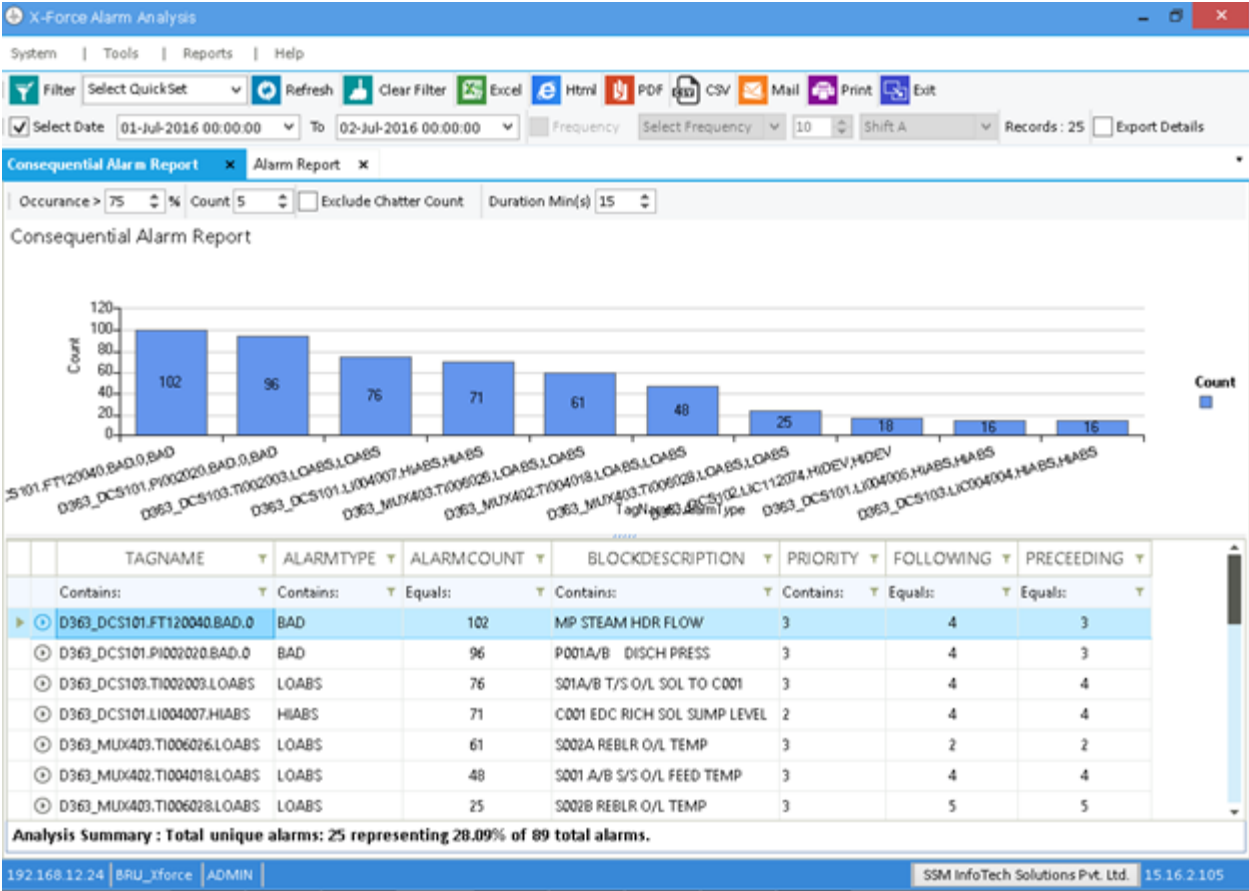
Detail Description of Analysis:

Tagname	This are the constraints of alarm Events Parameters for which chattering Cycle is occur
Alarmtype	
AlarmCount	Total alarm events occurrence count for the with respect to the Consequential alarm
BlockDescription	This are the constraints of alarm Events Parameters for which chattering Cycle is occur
Priority	
Following	Represent the count for the Combinations that became after the alarm event.

Preceeding	Represent the count for the Combinations that became before the alarm event.

The analysis results include the alarm Events Details for the Consequential Alarm Report. Alarm details will be expanded by clicking on Expand button at the right side of the report.

Consequential analysis also display details with below Details:

Relationship	Value in this field will be Following or Preceding with respect to the parent tag
Tagname	This are the constraints of alarm Events Parameters for which chattering Cycle is occur
Alarmtype	
AlarmCount	Sum of alarm occurrence for child tag with respect to the parent tag alarm and relationship.
Percentage	Alarm Occurrence in percentage
BlockDescription	This are the constraints of alarm Events Parameters for which chattering Cycle is occur
Priority	

TAGNAME	ALARMTYPE	ALARMCOUNT	BLOCKDESCRIPTION	PRIORITY	FOLLOWING	PRECEEDING
Contains:	Contains:	Equals:	Contains:	Contains:	Equals:	Equals:
D363_DCS102.FIC011016.LOA...	LOABS	7	P004A/B TO SRC FEED	2	3	6
D363_DCS103.LIC006012.HIABS	HIABS	7	V005B EDC COND POT LEVEL	2	5	5
D363_DCS102.FIC011015.HID...	HIDEV	7	P004A/B SPILL BACK TO EDC C...	3	5	4

RELATIONSHIP	TAGNAME	ALARMTYPE	ALARMCOUNT	PERCENTAGE	BLOCKDESCRIPTION	PRIORITY
FOLLOWING	D363_DCS101.FT120040.BAD.0	BAD	13	185.71	MP STEAM HDR FLOW	3
PRECEEDING	D363_DCS101.FT120040.BAD.0	BAD	17	242.86	MP STEAM HDR FLOW	3
FOLLOWING	D363_DCS101.LI004007.HIABS	HIABS	9	128.57	C001 EDC RICH SOL SUMP LEVEL	2
PRECEEDING	D363_DCS101.LI004007.HIABS	HIABS	10	142.86	C001 EDC RICH SOL SUMP LEVEL	2
PRECEEDING	D363_DCS101.PI002020.BAD.0	BAD	10	142.86	P001A/B DISCH PRESS	3
FOLLOWING	D363_DCS102.FIC011016.LOABS	LOABS	9	128.57	P004A/B TO SRC FEED	2
FOLLOWING	D363_DCS103.TI002003.LOABS	LOABS	10	142.86	S01A/B T/S O/L SOL TO C001	3
PRECEEDING	D363_DCS103.TI002003.LOABS	LOABS	7	100	S01A/B T/S O/L SOL TO C001	3
FOLLOWING	D363_MUX402.TI004018.LOABS	LOABS	6	85.71	S001 A/B S/S O/L FEED TEMP	3

| D363_DCS103.FIC006034.LOD... | LODEV | 6 | P11A/B EDC REBOIL FEED TO S... | 3 | 8 | 5 |

Frequent Alarm

The **Frequent Alarm** analysis reveals important trends in alarm activity by displaying the number of times an alarm event occurred during the given time period. For example, an alarm may go into an alarm state several times during the day. The Frequent Alarm tab provides a mechanism to select top alarm activity.
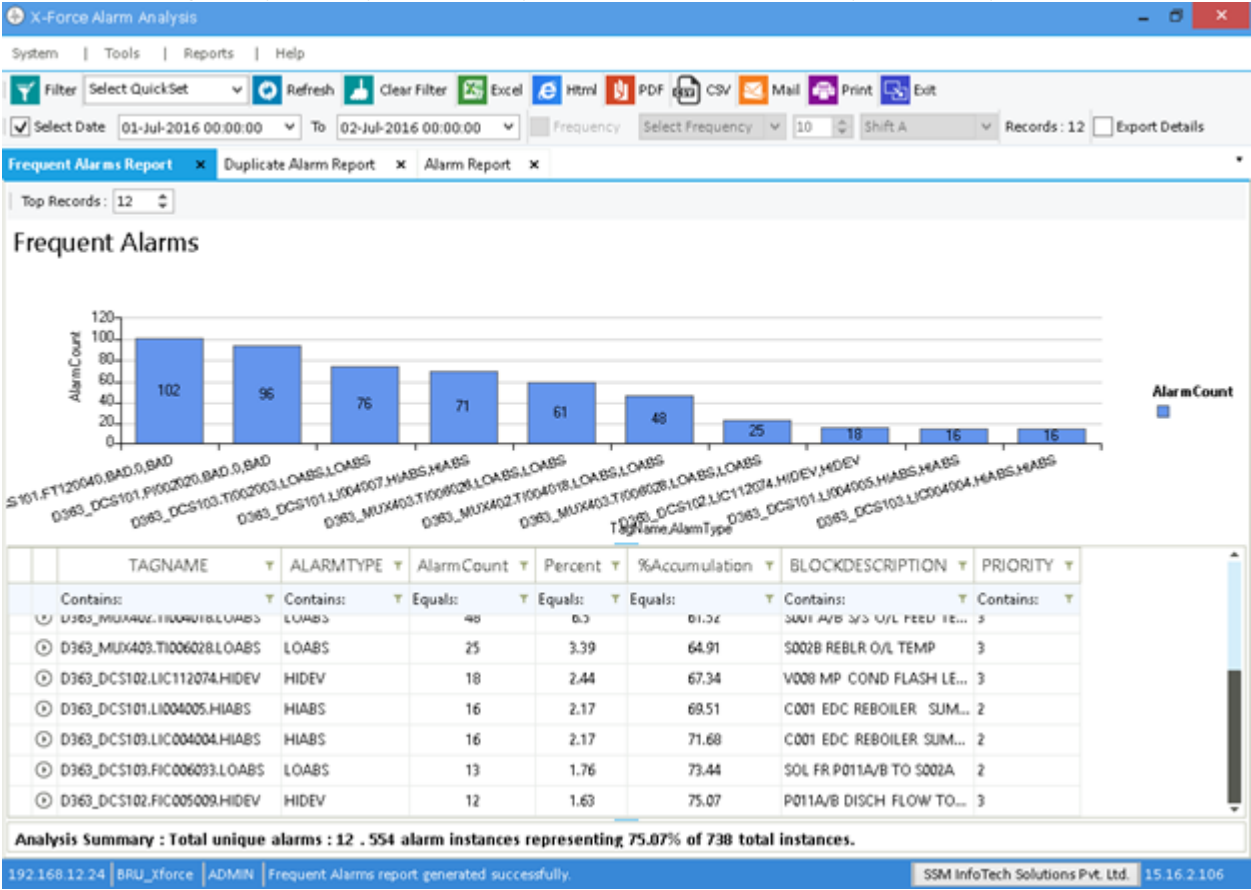
Frequent alarms are alarms that occur most recurrently across the systems being monitored

The analysis results include a list of entities, and for each entity, the associated alarm parameter, number of alarm events, the percentage of total alarm events, and the entity point description. The analysis also displays the total number of alarm events and the total number of unique alarm events.

Navigation: Report Menu -> Alarm system Performance -> Frequent Alarm

To analyze Frequent Alarm: Follow Steps as mention below to do Analysis with Frequent Alarm Report

1) Go to Reports Menu and select Alarm System Performance, in that select Duplicate Alarm and click on it.

2) In **Top Records** box, Enter the count that no of Data will be analyzed for Frequent alarm Report

3) click on Refresh button from Operation Toolbar.

Detail Description of Analysis:

Tagname	This are the constraints of alarm Events Parameters for which chattering Cycle is occur
Alarmtype	
AlarmCount	Total alarm events occurrence for the with respect to the Consequential alarm
Following	Represent the count for the Combinations that became after the alarm event.
%Accumulation	
BlockDescription	This are the constraints of alarm Events Parameters for which chattering Cycle is occur
Priority	

Frequent Alarm analysis also display details with below in child data:

	TAGNAME	ALARMTYPE	AlarmCount	Percent	%Accumulation	BLOCKDESCRIPTION	PRIORITY
	Contains:	Contains:	Equals:	Equals:	Equals:	Contains:	Contains:
▶ ⊙	D363_DCS101.FT120040.BAD.0	BAD	102	13.82	13.82	MP STEAM HDR FLOW	3

CHANNELNA...	EVENTSTAMP	TAGNAME	PRIORI...	COMME...	ALARMTY...	NEWVAL...	ENGUNITS	ALARMSTA...	REMARK
BRU_CH1	01-Jul-2016 23:4...	D363_DCS101.FT120040.BA...	3		BAD	0		UNACK_ALM	
BRU_CH1	01-Jul-2016 23:4...	D363_DCS101.FT120040.BA...	3		BAD	0		UNACK_ALM	
BRU_CH1	01-Jul-2016 23:4...	D363_DCS101.FT120040.BA...	3		BAD	0		UNACK_ALM	
BRU_CH1	01-Jul-2016 23:4...	D363_DCS101.FT120040.BA...	3		BAD	0		UNACK_ALM	
BRU_CH1	01-Jul-2016 23:2...	D363_DCS101.FT120040.BA...	3		BAD	0		UNACK_ALM	
BRU_CH1	01-Jul-2016 23:2...	D363_DCS101.FT120040.BA...	3		BAD	0		UNACK_ALM	
BRU_CH1	01-Jul-2016 23:1...	D363_DCS101.FT120040.BA...	3		BAD	0		UNACK_ALM	

Analysis Summary : Total unique alarms : 12 . 554 alarm instances representing 75.07% of 738 total instances.

Duplicate Alarm Report

The **Duplicate Alarm** analysis identifies potentially redundant alarms, based on the alarm's context. The length of time to check before and after the alarm event occurs defines the criterion for duplicate alarms and is defined on the Duplicate tab of the Analysis Specific tab on the report.

Interconnections between points in DCS can create case of Duplicate alarm .as an example, a measurement may be sent from sensor point to a controller point, to a totalizer point, to a logic point and so forth.

Often a "Bad measurement" alarm is configured on each point and thus if the sensor point goes into that condition, several simultaneous alarms will result. Duplicate alarms are the alarms that persistently occur

within in short time period of Another Alarm.

The **Duplicate Report** allows the configuration of two criteria used in calculating which alarms should be considered as duplicate alarm. For example, you may want only alarms occurring within the +1 or - 1 sec of

other alarm will be considered as duplicate alarms. This report also allows you to exclude chattering alarms.
The **Duplicate** tab allows you to indicate the number of seconds apart that alarm events analyzed can occur in order to be considered duplicate alarms.
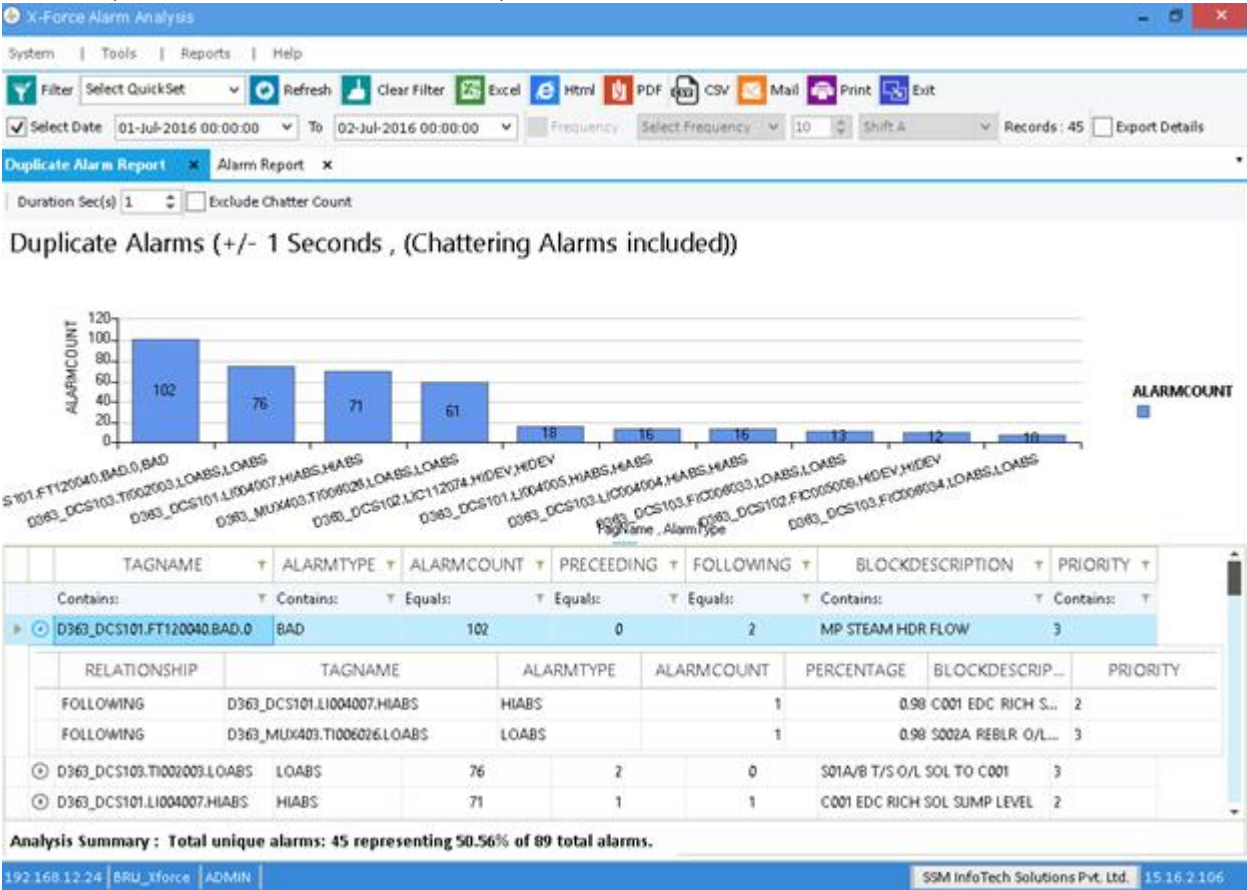
In this Report, for particular Tagname & Alarmtype, we consider 1st occurrence of ALM time and then find out any other Tagname & Alarmtype came in +/- 1 second then we consider it as 1 occurrence of that Tag and find out similar Sequence .then we consider it as Duplicate alarm.

Navigation: Report Menu -> Alarm system Performance -> Duplicate Alarm

To analyze Duplicate Alarm: Follow Steps as mention below to do Analysis with Duplicate Alarm Report

1) Go to Reports Menu and select Alarm System Performance, in that select Duplicate Alarm and click on it.

2) In **Duration** box, Enter the time span (in Sec) that alarms will be analyzed before and after the source alarm event. Default duration is 1 sec Click on Refresh button from Operation Toolbar.

3) Enable **Exclude Chatter count** if it is required to not consider repeating alarms (chatter alarms) in calculation of Duplicate alarm.

4) Click on Refresh button from Operation Toolbar.

Detail Description of Analysis:

Tagname	This are the constraints of alarm Events Parameters for which chattering Cycle is occur
Alarmtype	
AlarmCount	Total alarm events occurrence count for the with respect to the Consequential alarm
Following	Represent the count for the Combinations that became after the alarm event.

Preceeding	Represent the count for the Combinations that became before the alarm event.
BlockDescription	This are the constraints of alarm Events Parameters for which chattering Cycle is occur
Priority	

The analysis results include the alarm Events Details for the Duplicate Alarm Report. Alarm details will be expanded by clicking on Expand button at the right side of the report.

The details will represent the Relationship in context with the parent tag and also display its occurrences. It represent details of alarm with its relationship with respect to the parent alarm which causes other alarm events to occur.

Duplicate analysis also display details with below Details:

| Relationship	Value in this field will be Following or Preceding with respect to the parent tag
Tagname	This are the constraints of alarm Events Parameters for which chattering Cycle is occur
Alarmtype	
AlarmCount	Sum of alarm occurrence for child tag with respect to the parent tag alarm and relationship.
Percentage	Alarm Occurrence in percentage
BlockDescription	This are the constraints of alarm Events Parameters for which chattering Cycle is occur
Priority	

Alarm System Setting

Alarm System Settings: The analyses in this category provide a record of the current alarm configuration, including which tags have alarms set, the priorities of alarms, which alarms are currently disabled or inhibited, etc. Alarm System Settings analyses are only available after static point configuration data has been imported into X-Force AIMS. In addition, not all analyses are available for all DCS systems. Analyses of alarm system settings consist of the following:
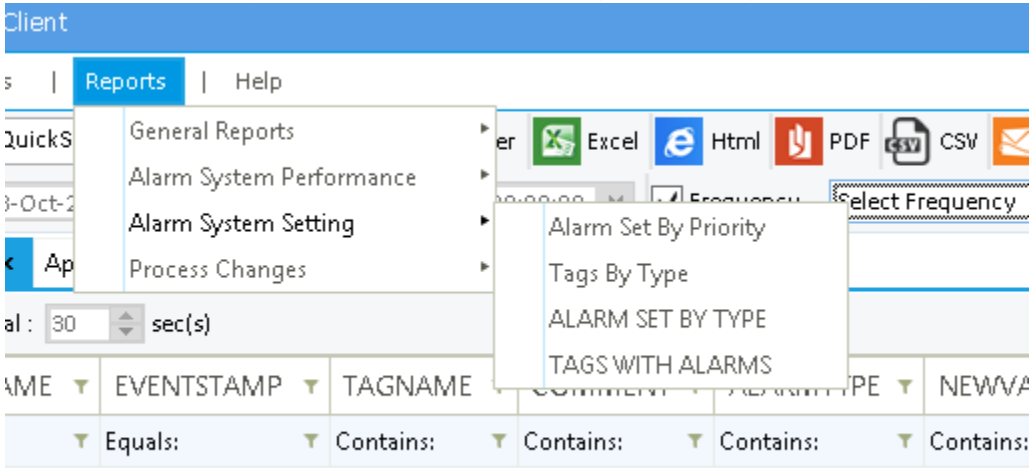
Alarm Set by Priority

The **Alarms Set by Priority** analysis is a breakdown of the number of configured alarms grouped by alarm priorities as defined by the control system manufacturer.

The results of this analysis can be used to determine whether the control system priority settings are within EEMUA 191 metrics, which is beneficial for providing a snapshot of the alarm system settings. It can also be used to help determine the effectiveness of the alarm prioritization scheme.

Navigation: Report Menu -> Alarm system Settings -> Alarms Set by Priority
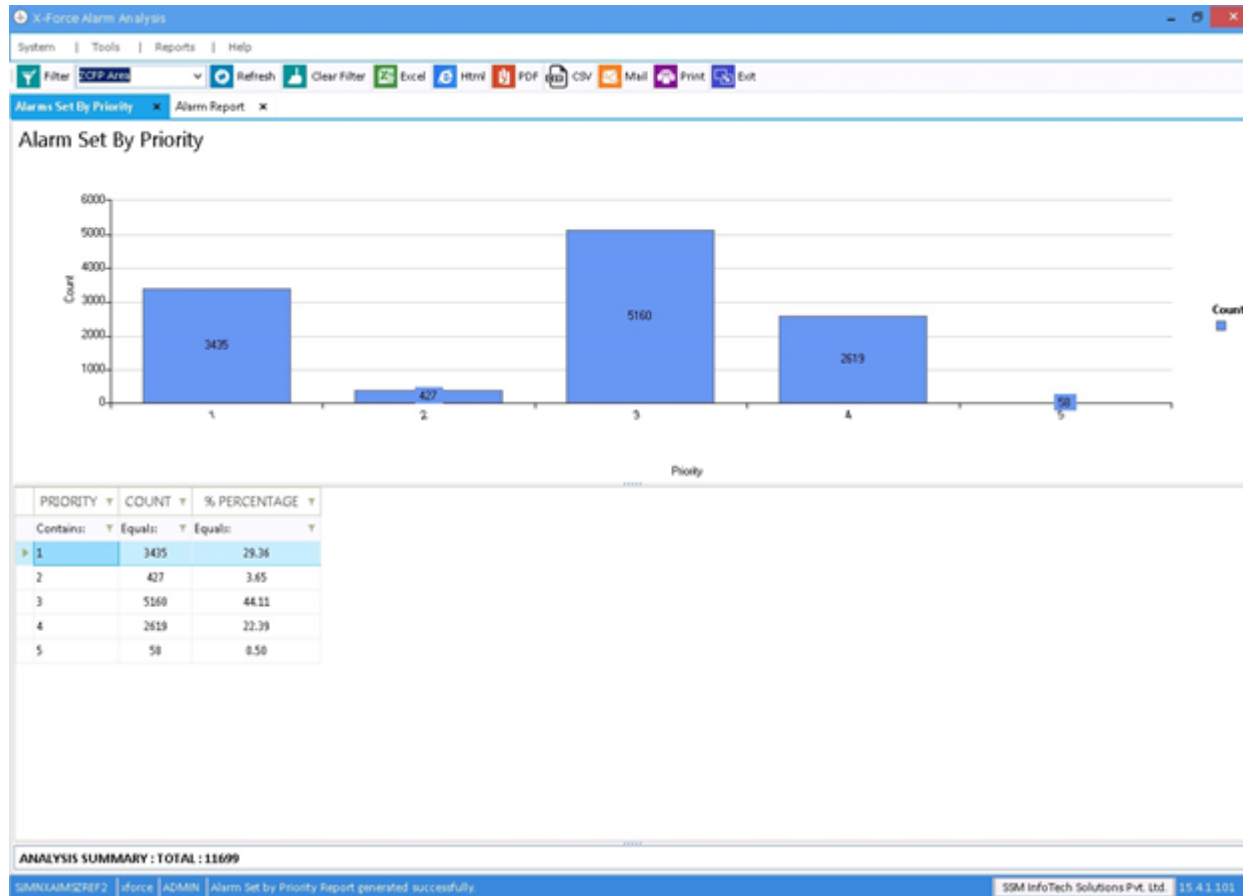
To analyze Alarm Set by Priority Report: Follow Steps as mention below to do Analysis with Time to Ack Report
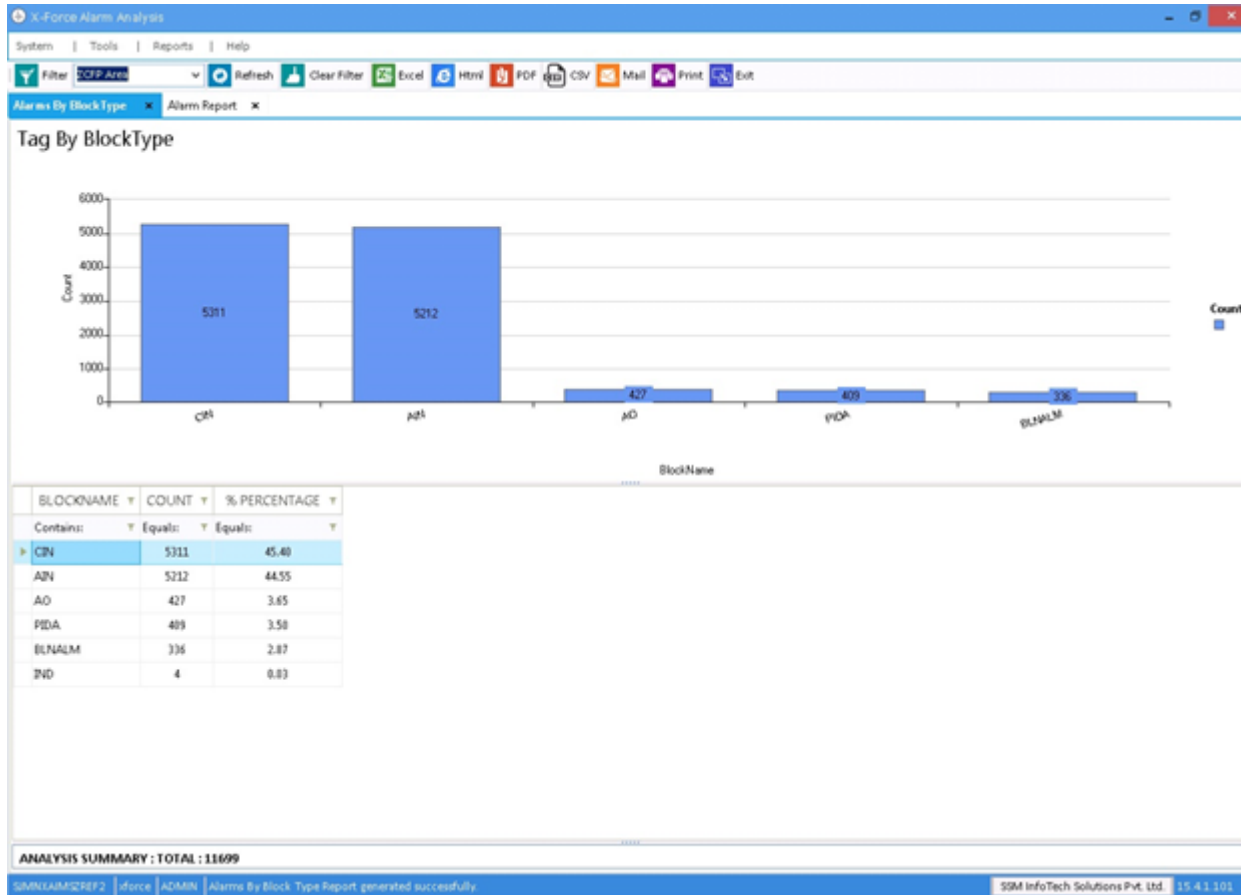
1) Go to Reports Menu and select Alarm System Settings, in that select Alarms Set by Priority and click on it.

2) Click on Refresh button from Operation Toolbar.

Tags by Type

The **Tags by Type** analysis is a breakdown of the configured tags grouped by specific tag types as defined by the control system manufacturer.

This analysis shows the breakdown of the number of tag types configured in the control system, which can be used to document items such as count of tags connected to field instrumentation.

Navigation: Report Menu -> Alarm system Settings -> Alarms Tag by Type

To analyze Alarms Tag by Type Report: Follow Steps as mention below to do Analysis with Alarms Tag by Type

1) Go to Reports Menu and select Alarm System Settings, in that select Alarms Tag by Type Report and click on it.

2) Click on Refresh button from Operation Toolbar.

Alarm set by Type

The **Alarms Set by Type** analysis is a breakdown of the number of configured alarms grouped by the specific alarm types as defined by the control system manufacturer.

The results of this analysis can help you gain insight as to the current configuration of the control system, which is useful for showing the following:

▫ Non-standard alarm types

☐   Alarms that are configured outside of "best practices" (such as the use of Off Normal rather than Change of State)

☐   Alarm that may be configured outside the guidelines defined within the alarm philosophy (such as High High and Low Low)

Navigation: Report Menu -> Alarm system Settings -> Alarms Set by Type
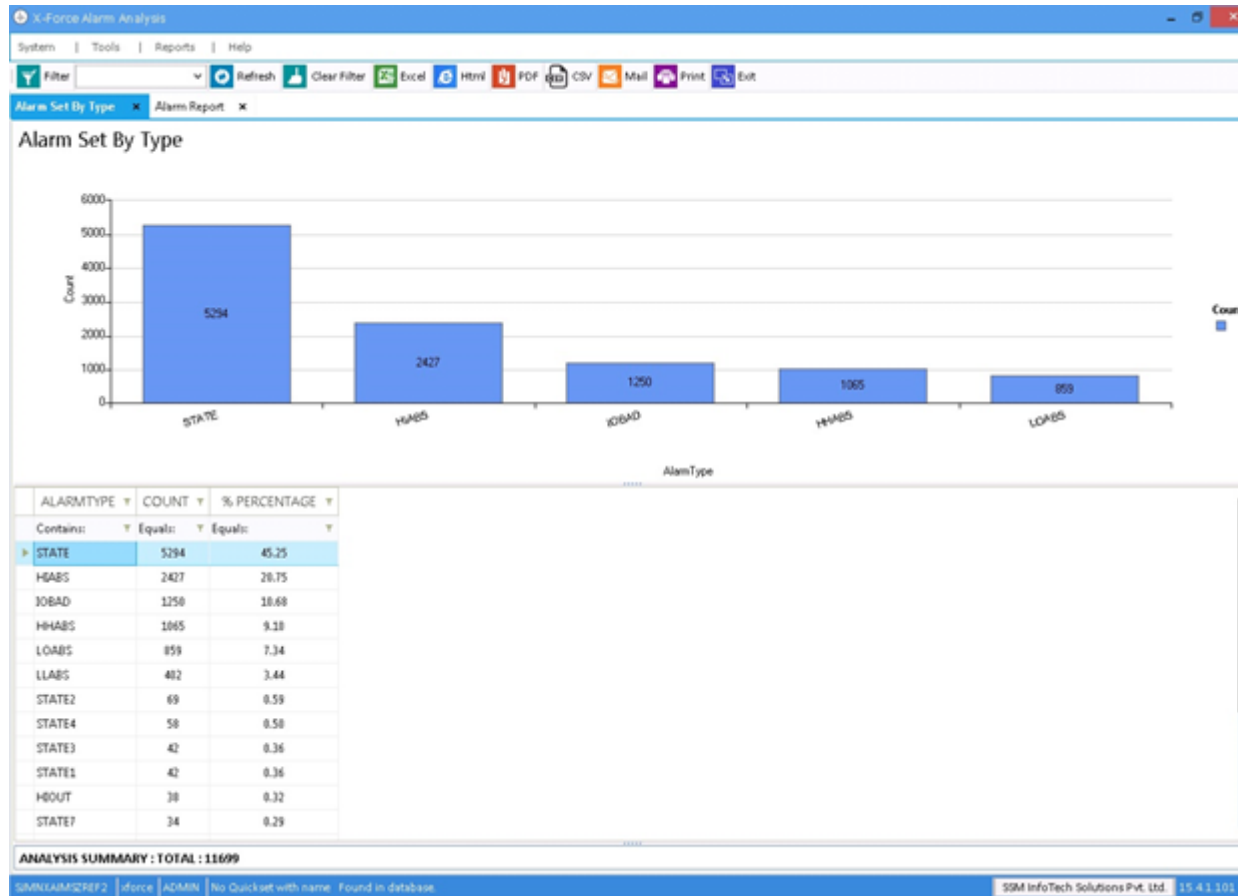
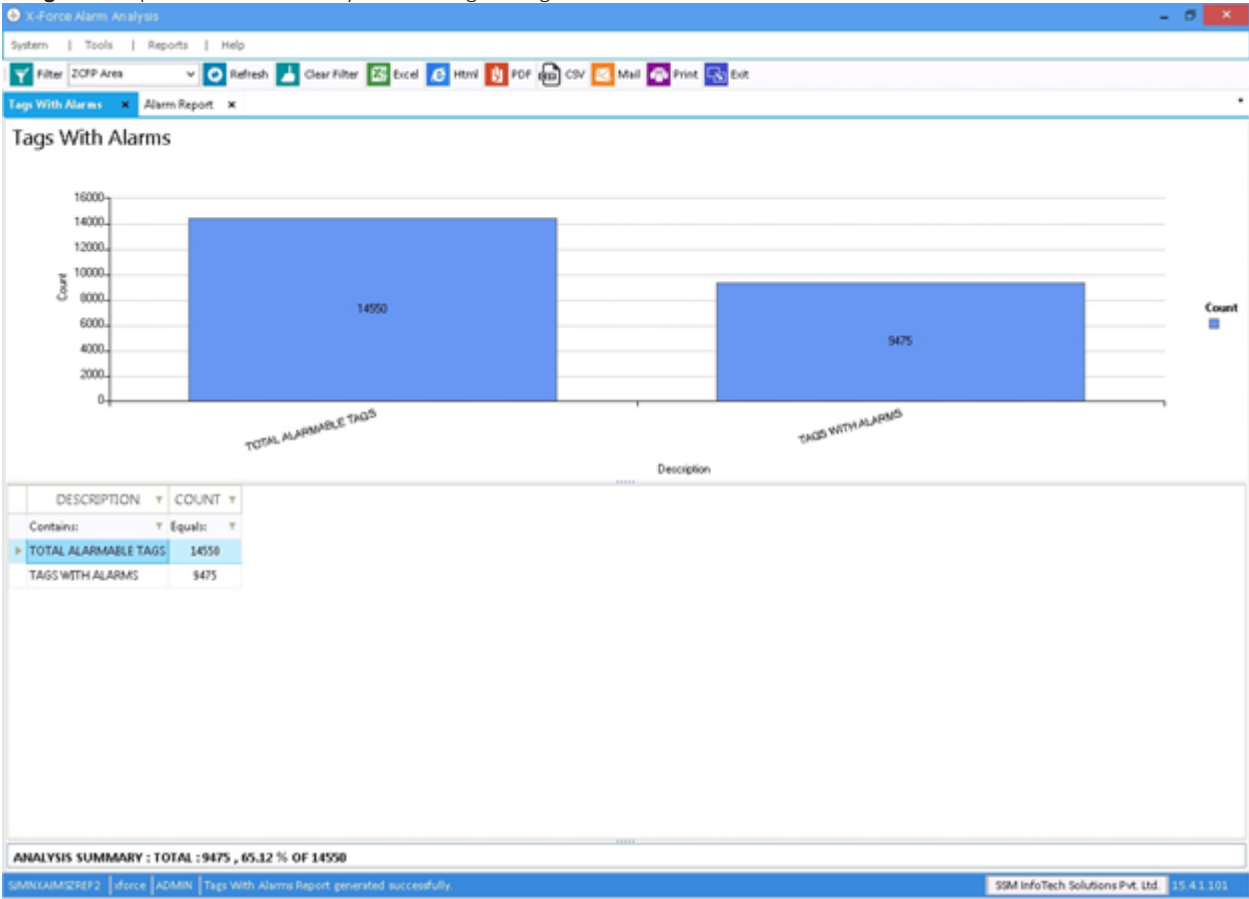**To analyze Alarms Set By Type Report:** Follow Steps as mention below to do Analysis with Alarms Set by Type

1)   Go to Reports Menu and select Alarm System Settings, in that select Alarms Set by Type Report and click on it.

2)   Click on Refresh button from Operation Toolbar.

TAGS WITH ALARMS

The **Tags with Alarms** analysis is a breakdown of the number of tags with configured alarms versus the number of tags that could have configured alarms within the control system.

The results of this analysis can be used to define over usage of an alarm system. Over-alarming can have a negative effect on the alarm system performance by overwhelming the operator and causing increased traffic on the control system network.

**Navigation:** Report Menu -> Alarm system Settings -> Tags with Alarms

To analyze Tags with Alarms Report**:** Follow Steps as mention below to do Analysis with Tags with Alarms

1) Go to Reports Menu and select Alarm System Settings, in that select Tags with Alarms Report and click on it.

2) Click on Refresh button from Operation Toolbar.

Process Changes

Process Changes: The analyses in this category focus on operator-initiated events, including controller mode, set point, and alarm state changes. Analyses of Process Changes are only available after operator change event data have been imported into the system. Some analyses may not be available for some DCS systems. Process Change analyses consist of the following:
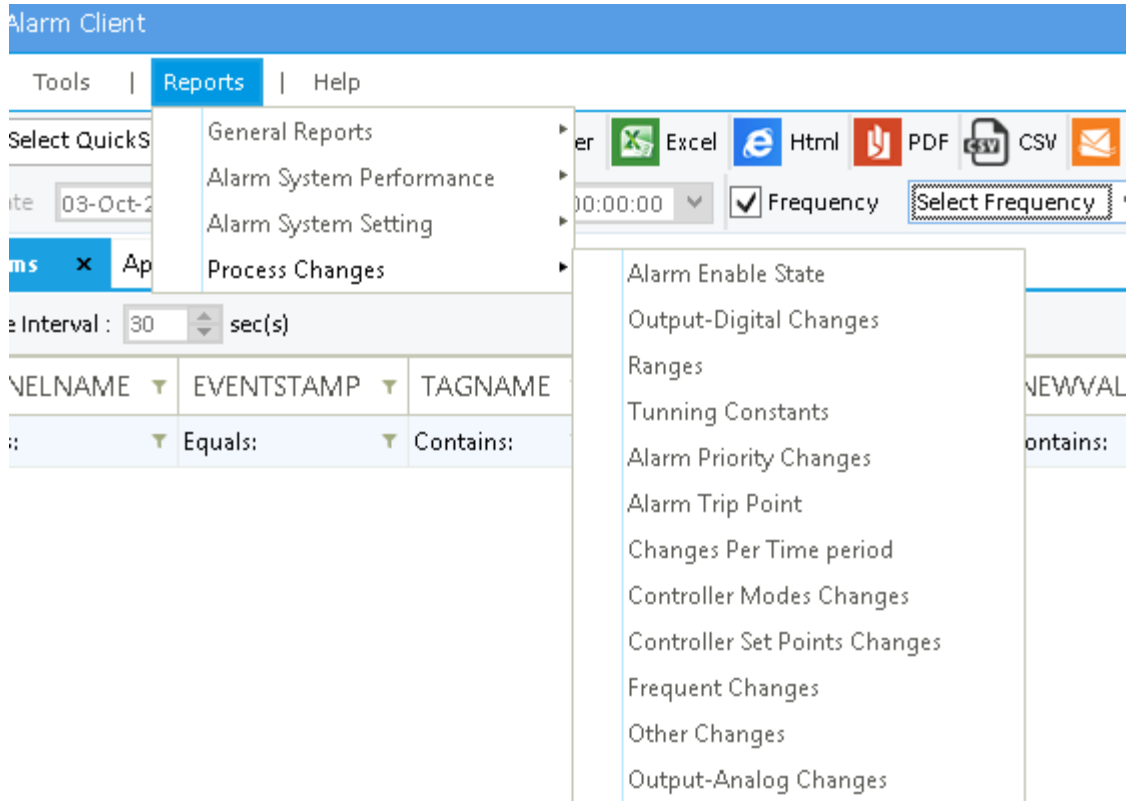
Alarm Enable State

Output-Digital Changes

Output Digital Report, while not as common, serves a similar purpose. An increase in cooling fan motor starts, for example, may help pinpoint an overheating process element. The Outputs-Digital analysis reveals these variability and therefore serves as a valuable troubleshooting tool.

The Digital Outputs analysis results include a list of entities, and for each entity, the number of output changes, and the entity point description. The analysis also displays the total number of output changes and the total number of unique entities with output changes.

Navigation: Report Menu -> Process Changes -> Outputs- Digital Changes
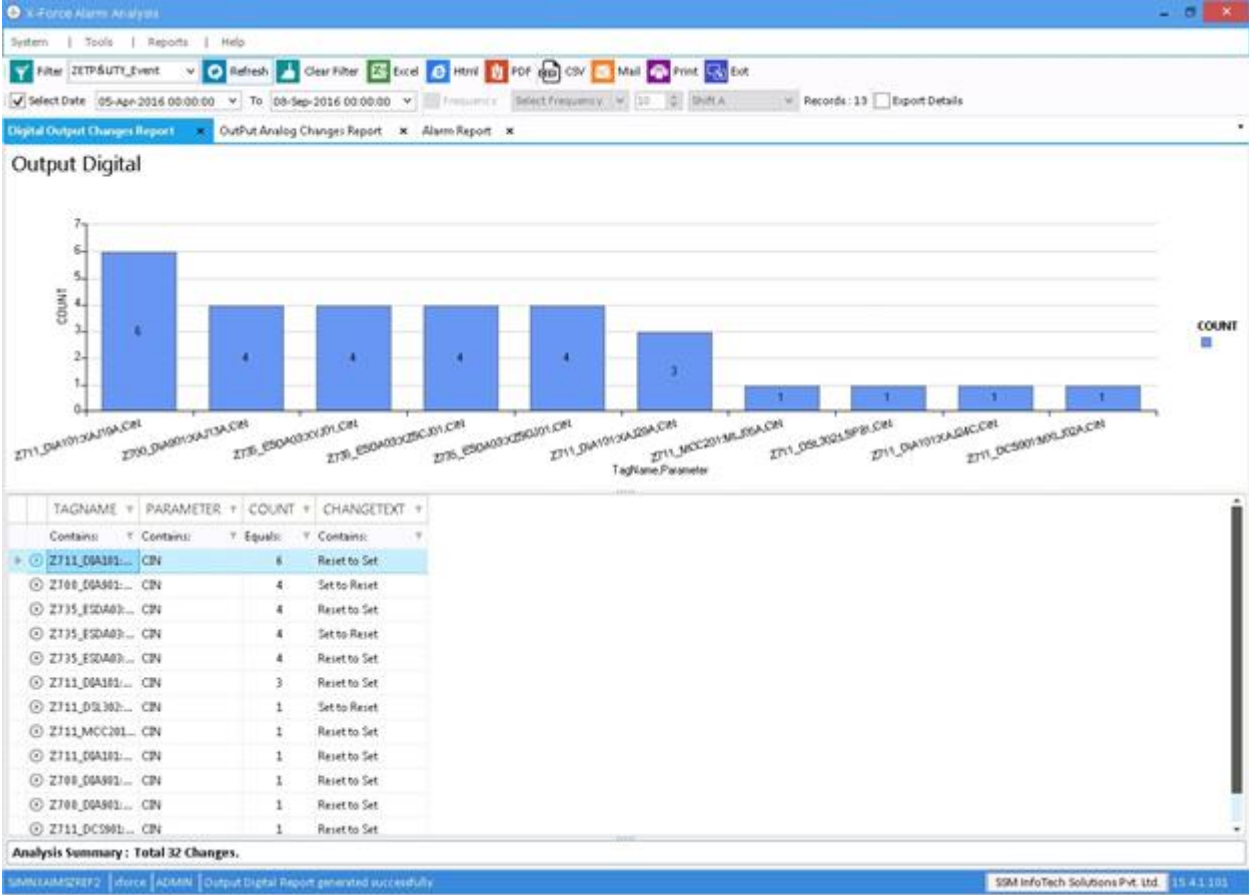
To analyze Output Digital Report: Follow Steps as mention below to do Analysis with output Digital Report
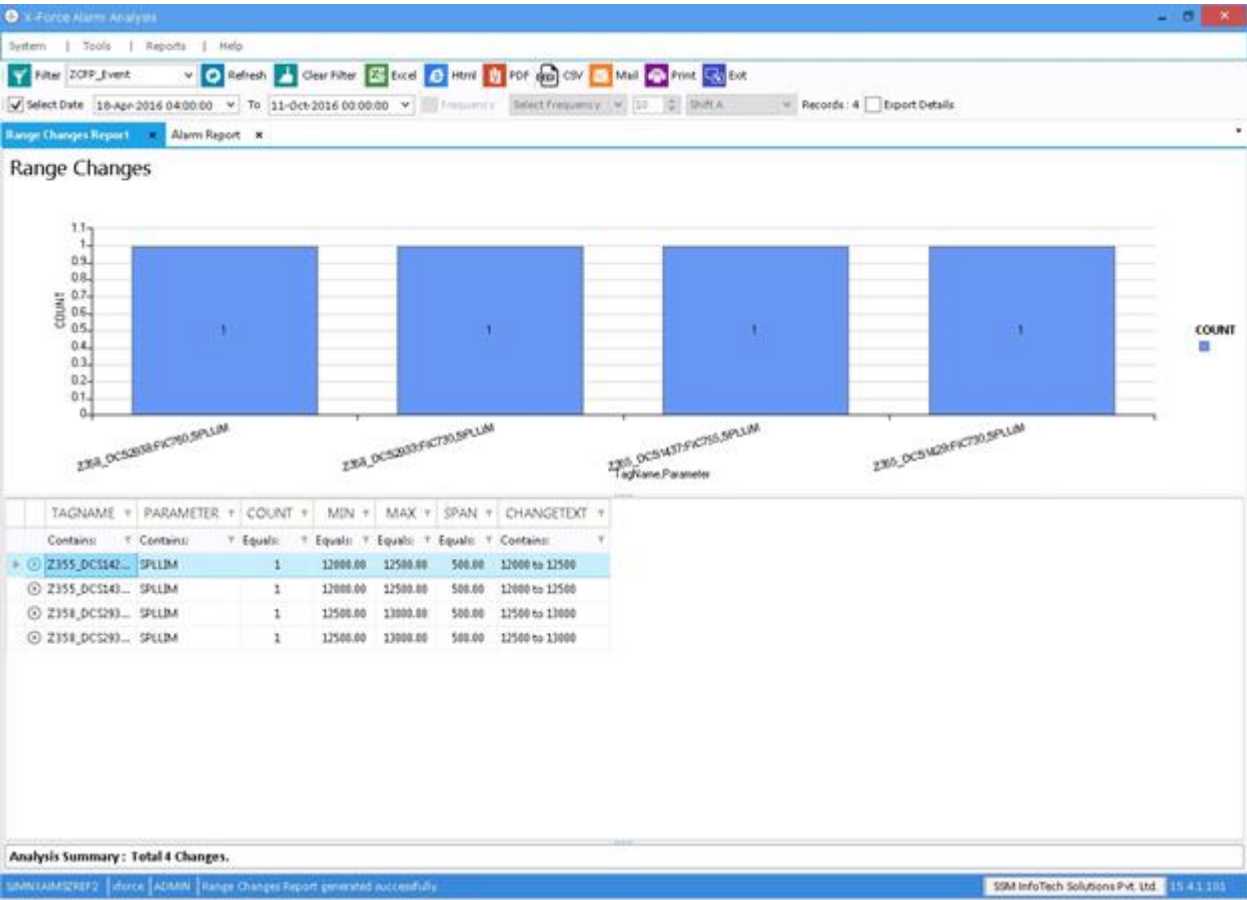
1) Go to Reports Menu and select Process Changes, in that select output Digital Report and click on it.

2) Click on Refresh button from Operation Toolbar

Ranges

The **Ranges** analysis detects changes made in ranges associated with the Process Value (PV) (e.g., for a Honeywell system these would be PVEULO, PVEUHI, etc.).

The analysis results include a list of entities, and for each entity, the range that changed, the number of times the range changed, and the entity point description. The analysis also displays the total number of range changes and the total number of unique entities with range changes. From-value/to-value information is also available.

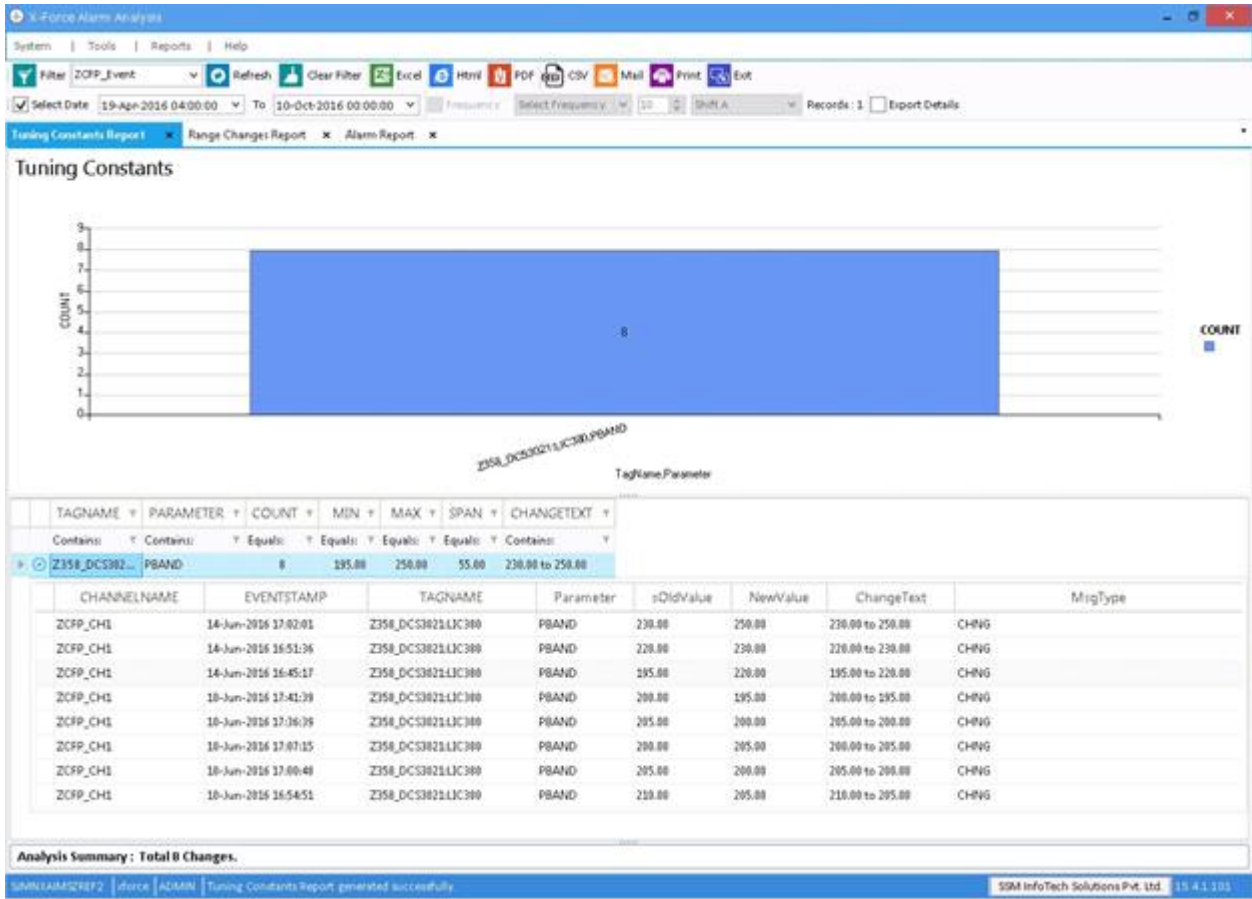**Navigation:** Report Menu -> Process Changes -> Ranges

To analyze Output Digital Report: Follow Steps as mention below to do Analysis with Ranges Report

1) Go to Reports Menu and select Process Changes, in that select Ranges Report and click on it.

2) Click on Refresh button from Operation Toolbar.

Tunning Constants

The **Tuning Constants** analysis summarizes changes to the standard PID tuning constants for gain, integral action, and derivative action. This information is valuable in determining bad actors (which may need final

element work, such as a new positioner, volume booster, stem packing, valve trim, etc.) or candidates for non-traditional control algorithms (e.g., non-linear, feed-forward, gap, etc.).
The analysis results include a list of entities, and for each entity, the tuning constant that changed, the number of times the tuning constant changed, and the entity point description. The analysis also displays the total number of tuning constant changes and the total number of unique entities with tuning constant changes. From-value/to-value information is also available.

Navigation: Report Menu -> Process Changes -> Tunning Constants

To analyze Tunning Constants Report: Follow Steps as mention below to do Analysis with Tunning Constants Report

1) Go to Reports Menu and select Process Changes, in that select Tunning Constants Report and click on it.
2) Click on Refresh button from Operation Toolbar.

Alarm Priority Changes

The **Alarm Priorities** analysis summarizes changes made to the process value placed on alarm events. The analysis results include a list of entities, and for each entity, the alarm priority that changed, the number of times the priority changed, and the entity point description. The analysis also displays the total number of priority changes and the total number of unique entities with priority changes. From-value/to-value information is also available.

Navigation: Report Menu -> Process Changes -> Alarm Priority Changes

To analyze Alarm Priority changes Report: Follow Steps as mention below to do Analysis with Alarm Priority Changes

1) Go to Reports Menu and select Process Changes, in that select Alarm Priority Changes Report and click on it.
2) Click on Refresh button from Operation Toolbar.

Alarm Trip Point

The **Alarm Trip Points** analysis displays changes made to the value of analog trip point settings.

The analysis results include a list of entities, and for each entity, the alarm trip point that changed, the number of times the trip-point changed, and the entity point description. The analysis also displays the total number of trip point changes and the total number of unique entities with trip point changes. From-value/to-value information is also available.

Navigation: Report Menu -> Process Changes -> Alarm Trip Points

To analyze Alarm Priority changes Report: Follow Steps as mention below to do Analysis with Alarm Trip Points
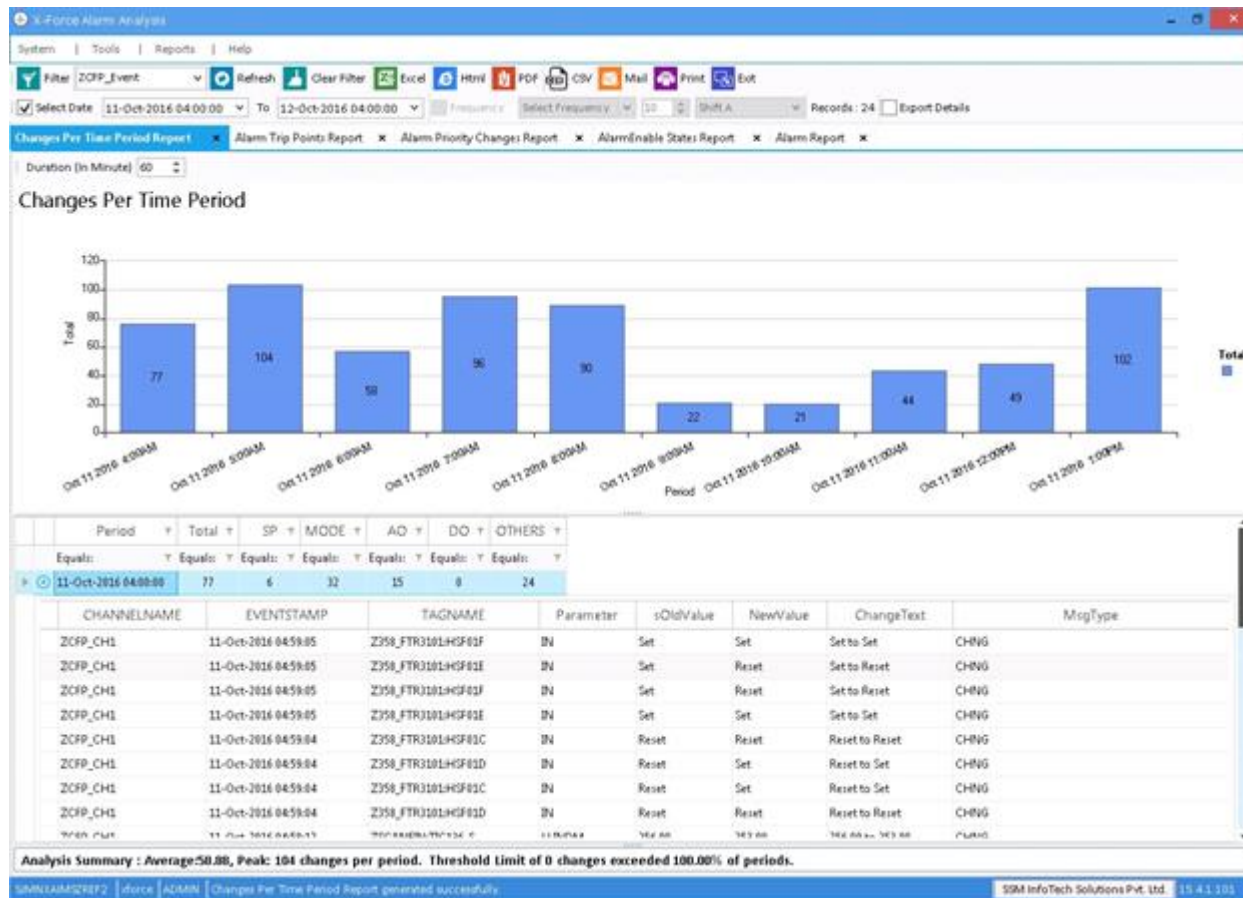
1) Go to Reports Menu and select Process Changes, in that select Alarm Trip Points Report and click on it.
2) Click on Refresh button from Operation Toolbar.

Changes Per Time Period

The **Changes per Time Period** analysis indicates the number of process changes during a predefined time period.

Navigation: Report Menu -> Process Changes -> Changes per Time Period

To analyze Changes per Time Period Report: Follow Steps as mention below to do Analysis with Changes per Time Period Report

1) Go to Reports Menu and select Process Changes, in that select Changes per Time Period and click on it.

2) From the Time boxes, select the increment value and corresponding time unit (e.g., 1 Hour, 30 minutes, etc.

3) Click on Refresh button from Operation Toolbar.

When running the **Changes per Time Period** analysis, the percent of the time that the threshold limit was exceeded is displayed at the bottom of the analysis. For example, if the threshold limit is 10, the time

increment is 1 Hour, and the analysis is run for 1 Day, the Changes per Time Period analysis will display what percent of the 24 periods analyzed had more than ten changes within one hour.

Controller Modes Changes

The **Controller Modes** analysis indicates the amount of time that entities with journal mode changes spend in the journal mode(s).

The analysis results include a list of entities, and for each entity, its normal mode, number of mode changes, accumulated time in normal mode, percentages of time in the various modes (normal, manual and others), and the entity point description. The analysis also displays the total number of mode changes and the total number of unique entities with mode changes. From-value/to-value information is also available.

Navigation: Report Menu -> Process Changes -> Controller Mode Changes
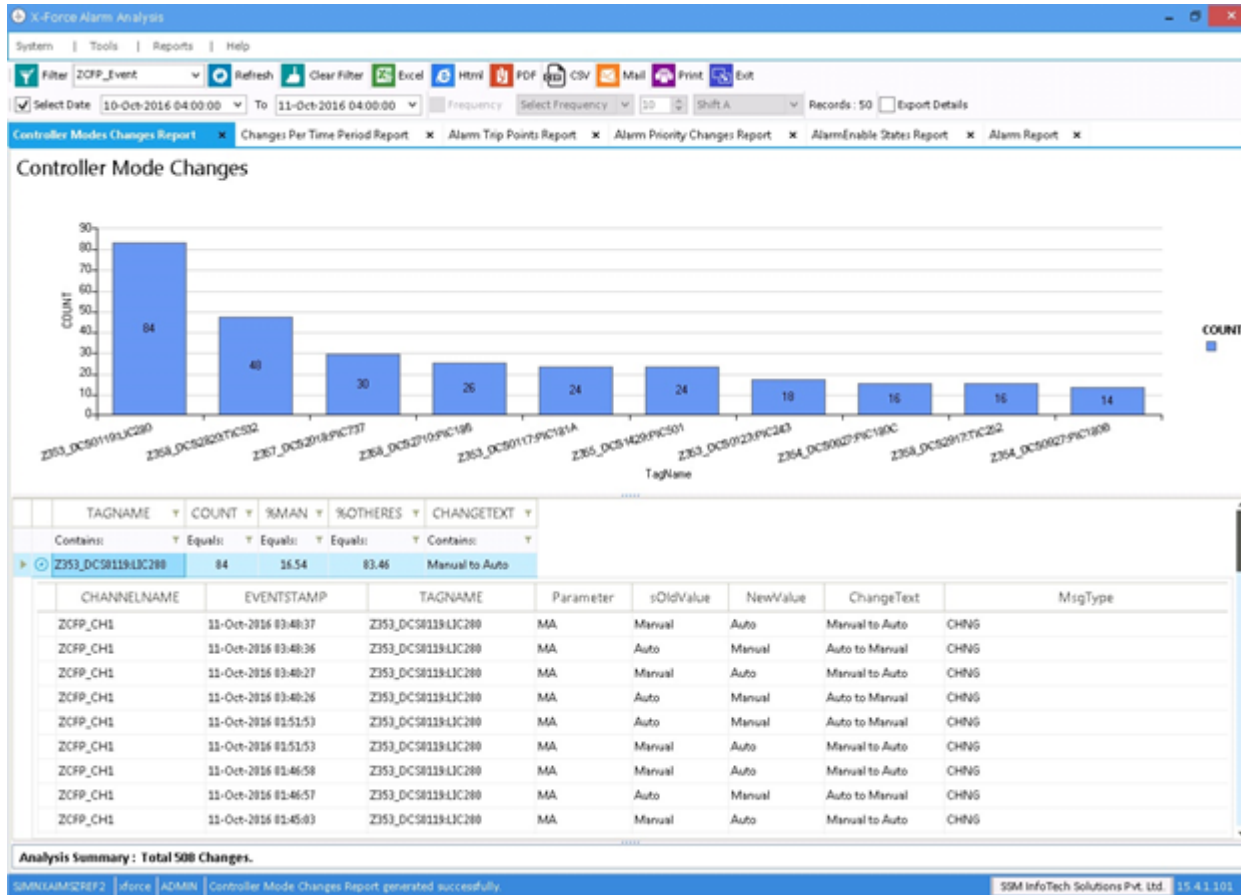
To analyze Controller Modes Changes Report: Follow Steps as mention below to do Analysis with Controller Mode Changes Report

1) Go to Reports Menu and select Process Changes, in that select Controller Mode Changes and click on it.

2) Click on Refresh button from Operation Toolbar.

Controller Set POint Changes

Set point variability can have a significant impact on the desirable alarm trip-point settings for a specific entity. In cases where a set point varies across a wide range, it can be difficult to properly set the alarm trip points.

The Controller Set points analysis reveals these variability's, providing information valuable for evaluating current alarm trip point effectiveness, as well as developing more effective trip point settings as necessary. The analysis results include a list of entities, and for each entity, the set point minimum, maximum and span, number of set point changes, and the entity point description. The analysis also displays the total number of set point changes and the total number of unique entities with set point changes. From-value/to-value information is also available.

Navigation: Report Menu -> Process Changes -> Controller Set Points
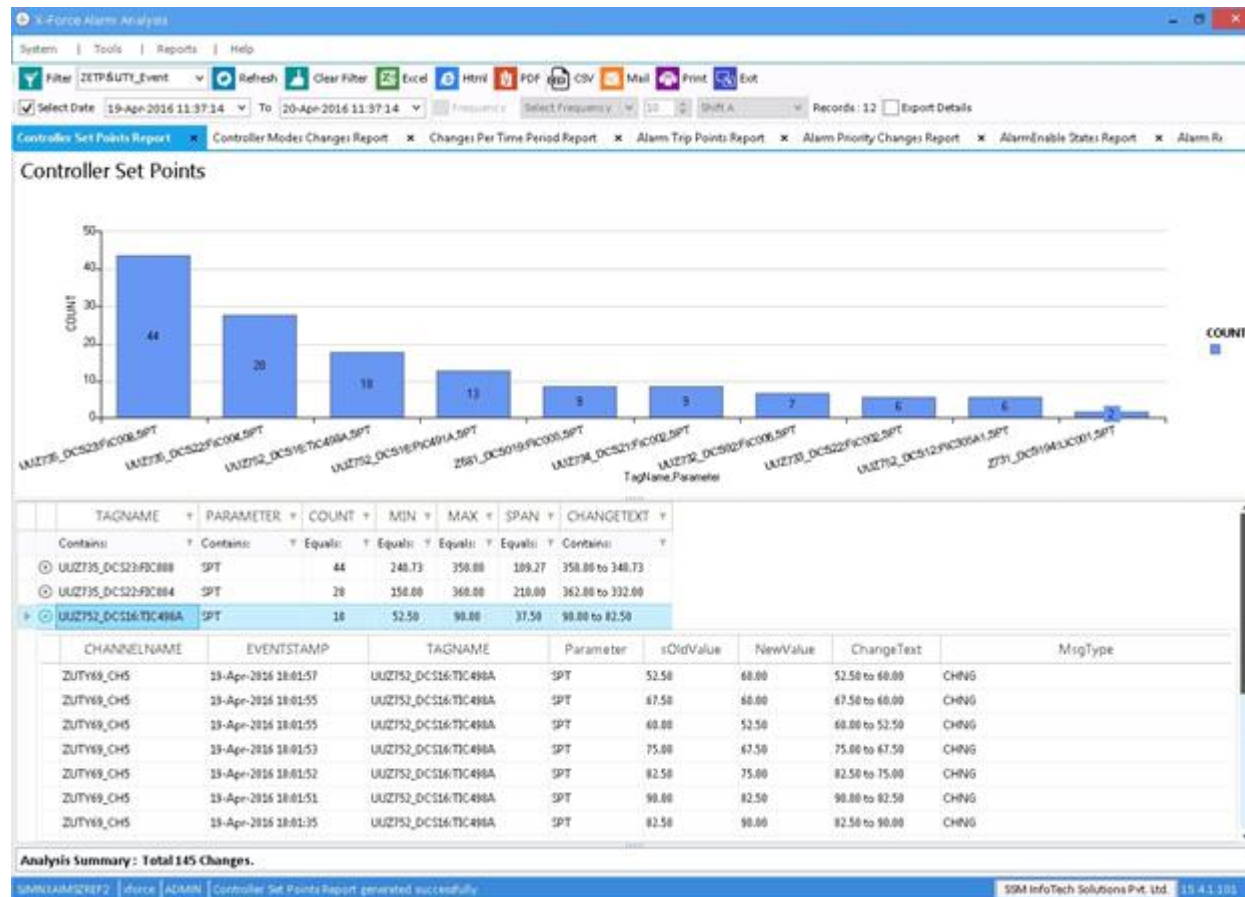
To analyze Controller Set Points Changes Report: Follow Steps as mention below to do Analysis with Controller Set Point Changes Report
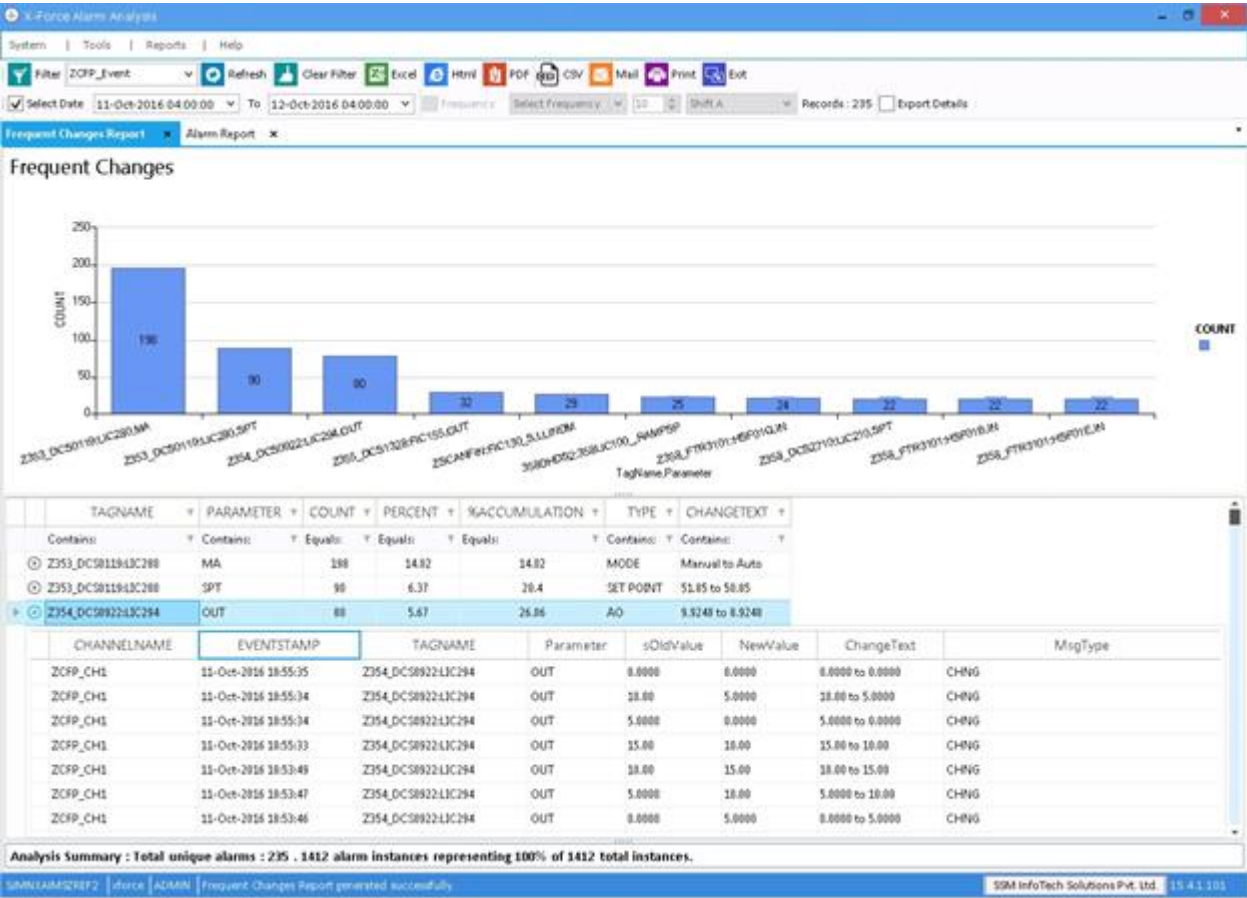
1) Go to Reports Menu and select Process Changes, in that select Controller set point Changes and click on it.

2) Click on Refresh button from Operation Toolbar.

Frequent Changes

The **Frequent Changes** analysis displays all changes made by the operator sorted by the most frequent.

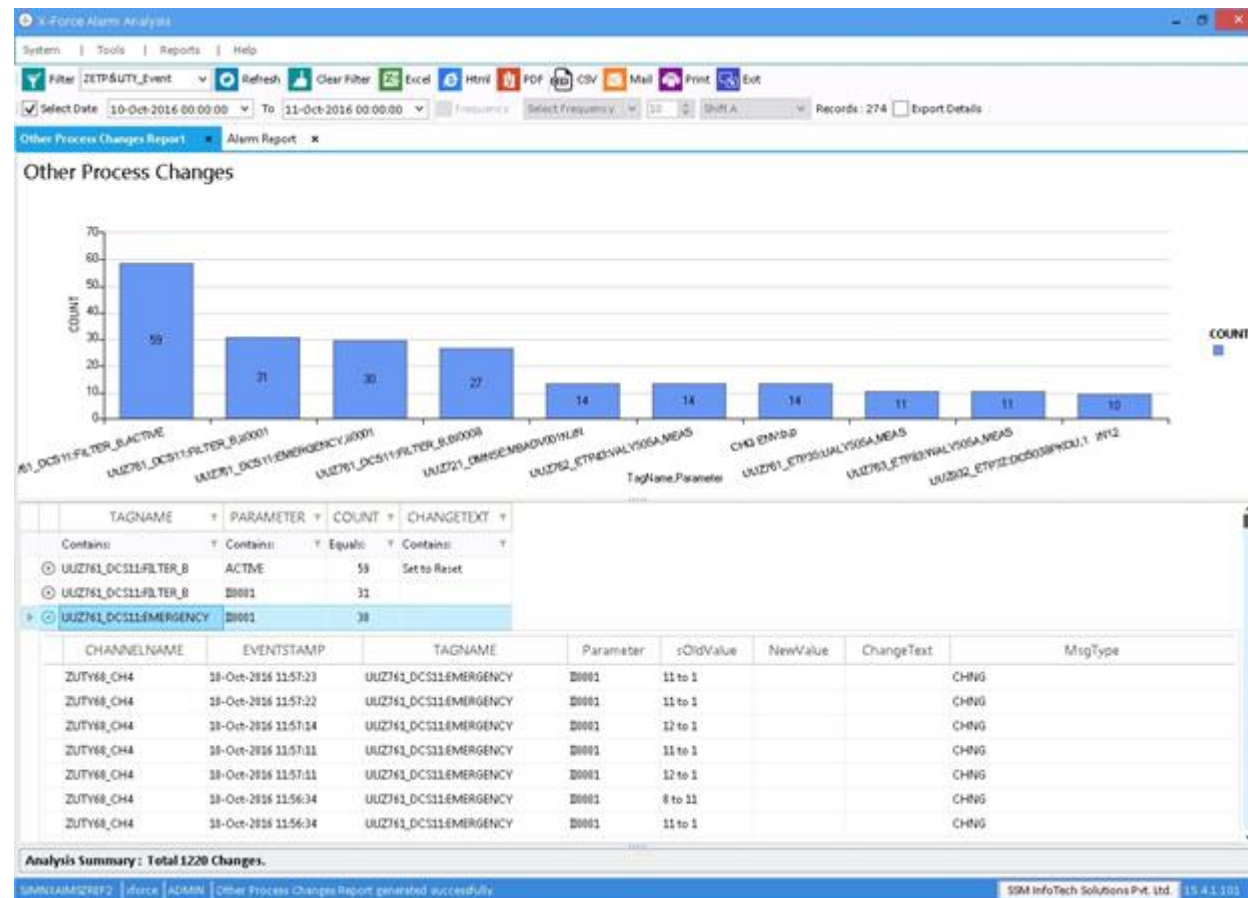**Navigation:** Report Menu -> Process Changes -> Frequent Changes

To analyze Frequent Changes Report: Follow Steps as mention below to do Analysis with Frequent Changes Report

1) Go to Reports Menu and select Process Changes, in that select Frequent Changes and click on it.

2) Click on Refresh button from Operation Toolbar.

Other Changes

The **others analysis** discovers all process changes that are not captured by any of the specific analyses described previously. This catch-all analysis enables the convenient evaluation of miscellaneous changes.

Navigation: Report Menu -> Process Changes -> Others Changes

To analyze others Changes Report: Follow Steps as mention below to do Analysis with Others Changes Report

1) Go to Reports Menu and select Process Changes, in that select Others Changes and click on it.

Click on Refresh button from Operation Toolbar.

The **others analysis** discovers all process changes that are not captured by any of the specific analyses described previously. This catch-all analysis enables the convenient evaluation of miscellaneous changes.

**Navigation:** Report Menu -> Process Changes -> Others Changes

Output-Analog Changes

Output Analog Report could be useful in assessing the health control loops. Increasing variability may indicate problems with the final control element, process, or controller tuning preventing the controller from running in automatic control mode.

The **Analog Outputs** analysis results include a list of entities, and for each entity, the minimum controller output given, the maximum controller output given, the span, the number of output changes, and the entity point description. The analysis also displays the total number of output changes and the total number of unique entities with output changes.

Navigation: Report Menu -> Process Changes -> Outputs- Analog Changes
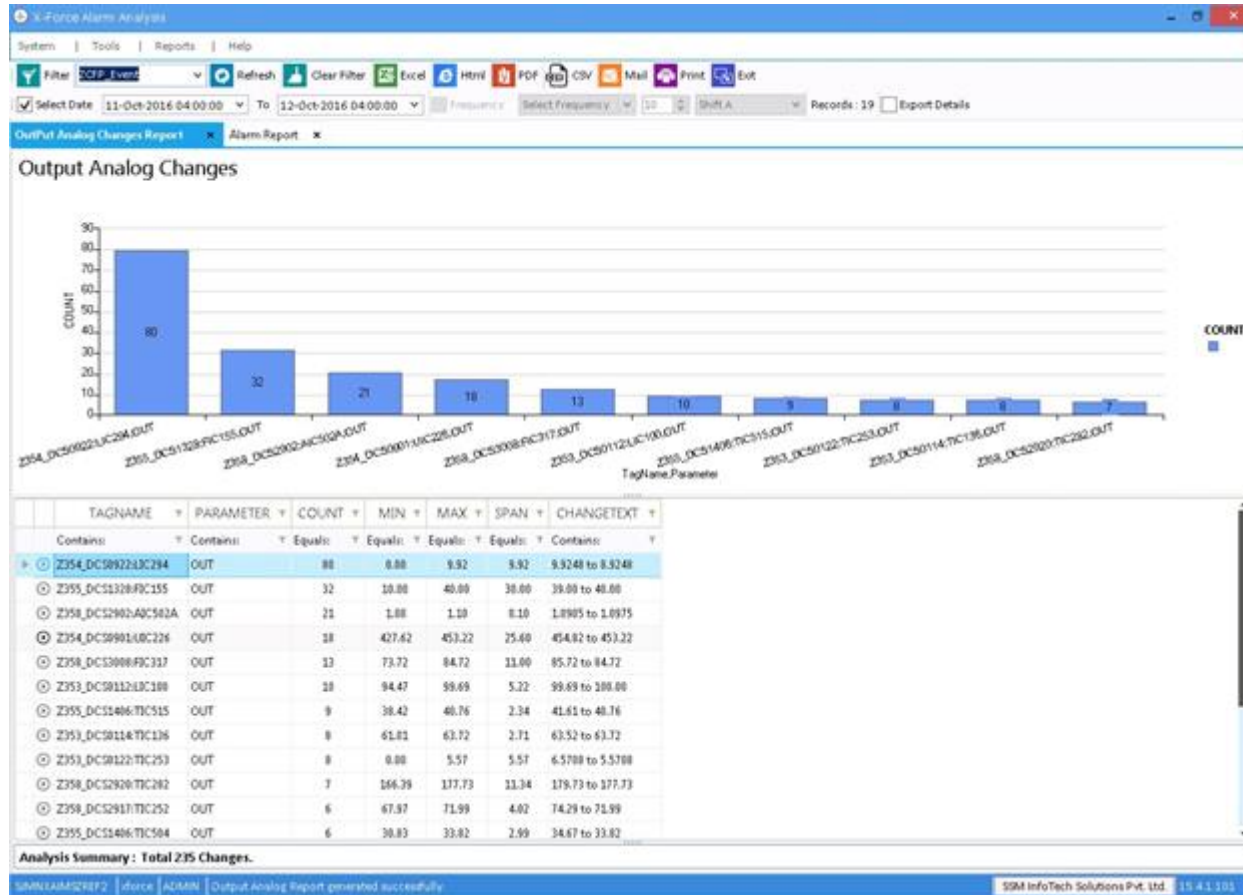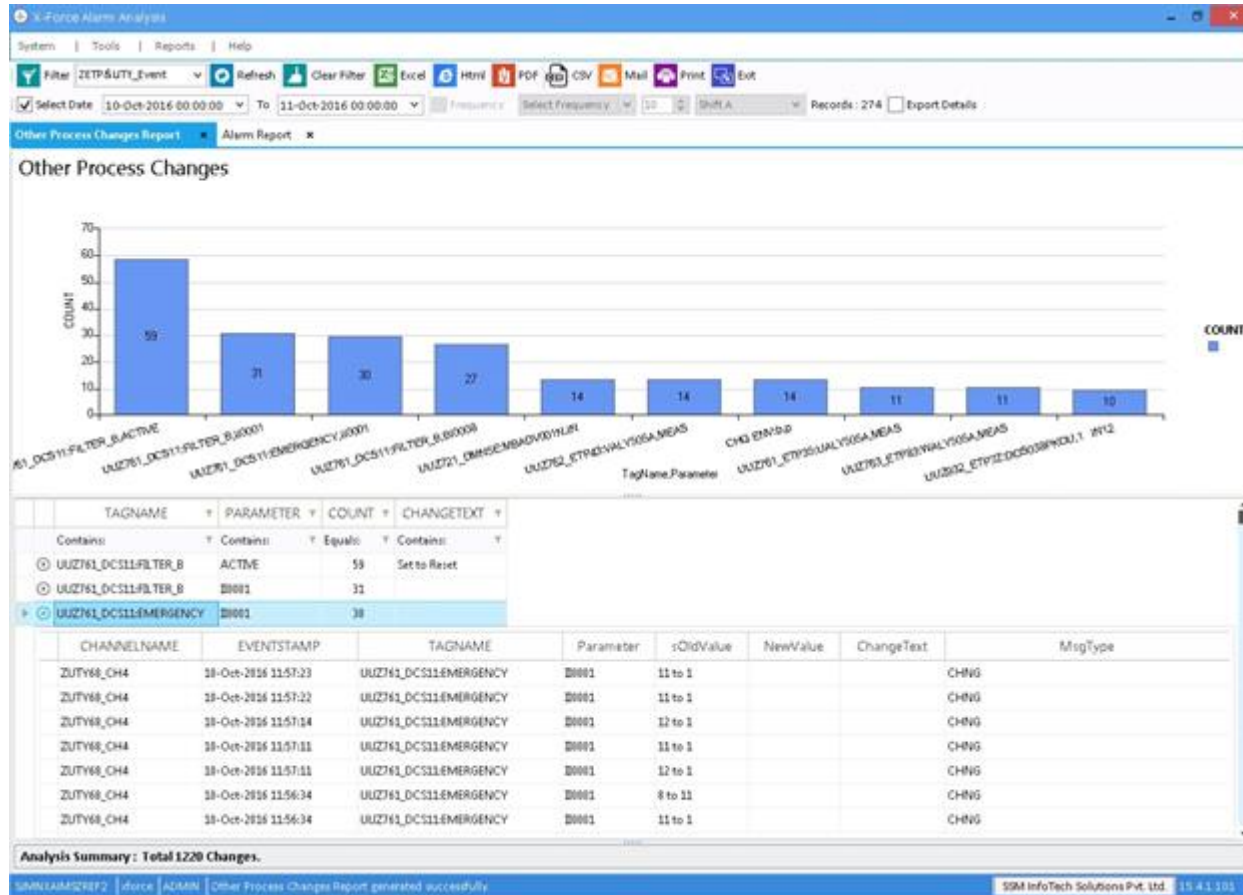
To analyze Output Analog Report: Follow Steps as mention below to do Analysis with output analog Report

1) Go to Reports Menu and select Process Changes, in that select output Analog Report and click on it.

2) Click on Refresh button from Operation Toolbar.

To analyze others Changes Report: Follow Steps as mention below to do Analysis with Others Changes Report

1) Go to Reports Menu and select Process Changes, in that select Others Changes and click on it.

Click on Refresh button from Operation Toolbar.