



Nastel Overview
prepared for



Guide Share France
01 October 2019

Nastel Solution Offering

APP STACK				
MIDDLE WARE				
OS DBMS				



CHALLENGES

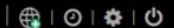
- **No single point of control for multiple middleware, multiple platforms**
- **Middleware teams unable to delegate authority to Dev/Ops**
- **No personalized views of infrastructure**
- **Application Development teams cannot provision needed middleware objects**
- **Application Development teams cannot easily test message flows**
- **Middleware teams challenged by software upgrades & migrations**

NASTEL SOLUTION



- **Automated discovery of middleware estate**
- **Simplified configuration management**
- **Easily manage and rollback changes**
- **Full audit trail of changes (who, what, where)**
- **Full message management & search**
- **User group and role management**
- **Secure, granular delegation of specific authorities to Dev/Ops**

Nastel Navigator - Middleware Management



WorkSpace
NAV - Dashboard 01
Viewlet +

Summary

NAV - FAV - Fincorp Queues - MQM (apsvr 0.0.0.0:4010)

Default schema: My Queue Schema
Filter by:

Queue Name ^	Manager Name	Current Depth	Maximum Depth	Put Messages	Get M
<input type="checkbox"/> FINCORP_TRADE_ACCEPT	QM_C	0	5000	Allowed	Allowe
<input type="checkbox"/> FINCORP_TRADE_CONFIRM	QM_B	0	5000	Allowed	Allowe
<input type="checkbox"/> FINCORP_TRADE_FINAL	QM_C	0	5000	Allowed	Allowe
<input type="checkbox"/> FINCORP_TRADE_ORDER	QM_A	0	5000	Allowed	Allowe
<input type="checkbox"/> FINCORP_TRADE_VALIDATE	QM_B	0	5000	Allowed	Allowe
<input type="checkbox"/> FINCORP_TRADE_VERIFY	QM_A	0	5000	Allowed	Allowe

Console

Compare Differences only

Attributes	FINCORP_TRADE_ACCEPT	FINCORP_TRADE_CONFIRM	FINCORP_TRADE_FINAL
Queue Name	FINCORP_TRADE_ACCEPT	FINCORP_TRADE_CONFIRM	FINCORP_TRADE_FINAL
Queue Description			
Usage	Normal	Normal	Normal
Scope	Queue Manager	Queue Manager	Queue Manager
Default Bind	On Open	On Open	On Open
Default Persistence	Non Persistent	Non Persistent	Non Persistent

Nastel Navigator - Topology View of Middleware Estate

NAV - Qmgrs

Manager Name

tcp://apmwdw:7022	E
QM_IIB	E
CSQ3	R
AGNT1	A
AGNT2	A
CORD	A
QM_A	A
QM_C	A
QM_B	A
tcp://apmwdw:7222	E
tcp://apmwdw:7223	E

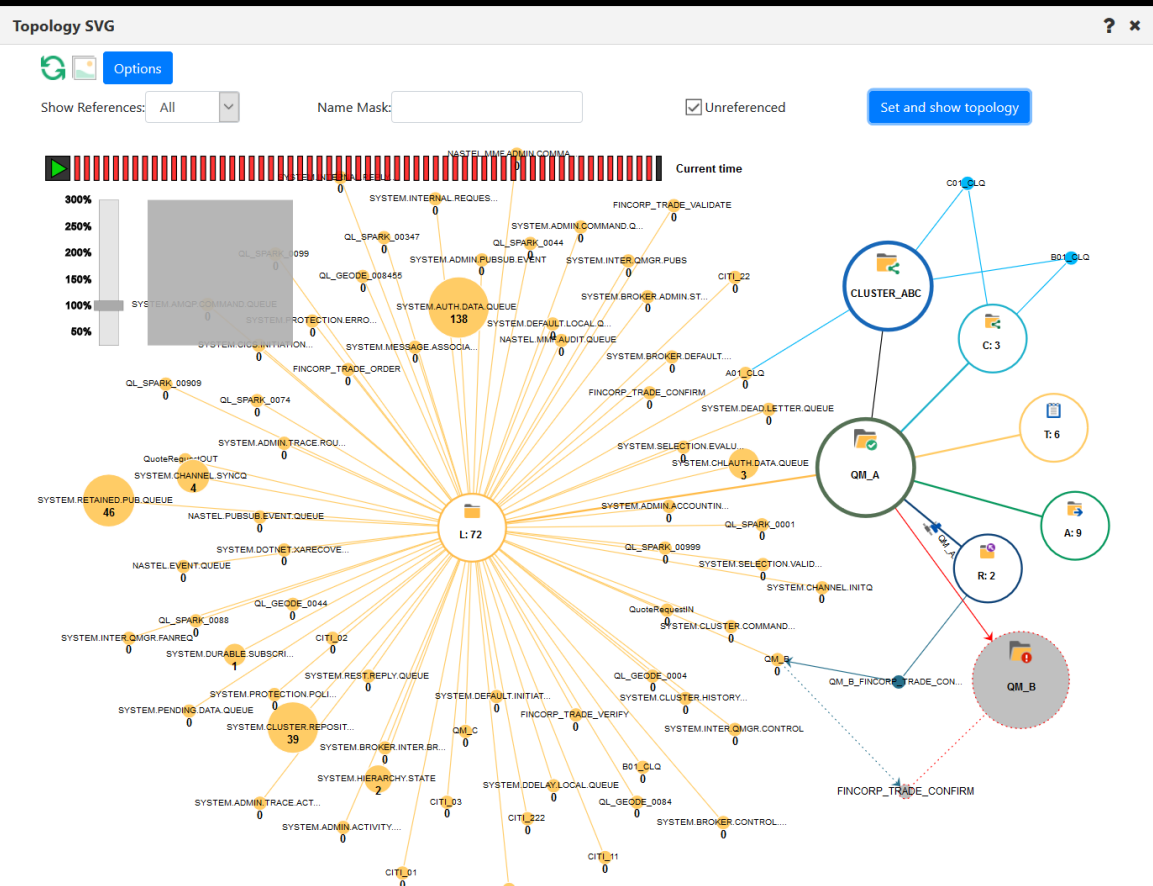
Total: 50 Visible:50 Selected: 0

Total: 11 Visible:11 Selected: 0

NAV - All Queues

Queue Name

A01_CLQ	
AGNT1	
AGNT1	
AGNT2	
AGNT2	
B01_CLQ	
B01_CLQ	
BankReplyQueue	
BankRequestQueue	



Admin

Last refresh time: 1:04:56 AM

Viewlet +

Command Input Queue Name

Last refresh time: 1:04:38 AM

Enter	Last Updated
	15:53:55 hours
	15:53:55 hours
	15:53:55 hours
	15:53:55 hours
	15:53:55 hours
	15:53:55 hours
	15:53:55 hours
	15:53:55 hours

Nastel Navigator - Change Management & Scheduling



Workspace MyD + Viewlet +

Summary

Local Queue viewlet

Default schema: Default Local Queues Dir

Queue Name ^	Manager
AAAA	QM1
atvq	QM1
CopyQ	QM1
CREDIT.INPUT	QM1
CREDIT.OUTPUT	QM1
DEV.DEAD.LETTER.QUEUE	QM1
DEV.QUEUE.1	QM1
DEV.QUEUE.2	QM1
DEV.QUEUE.3	QM1
Funds_Transfer_In	QM1
PAYMENT.QUEUE	QM1

Total: 14 Visible: 14 Selected: 0

Channel viewlet

Default schema: Default Channels Dir

Channel Name ^	M
DEV.ADMIN.SVRCONN	Q
DEV.APP.SVRCONN	Q

Local Queues CREDIT.INPUT Properties

General

Queue name: CREDIT.INPUT

Extended

Description: Credit Processing

Cluster

Triggering

Queue Usage: Normal

Scope: This Qmgr

Events

Storage

Default Bind: On Open

Default Persistence: Non Persistent

Monitoring

Put Messages: Allowed

Get Messages: Allowed

Statistics

Default Priority: 0

Force change

Ok Schedule Cancel

Open Output Counter	Last Updated
0	07:38:12 hours
0	07:38:12 hours
0	07:38:12 hours
0	00:14:13 hours
0	07:38:12 hours
0	07:38:12 hours
0	07:38:12 hours
0	07:38:12 hours
0	07:38:12 hours
0	07:38:12 hours
0	07:38:12 hours
0	07:38:12 hours
0	07:38:12 hours
0	07:38:12 hours
0	07:38:12 hours

Last refresh time: 12:48:56 AM

Received	Messages
2	956169
	0

Console

CHALLENGES

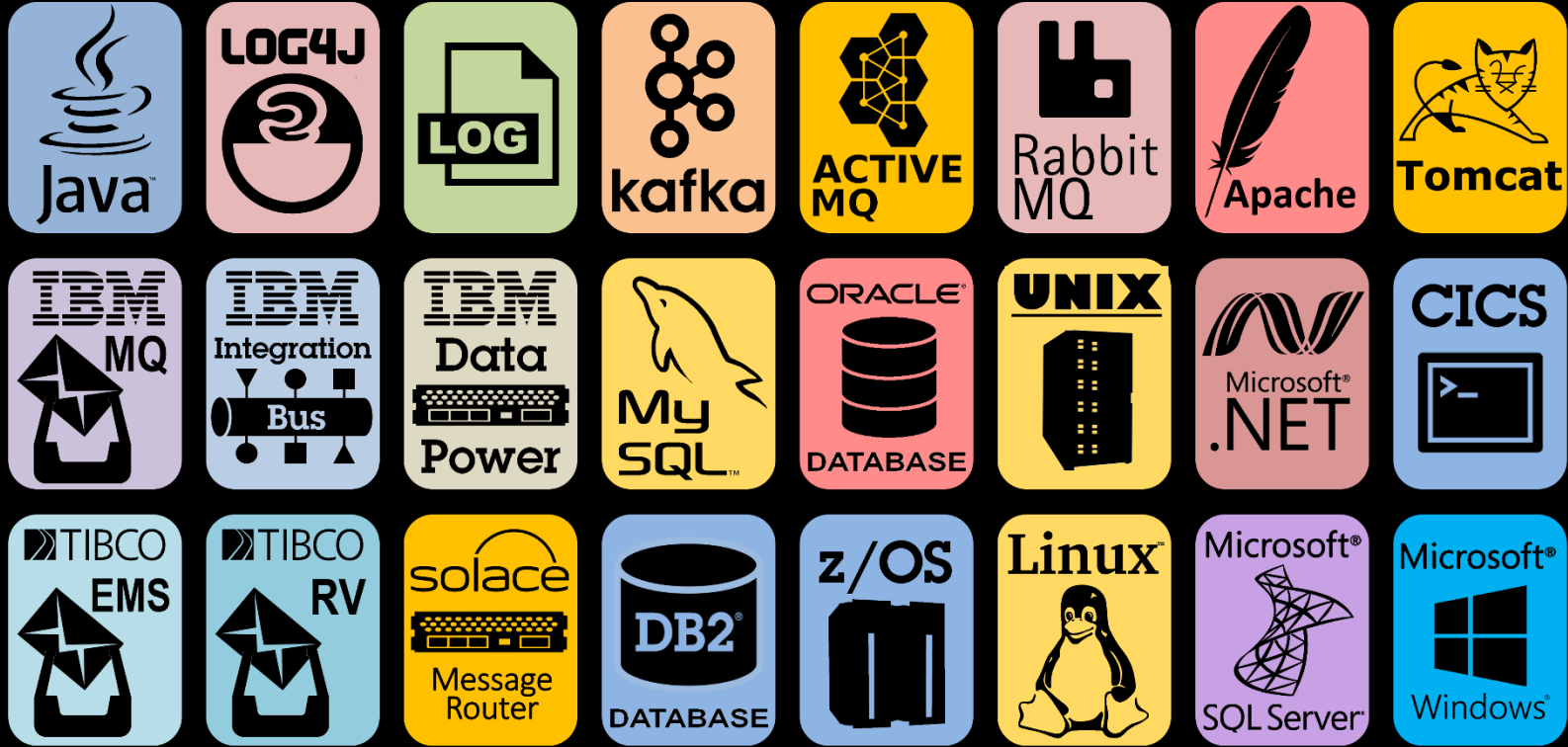
- **Unmonitored application assets**
- **Incomplete views of application estate**
- **Monitoring via complex scripting**
- **Inability to see troublesome trends**
- **Multiple teams using diverse tools**
- **Difficulty to isolate root cause**
- **False alerts**
- **“War-room” syndrome**
- **Operational and reputational risk**

NASTEL SOLUTION



- **Easily managed, policy-based, real-time monitoring**
- **Elimination of false alerts**
- **Trend & pattern detection**
- **Notifications & proactive alerts**
- **Improved MTBF, Reduced MTTR**
- **Automated actions**
- **Improved application availability & reliability**
- **Reduction of operational risks**

Nastel AutoPilot : Data Collectors

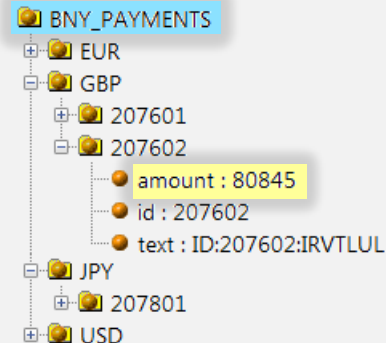
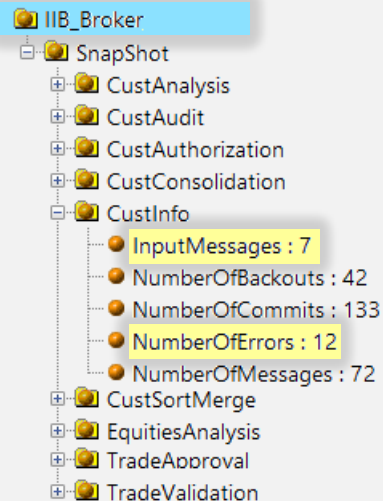
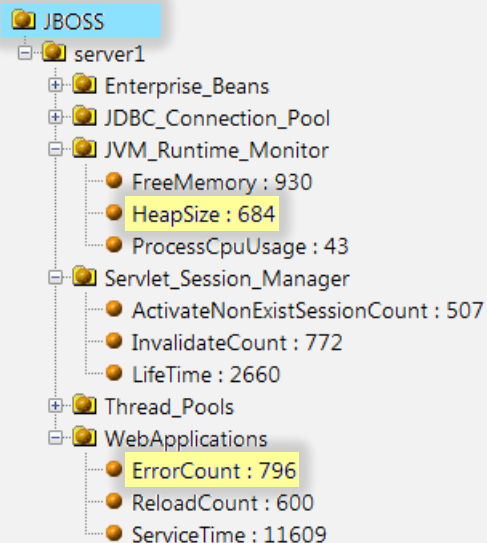
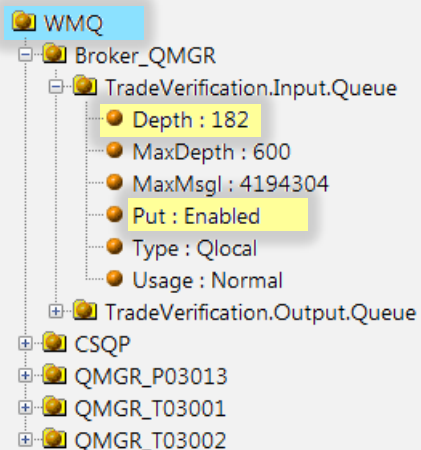


Nastel AutoPilot : Metrics and Events from Multiple Sources

Application Infrastructure Metrics & Events

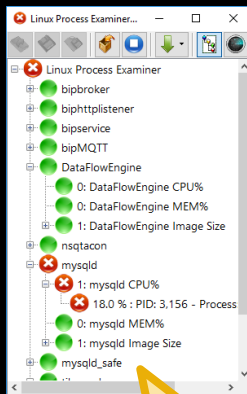
(Messaging Middleware, Enterprise Application Integration, ESB, Java ...)

Application Metrics & Events

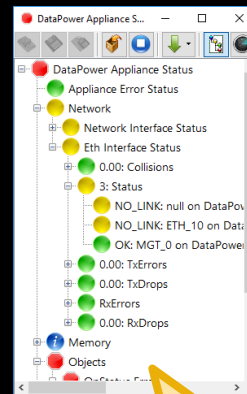


Nastel AutoPilot : Real-time Monitoring and Alerting

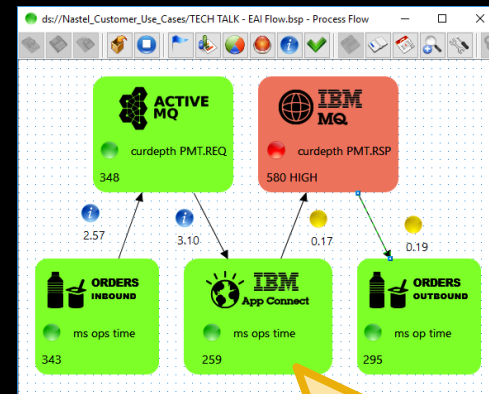
- Policy-based, real-time monitoring for performance events across application infrastructure
- 3 step creation of monitoring policies via a built-in wizard - no complex scripting
- Easily configurable notifications & proactive alerts
- Automated actions based on alert severity - execute external scripts, programs, 3rd party utilities, etc. to automate problem resolution
- Monitoring policies can combine metrics from multiple sources (e.g. middleware, operating system, network, applications)
- Built-in statistical analytics for trend and pattern detection



Linux Process is consuming high CPU



DataPower appliance is off the network



Slowly draining message queue is affecting EAI workflow performance

Pre-Built Dashboard : IBM MQ

Driving Business Transaction Performance

AutoPlot M6 for IBM MQ

IBM MQ Environment

Queue Managers

Queue Managers

Queues

Queues

Dead Letter Queues

Dead Letter Queues

Channels

Channels

Listeners

Listeners

Clusters

Clusters

Events

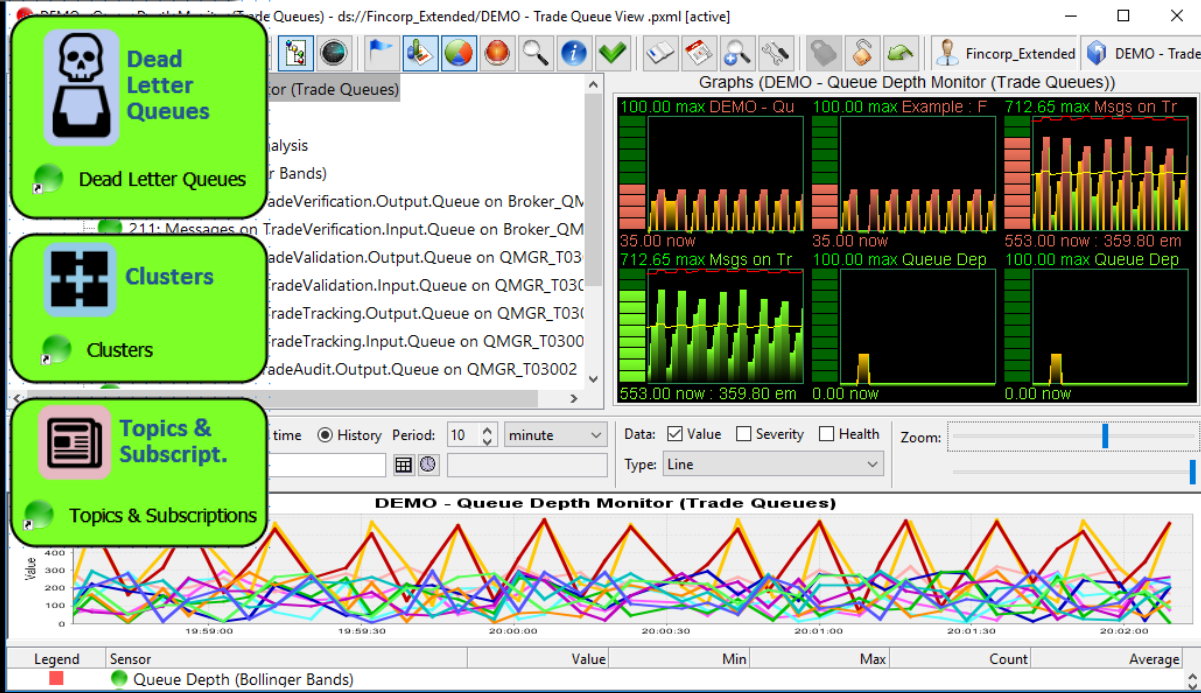
Events

System Services

System Services

Topics & Subscriptions

Topics & Subscriptions



Pre-Built Dashboard : IBM Integration Bus (IBM App Connect)

IIB Message Flows in Integration Server: default - ds://IIB_MONITOR/IIB_Message_Flows.xml [active]

- ⊖ IIB Message Flows in Integration Server: default
 - ⊖ HTTPInputMessageFlow
 - ⊖ Transformation_Java
 - ⊖ Transformation_Map
 - ⊖ QuoteRequestMessageFlow
 - 2,404: CPUTimeWaitingForInputMessage : QuoteRequestMessageFlow
 - ⊗ 19,140,146: ElapsedTimeWaitingForInputMessage : QuoteRequestMessageFlow
 - 2,894: MaximumCPUTime : QuoteRequestMessageFlow
 - 4,940: MaximumElapsedTime : QuoteRequestMessageFlow
 - 795: MaximumSizeOfInputMessages : QuoteRequestMessageFlow
 - 1: NumberOfThreadsInPool : QuoteRequestMessageFlow
 - 1: TimesMaximumNumberOfThreadsReached : QuoteRequestMessageFlow
 - 2,894: TotalCPUTime : QuoteRequestMessageFlow
 - 4,940: TotalElapsedTime : QuoteRequestMessageFlow
 - 1: TotalInputMessages : QuoteRequestMessageFlow
 - 0: TotalNumberOfBackouts : QuoteRequestMessageFlow
 - 0: TotalNumberOfErrorsProcessingMessages : QuoteRequestMessageFlow
 - 0: TotalNumberOfMessagesWithErrors : QuoteRequestMessageFlow
 - 0: TotalNumberOfMQErrors : QuoteRequestMessageFlow
 - 0: TotalNumberOfTimeOutsWaitingForRepliesToAggregateMessages : QuoteRequestMessageFlow
 - 795: TotalSizeOfInputMessages : QuoteRequestMessageFlow
 - ⊖ Nodes : QuoteRequestMessageFlow
 - 0.00: CountOfInvocations
 - 0: QuoteOutput

QuoteRequestMessageFlow

100.00 max

75.00 now

5,861.00 max MaximumCPUTime

2,894.00 now : 1,902.76 ema: 4

1.00 max NumberOfThreads

1.00 now

13,704.00 max TotalElapsedTime

4,940.00 now : 3,319.52 ema: 8

100.00 max TotalNumberOfErrors

0.00 now

100.00 max TotalNumberOfTimeOutsWaitingForRepliesToAggregateMessages

795.00 now : 603.24 ema: 1,433.60

2.00 max NumberOfInputTerminations

25.00 now

8.00 max NumberOfOutputTerminations

0.00 now

5,888.87 max MaximumCPUTime

2.00 now

10,880.00 max MaximumElapsedTime

2,894.00 now : 2,111.88 ema: 3,785

4,940.00 now : 3,161.36 ema: 5,735

Sensor	Value	Avg	Max	Min	Velocity u/sec	% Change	% Dispersion	Updates	Last Updated
⊗ QuoteRequestMessageFlow		0			0.00	0.00%	0.00%	0	2019-09-30 09:20:22
● 2,404: CPUTimeWaitingForInput...	2,404	2,597.01	22,761	1,906	(50.54)	▼ (29.91%)	▼ (51.14%)	406	2019-09-30 19:30:03

NASTEL
Driving Business Transaction Performance

IBM IIB

AutoPilot IBM Integration Bus Monitoring

AutoPilot®
mb

AutoPilot for IIB

IIB Status

IIB Queue Mgr

IIB Resources

IIB Execution Groups

IIB Message Flows

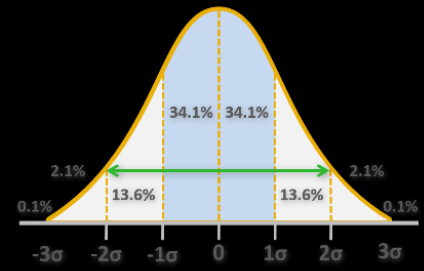
IIB Threads

Nastel AutoPilot : Continual Statistical Analytics in Real-time

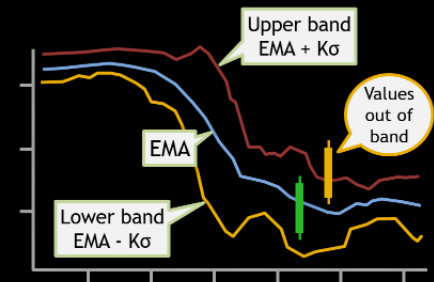
The screenshot shows a Nagios monitoring interface. On the left, a tree view displays the hierarchy: IIB_Broker_Services > IIB_Monitor > Resource > TESTNODE_nastel > default > JVM > summary > CommittedMemoryInMB : 335. On the right, a 'Properties - CommittedMemoryInMB' window is open, showing the following data:

History-Max-Time	0
History-Size	0
History-Time-Sec	0
Ignored	false
Last-Changed	2019-09-30 17:57:48
Last-Updated	2019-09-30 18:45:34
Length	3
Location	APSVR
MAvg	335.5
Max	336
Min	335
Previous-Value	335
Reset-Age	5476473
Resets	0
resourceHandle	IIB_Monitor
resourcePath	com/nastel/nfc/net/boards/images/
type	FactProxy
uniqueName	CommittedMemoryInMB
Update-Age	5515
Update-Latency	20416
Update-Velocity	0.0
Updates	275
Value	335

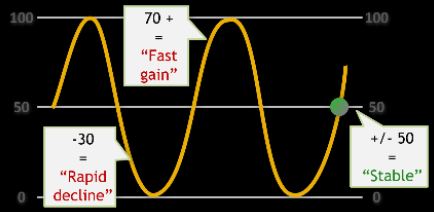
σ_x
Std
Dev



Bollinger
Bands



Relative
Strength
Index



CHALLENGES

- **Inconsistent transaction performance**
- **“Missing” orders | invoices | trades ...**
- **No historical data or trend analysis**
- **Inability to detect anomalies**
- **No analytics in business context**
- **Perishable time-series data**
- **Regulatory compliance obligations**
- **Service Level Agreements**
- **Operational risks**
- **Audit requirements**

NASTEL SOLUTION



- **Full visibility of business flows: resources, applications, events, timings, topologies**
- **Isolate root causes, facilitate triage**
- **Set objectives and manage compliance (SLA's, regulations)**
- **View workflow performance in business context**
- **360° Situational Awareness**

Nastel XRay : User-Customizable Dashboard Views

- **NoSQL** Analytical Platform
- **Streaming analytics** for time-series data
- **Intuitive** "English-like" **query language**

Get number of events for last hour group by Applname, Severity show as [scorecard | linechart | ...]

- **Viewlets**: web dashboards
- **Samples** provided for **quick start**



Nastel XRay : Decision Support, Analytics



Stream bytes per day 21%
R_scottcoriganyK6IU
scottcorigan

Stream bytes per day quota is limited, click here to learn more

Today

actions
Sample-OrderTracking
DataPower Metrics
FINTECH_RP43
MQ Metrics and Events
Metrics Report on Per ...

Import Data
Viewlet +

IBM MQ Queue Monitor - QM Queues

`jkQL> get Snapshot fields SnapshotTime, SnapshotName, Properties ...`



CURDEPTH

SnapshotTime

IBM MQ - Channels Issues and Causes

`jkQL> Get event fields Severity, StartTime, ElapsedTime, SubStr(Mes ...`

Severity	StartTime	ElapsedTime	Cause
INFO	3/19/2019, 12:12:32 PM	1ms 88µs	Channel(QM_B.QM_C), Qm...
ERROR	3/19/2019, 12:12:12 PM	9s 977ms	WMQ_Channels val=null] 'W...
ERROR	3/19/2019, 12:12:12 PM	339µs	WMQ_Channels val=null] 'W...
ERROR	3/19/2019, 12:12:12 PM	1ms 85µs	Channels val=null]
ERROR	3/19/2019, 12:12:12 PM	809µs	Channels val=null]

IBM MQ Monitoring Events - Stackchart

`jkQL> get number of Event where ResourceName CONTAIN...`



Events Count

StateCh...

EventName

Breakdown of Queue Usage by Application Name

`jkQL> get number of Event where EventName IN ('MQGET', ...`



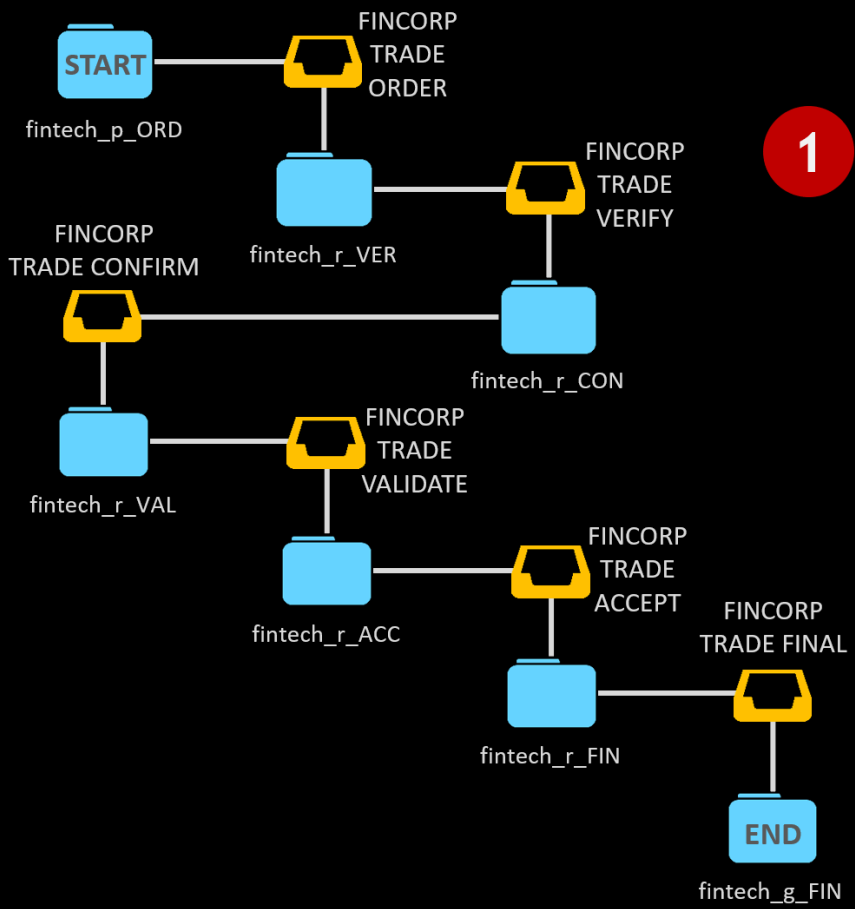
AppName

Events Count

16

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Nastel XRay : Message Flow Tracing



The interface for NASTEL XRay is shown in a rounded rectangle. At the top left is the NASTEL XRay logo. A red arrow labeled '1' points to the left side of the interface, which contains the text 'ANALYTICS CORRELATION SEARCH'. A red circle labeled '2' is positioned next to this text. On the right side, a red circle labeled '3' is positioned above the text 'QUERY DASHBOARDS VISUALIZATION'. Below this text are several icons representing data visualization: a bar chart, a line graph, a pie chart, a grid, and a map. At the bottom of the interface is a circular icon containing a person silhouette and a computer monitor displaying a dashboard, with a red arrow pointing towards it from the right.

Nastel XRay : Message Workflow Tracing

jkQL> get activity compute rogueEdges("") where activityid = '0bd0126e-58f8-11e9-a4ed-12350bc94aec' show as topology

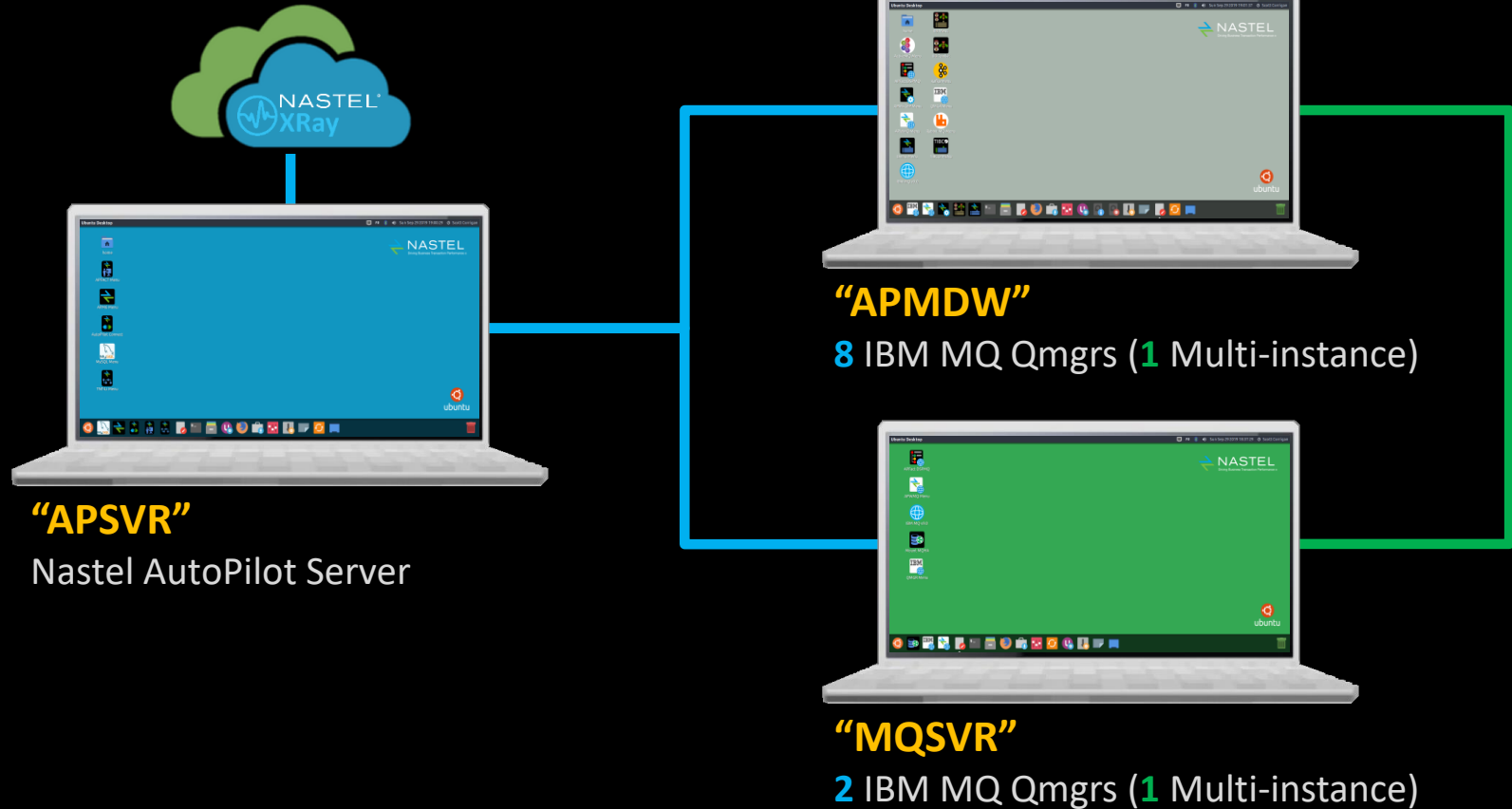
CHL:RECEIVER:QM_A.QM_B → fintech_r_VAL
 Elapsed time of this edge: 11s 8ms.
 Average elapsed time: 3s 651ms.
 It took 3x longer than average.
 Probable root cause of an anomaly and/or missed objective.

Edges colored red represent probable root cause and/or communication impacted by the root cause. Please click each red edge for more details.

	EndTime	AppName	EventName	ObjectName	ElapsedTime	MessageAge	CompCode	QMGrName
<input type="checkbox"/>	4/7/2019, 7:43:18 AM	fintech_p_ORD	MQPUT	FINCORP TRADE ORDER	31µs		✓ SUCCESS	QM A
<input type="checkbox"/>	4/7/2019, 7:43:18 AM	fintech_r_VER	MQGET	FINCORP TRADE ORDER	27ms 118µs	27ms 118µs	✓ SUCCESS	QM A
<input type="checkbox"/>	4/7/2019, 7:43:18 AM	fintech_r_VER	MQPUT	FINCORP TRADE VERIFY	56µs		✓ SUCCESS	QM A

- Show elapsed time of message workflow from start to end
- Drill down into details of messaging events & timings
- Show elapsed time of each message “hop” (event)
- Identify root cause : events & resources that may have contributed to increased time ... CPU ... contention
- Learn the topology of MQ message flows
- Detect and alert upon exceptions based on historical data from prior messages flows
- Recognize changes in workflow timings such that a new baseline can be formed

Demo of Nastel Solution Offering : VM Configuration





Selected Demo Scenarios



Nastel Overview
prepared for



Guide Share France
01 October 2019

Nastel Navigator : Overview of display

apsvr:8080/navigator/#/tabs/MY DASHBOARD

Admin | [Icons]

WorkSpace | MY DASHBOARD | MY FAVORITES | FINCORP | CTI GEODE SPARK | Summary

NAV - Qmgrs

Default schema: My Qmgrs View | Filter by: [Input]

	Manager Name ^	Node Name	Queue manager state	OS Platform	Queue Manager Identifier	Active Channels	Dead Letter Queue	Queue Manager Standby State	Command Level	CCSID	Command Input Queue Name	Distribution LI
<input type="checkbox"/>	AGNT1	APMDW	Running	UNIX	AGNT1_2019-02-03_16.41.53	0		Not Permitted	902			
<input type="checkbox"/>	AGNT2	APMDW	Running	UNIX	AGNT2_2019-02-03_16.44.19	0		Not Permitted	902			
<input type="checkbox"/>	CORD	APMDW	Running	UNIX	CORD_2019-02-03_16.46.08	0		Not Permitted	902			
<input type="checkbox"/>	QM1	APMDW	Running	UNIX	QM1_2019-07-18_19.02.37	0		Permitted	902			
<input type="checkbox"/>	QM1	MQSVR	Running As Standby	UNIX	QM1_2019-07-18_19.02.37	0		Permitted	902			
<input type="checkbox"/>	QM_A	APMDW	Running	UNIX	QM_A_2018-10-27_19.07.31	0		Not Permitted	902			
<input type="checkbox"/>	QM_B	APMDW	Running	UNIX	QM_B_2018-10-27_19.07.49	0		Not Permitted	902			
<input type="checkbox"/>	QM_C	APMDW	Running	UNIX	QM_C_2018-10-27_19.08.04	0		Not Permitted	902			
<input type="checkbox"/>	QM_D	MQSVR	Running	UNIX	QM_D_2019-09-28_19.13.13	0		Not Permitted	902			
<input type="checkbox"/>	QM_IIB	APMDW	Running	UNIX	QM_IIB_2018-11-19_13.15.23	0		Not Permitted	902			

Total: 10 Visible: 10 Selected: 0 | Last refresh time: 9:37:34 PM

NAV - Queues

Default schema: My Queue Schema | Filter by: [Input]

	Queue Name ^	Manager Name	Current Depth	Maximum Depth	Put Messages	Get Messages	Queue Description	Node Name	Scope	Def
<input type="checkbox"/>	A01_CLQ	QM_A	0	5000	Allowed	Allowed		APMDW	Queue Manager	
<input type="checkbox"/>	AGNT1	CORD	0	5000	Allowed	Allowed		APMDW	Queue Manager	
<input type="checkbox"/>	AGNT1	AGNT2	0	5000	Allowed	Allowed		APMDW	Queue Manager	
<input type="checkbox"/>	AGNT2	CORD	0	5000	Allowed	Allowed		APMDW	Queue Manager	
<input type="checkbox"/>	AGNT2	AGNT1	0	5000	Allowed	Allowed	FTE xmit queue	APMDW	Queue Manager	
<input type="checkbox"/>	B01_CLQ	QM_A	0	5000	Allowed	Allowed		APMDW	Queue Manager	
<input type="checkbox"/>	B01_CLQ	QM_B	0	5000	Allowed	Allowed		APMDW	Queue Manager	
<input type="checkbox"/>	BankReplyQueue	AGNT1	0	5000	Allowed	Allowed		APMDW	Queue Manager	
<input type="checkbox"/>	BankRequestQueue	AGNT1	0	5000	Allowed	Allowed		APMDW	Queue Manager	

Console

All viewlets configurable by user

Nastel Navigator : Every display option is controlled by the user

Edit Schema

Schema Name: My Queue Schema

Available attributes:

Enter filter value: All

Name	Category
Queue Name	General
Manager Name	General
Current Depth	Statistics
Maximum Depth	Extended
Put Messages	General
Get Messages	General
Queue Description	General
Node Name	General
Scope	General
Default Bind	General

Buttons: Add all, Add, Remove, Remove all

Displayed attributes:

Name	Category
Queue Name	General
Manager Name	General
Current Depth	Statistics
Maximum Depth	Extended
Put Messages	General
Get Messages	General
Queue Description	General
Node Name	General
Scope	General
Default Bind	General

Buttons: Move to Top, Move Up, Move Down, Move to Bottom

Default sort: Column: Queue Name, Direction: Ascending

Buttons: Cancel, OK

User selection of queue attributes

Nastel Navigator : Select multiple objects and compare attributes

The screenshot shows the Nastel Navigator web interface. At the top, there's a browser window with the URL 'apsvr:8080/navigator/#/tabs/MY DASHBOARD'. Below the browser, the application header includes the 'NASTEL Navigator' logo and navigation tabs like 'Workspace', 'MY DASHBOARD', 'MY FAVORITES', 'FINCORP', and 'CTI GEODE SPARK'. A 'Viewlet +' button is visible in the top right.

The main content area displays a table titled 'NAV - Queues'. The table has columns for Queue Name, Manager Name, Current Depth, Maximum Depth, Put Messages, Get Messages, Queue Description, Node Name, and Scope. Several queues are listed, including 'FINCORP_TRADE_ACCEPT', 'FINCORP_TRADE_CONFIRM', 'FINCORP_TRADE_FINAL', 'FINCORP_TRADE_ORDER', 'FINCORP_TRADE_VALIDATE', and 'FINCORP_TRADE_VERIFY'. A yellow callout box highlights the text 'Comparison of attributes of selected MQ objects'.

Below the queue list, there's a 'Compare' section with two radio buttons: 'Compare' (selected) and 'Differences only'. Below this is a comparison table for the selected queue 'FINCORP_TRADE_ACCEPT'.

Attributes	FINCORP_TRADE_ACCEPT	FINCORP_TRADE_CONFIRM	FINCORP_TRADE_CONFIRM	FINCORP_TRADE_FINAL	FINCORP_TRADE_ORDER	FINCORP_TRADE_VALIDATE	FINCORP_TRADE_VALIDATE	FINCORP_TRADE_VERIFY
Queue Name	FINCORP_TRADE_ACCEPT	FINCORP_TRADE_CONFIRM	FINCORP_TRADE_CONFIRM	FINCORP_TRADE_FINAL	FINCORP_TRADE_ORDER	FINCORP_TRADE_VALIDATE	FINCORP_TRADE_VALIDATE	FINCORP_TRADE_VERIFY
Manager Name	QM_C	QM_B	QM_A	QM_C	QM_A	QM_B	QM_A	QM_A
High Depth Event	Enabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled
Creation Date	2018-10-27	2018-10-27	2019-03-12	2018-10-27	2018-10-27	2018-10-27	2019-03-12	2018-10-27
Creation Time	20.37.42	20.37.05	22.02.19	20.37.55	20.36.17	20.37.23	22.02.20	20.36.40
Alteration Date	2019-06-04	2018-10-27	2019-03-12	2019-03-24	2019-01-29	2018-10-27	2019-03-12	2018-10-27

Nastel Navigator : MQ Topology View

The screenshot displays the Nastel Navigator interface with a focus on the 'Topology SVG' window. The browser address bar shows 'apsvr:8080/navigator/#/tabs/MY DASHBOARD'. The interface includes a sidebar with 'NAV - Qmgrs' and 'NAV - Queues' sections, each containing a list of system components. The main 'Topology SVG' window features a search bar, a 'Show References' dropdown set to 'Related', and a 'Name Mask' field. A 'Current time' progress bar is visible at the top of the diagram area. The topology diagram itself is a complex network of nodes and connections. Nodes include queue managers (QM_A, QM_B, QM_C), clusters (CLUSTER_ABC), and various queues (e.g., FINCORP_TRADE_CONFIRM, FINCORP_TRADE_ACCEPT, A01_CLQ, B01_CLQ, C01_CLQ). A yellow callout box with a white background and black text points to the diagram, stating 'Topology view for selected qmgrs'. The background shows a 'Viewlet' table with columns for 'Command Input Queue Name' and 'Distribution LI', and a 'Last refresh time' of 9:41:34 PM.

Nastel Navigator : MQ Topology View

The screenshot displays the Nastel Navigator application interface. The main window shows a 'Topology SVG' view of an MQ environment. The interface includes a search bar, filters, and a 'Set and show topology' button. A yellow callout box highlights the 'Queue details in topology view' feature. The topology consists of various nodes and connections, including:

- Nodes:** QM_A (9), T: 6, C: 3, B01_CLQ, B01_CLQ, B01_CLQ, B01_CLQ, R: 2, R: 2, L: 65, and several local queues like SYSTEM_BROKER.CONTROL.QUEUE and SYSTEM_INTER_OMGR.FANREQ.
- Connections:** Numerous lines representing message flows between these nodes and queues.
- Filters:** 'Show References: All', 'Name Mask: []', and 'Unreferenced' checkbox.
- UI Elements:** 'Options' button, 'Viewlet +', and a table on the right side.

Node Name	Scope	Defn
APMDW	Queue Manager	(
APMDW	Queue Manager	(
APMDW	Queue Manager	(
APMDW	Queue Manager	(
APMDW	Queue Manager	(
APMDW	Queue Manager	(
APMDW	Queue Manager	(
APMDW	Queue Manager	(
APMDW	Queue Manager	(
APMDW	Queue Manager	(

Nastel Navigator : Copy / paste multiple objects between QMgrs (migration)

The screenshot shows the Nastel Navigator web interface. At the top, there's a browser window with the URL 'apsvr:8080/navigator/#/tabs/MY DASHBOARD'. Below the browser, the application header includes the 'NASTEL Navigator' logo and navigation tabs for 'WorkSpace', 'MY DASHBOARD', 'MY FAVORITES', 'FINCORP', and 'CTI GEODE SPARK'. A 'Summary' section is visible at the top right of the main content area.

The main content area is divided into two sections: 'NAV - Qmgrs' and 'NAV - Channels'. The 'NAV - Qmgrs' section is expanded to show a table of queues. A context menu is open over the table, with the 'Copy' option highlighted. A yellow callout box with a white background and a yellow border contains the text: 'Copying selected objects from 1 or more qmgrs'.

The table in the 'NAV - Qmgrs' section has the following columns: Manager Name, Node Name, Current Depth, Maximum Depth, Put Messages, Get Messages, Queue Description, Scope, and Def. The data rows are as follows:

Manager Name	Node Name	Current Depth	Maximum Depth	Put Messages	Get Messages	Queue Description	Scope	Def
E_ACCEPT	APMDW	0	5000	Allowed	Allowed		Queue Manager	On d
E_CONFIRM	APMDW	0	5000	Allowed	Allowed		Queue Manager	On d
E_CONFIRM	APMDW	0	5000	Allowed	Allowed		Queue Manager	On d
E_FINAL	APMDW	0	5000	Allowed	Allowed		Queue Manager	On d
FINCORP_TRADE_ORDER	APMDW	0	5000	Allowed	Allowed		Queue Manager	On d
FINCORP_TRADE_VALIDATE	APMDW	0	5000	Allowed	Allowed		Queue Manager	On d
FINCORP_TRADE_VALIDATE	APMDW	0	5000	Allowed	Allowed		Queue Manager	On d
FINCORP_TRADE_VERIFY	APMDW	0	5000	Allowed	Allowed		Queue Manager	On d

Below the table, it says 'Total: 500 Visible: 8 Selected: 8' and 'Last refresh time: 9:57:36 PM'. The 'NAV - Channels' section is partially visible below, showing a table with columns: Channel Name, Manager Name, Node Name, Channel Type, Status, Bytes Sent, Bytes Received, Messages, Channel Description, Transport Type, Connection Name, and Local Address.

Nastel Navigator : Copy / paste multiple objects between QMgrs (migration)

Select qmgr for pasting copied objects

Select object path

Workgroup server: MQM - 0 Node: MQSVR

Queue manager:

- QM1
- QM_A
- QM_B
- QM_C
- QM_D
- QM_IIB

Copy Schedule Cancel

Queue Name	Manager Name	Node Name	Channel Type	Status	Bytes Sent	Bytes Received	Messages	Channel Description	Transport Type	Connection Name	Local Address
SYSTEM.DEF.REQUESTER	QM_IIB	APMDW	Requester	Inactive	0	0	0		TCP		
SYSTEM.AUTO.RECEIVER	QM_C	APMDW	Receiver	Inactive	0	0	0	Auto-defined by	TCP		
SYSTEM.AUTO.RECEIVER	QM_B	APMDW	Receiver	Inactive	0	0	0	Auto-defined by	TCP		
SYSTEM.DEF.CLUSRCVR	QM_A	APMDW	Cluster Receiver	Inactive	0	0	0		TCP		

Nastel Navigator : Scheduled changes to MQ objects

The screenshot shows the Nastel Navigator web interface. A modal dialog titled "Local Queues CITI_999 Properties" is open, displaying configuration options for a queue. The "General" tab is selected, showing fields for Queue Name (CITI_999), Description (this is a new description), Queue Usage (Normal), Scope (Queue Manager), Default Bind (On Open), Default Persistence (Non Persistent), Put Messages (Allowed), Get Messages (Allowed), and Default Priority (0). A "Force Changes" checkbox is also present. At the bottom of the dialog, there are three buttons: "Ok", "Schedule", and "Cancel". A yellow callout box with a white background and black text points to the "Schedule" button, containing the text: "All changes to any object can be scheduled".

Queue Name	Current Depth	Manager Name	Maximum De
CITI_03	0	QM_A	5000
CITI_01	0	QM_A	5000
CITI_02	0	QM_A	5000
CITI_22	0	QM_A	50
CITI_11	0	QM_A	500
CITI_999	0	QM_A	5000
CITI_222	0	QM_A	50

Messages	Usage	Open Input Counter	Open Output Counter	Remote Que
Normal	0	0		
Normal	0	0		
Normal	0	0		
Normal	0	0		
Normal	0	0		
Normal	0	0		
Normal	0	0		
Normal	0	0		

Channel Name	Manager Name	Node Name	C
SYSTEM.DEF.REQUESTER	QM_1IB	APMDW	R
SYSTEM.AUTO.RECEIVER	QM_C	APMDW	R
SYSTEM.AUTO.RECEIVER	QM_8	APMDW	R
SYSTEM.DEF.CLUSRCVR	QM_A	APMDW	C

Nastel Navigator : Scheduled changes to MQ objects

The screenshot shows the Nastel Navigator web application interface. The main window displays the 'Local Queues CITI_999 Properties' dialog box. Within this dialog, the 'Scheduler' sub-dialog box is open, allowing the user to schedule a change for the queue. The Scheduler dialog includes a date picker set to '2019-09-29', a time range from '22:00' to '52:00', and a text field for a 'Tag for scheduled job:'. The background shows a table of queues with columns for Queue Name, Current Depth, Manager Name, and Maximum Depth.

Queue Name	Current Depth	Manager Name	Maximum Depth
CITI_03	0	QM_A	5000
CITI_01	0	QM_A	5000
CITI_02	0	QM_A	5000
CITI_22	0	QM_A	50
CITI_11	0	QM_A	500
CITI_999	0	QM_A	5000
CITI_222	0	QM_A	50

Scheduling a change to an object

Nastel Navigator : Scheduled Changes to MQ objects

The screenshot shows the Nastel Navigator web application interface. At the top, there's a browser window with the URL 'apsvr:8080/navigator/#/tabs/MY DASHBOARD'. Below the browser, the application header includes the 'NASTEL Navigator' logo and a navigation bar with tabs for 'Workspace', 'MY DASHBOARD', 'MY FAVORITES', 'FINCORP', and 'CTI GEODE SPARK'. The main content area is titled 'NAV - Qmgrs' and 'NAV - Queues'. A table lists various MQ queues with columns for Queue Name, Current Depth, Manager Name, Maximum Depth, Node Name, Queue Type, Base Object Name, Last Updated, Definition Type, Get Messages, Put Messages, Usage, Open Input Counter, Open Output Counter, and Remote Queue. A yellow callout box points to a green clock icon in the 'Queue Name' column of the row for 'CITL_999'. Below the queue table, there's another table for channels with columns for Channel Name, Manager Name, Node Name, Channel Type, Status, Bytes Sent, Bytes Received, Messages, Channel Description, Transport Type, Connection Name, and Local Address. The interface also shows a 'Summary' section and a 'Viewlet +' button.

Queue Name	Current Depth	Manager Name	Maximum Depth	Node Name	Queue Type	Base Object Name	Last Updated	Definition Type	Get Messages	Put Messages	Usage	Open Input Counter	Open Output Counter	Remote Queue
CITL_03	0	QM_A	5000	APMDW	Local Queue		05:00:18 hours	Predefined	Allowed	Allowed	Normal	0	0	
CITL_01	0	QM_A	5000	APMDW	Local Queue		05:00:18 hours	Predefined	Allowed	Allowed	Normal	0	0	
CITL_02	0	QM_A	5000	APMDW	Local Queue		05:00:18 hours	Predefined	Allowed	Allowed	Normal	0	0	
CITL_22	0	QM_A	50	APMDW	Local Queue		03:27:38 hours	Predefined	Allowed	Allowed	Normal	0	0	
CITL_11	0	QM_A	500	APMDW	Local Queue		05:00:18 hours	Predefined	Allowed	Allowed	Normal	0	0	
CITL_999	0	QM_A	5000	APMDW	Local Queue		01:41:08 hours	Predefined	Allowed	Allowed	Normal	0	0	
CITL_222	0	QM_A	50	APMDW	Local Queue		05:00:18 hours	Predefined	Allowed	Allowed	Normal	0	0	

Channel Name	Manager Name	Node Name	Channel Type	Status	Bytes Sent	Bytes Received	Messages	Channel Description	Transport Type	Connection Name	Local Address
SYSTEM.DEF.REQUESTER	QM_JIB	APMDW	Requester	Inactive	0	0	0		TCP		
SYSTEM.AUTO.RECEIVER	QM_C	APMDW	Receiver	Inactive	0	0	0	Auto-defined by	TCP		
SYSTEM.AUTO.RECEIVER	QM_B	APMDW	Receiver	Inactive	0	0	0	Auto-defined by	TCP		
SYSTEM.DEF.CLUSRCVR	QM_A	APMDW	Cluster Receiver	Inactive	0	0	0		TCP		

Scheduled change
(green "clock" icon)

Nastel Navigator : MQ configuration events (with Rollback option)

The screenshot displays the Nastel Navigator web application interface. A central dialog box titled "Event details" is open, showing the following information:

- General tab selected
- Event Time & Origin: 22:52:00, Sep. 29, 2019
- Category: Alter
- Group Name: MQM
- Node Name: APMDW
- Qmgr Name: QM_A
- Object: CITI_999
- Description: MQRC_NONE: Reason code is zero and signifies a successful completion. When occurs in events, signifies that no further qualification of the event is available.
- Corrective Action: None

Below the dialog box, a table lists recent events:

Event #	Date/Time	Category	Object
146	22:52:00, Sep. 29, 2019	Alter	Object Deleted
401	21:10:00, Jul. 16, 2019	Alter	New Object
402	17:29:25, Jul. 22, 2019		
632	17:00:00, Sep. 06, 2019		
649	21:10:00, Sep. 06, 2019		
651	17:00:00, Sep. 10, 2019		
654	21:10:00, Sep. 10, 2019		
657	17:00:00, Sep. 11, 2019		
658	21:10:01, Sep. 11, 2019		

A yellow callout bubble with the text "All events can be reviewed ..." is overlaid on the interface. The "Close" button on the dialog box is highlighted in red.

Nastel Navigator : MQ configuration events (with Rollback option)

The screenshot displays the Nastel Navigator web application interface. A modal dialog titled "Event details" is open, showing a table of configuration attributes and their values. A yellow callout box with the text "Rollback function for changes" points to a "Rollback Selected Changes" button at the bottom of the dialog. The background interface shows a list of queues and a table of events.

Attribute Name	Current Value	Previous Value
Time Since Reset	0	6119
Queue Description	this is a new description	
Alteration Date	2019-09-29	2019-09-28
Alteration Time	22.52.00	21.09.59
Last Updated	0	6119

Queue Name	Current Depth	Manager Name	Maximum Depth	Node Name
CITL_03	0	QM_A	5000	APMDW
CITL_01	0	QM_A	5000	APMDW
CITL_02	0	QM_A	5000	APMDW
CITL_22	0	QM_A	50	APMDW
CITL_11	0	QM_A	500	APMDW
CITL_999	0	QM_A	5000	APMDW
CITL_???	0	QM_A	50	APMDW

Event #	Date/Time
146	22:52:00, Sep. 29, 2019
401	21:10:00, Jul. 16, 2019
402	17:29:25, Jul. 22, 2019
632	17:00:00, Sep. 06, 2019
649	21:10:00, Sep. 06, 2019
651	17:00:00, Sep. 10, 2019
654	21:10:00, Sep. 10, 2019
657	17:00:00, Sep. 11, 2019
658	21:10:01, Sep. 11, 2019

Nastel Navigator : MQ message management and message search

The screenshot displays the Nastel Navigator web application interface. The main window shows a 'NAV - Queues' section with a table of queues. A modal window titled 'Add new message to: CITI_222' is open, allowing configuration of message details. A yellow callout bubble highlights the modal with the text 'Full message mgt and search'. The modal includes fields for 'Number of Messages' (3), 'Message Size (bytes)' (384), 'If Put Failed' (STOP), and 'Contain headers' (MD1, MDE, DLH, XQH). It also features a 'File attachment' field with 'UEB_MSG_SAP303.INVOI...' and a 'Message template' field. The 'Data:' section has tabs for 'Text', 'Hex', 'XML', and 'JSON', with 'Text only' selected and 'Encoding: US-ASCII'. The XML content is:

```
<?xml version="1.0" encoding="utf-8" standalone="yes"?>
<usr>
  <FILENAME>SAP303.INVOIC.5250.3DBOR20R20HM.dat</FILENAME>
  <DATE>2018-04.15 20:18</DATE>
  <SOURCE>UEBMSG.IDOCF</SOURCE>
  <MSGTYPE>UEBMSG.SAP303.INVOIC.IDOCF</MSGTYPE>
  <PRODUCTID>3DBOR20R20HM</PRODUCTID>
  <CURRENCY>USD</CURRENCY>
  <VALUE>49675</VALUE>
  <AS2MSGID>5250@pas2-uebmag.eu.gxs.com</AS2MSGID>
</usr>
```

 At the bottom of the modal are 'Ok', 'Schedule', and 'Cancel' buttons. The background interface shows a table of queues and a table of messages for the selected queue.

Queue Name	Current Depth	Manager Name	Maximum Depth
CITI_03	0	QM_A	5000
CITI_01	0	QM_A	5000
CITI_02	0	QM_A	5000
CITI_22	0	QM_A	50
CITI_11	0	QM_A	500
CITI_999	0	QM_A	5000
CITI_222	3	QM_A	50

Message Cursor	DLH	XQH	Data Size	MD
1	false	false	388	
2	false	false	386	
3	false	false	386	

Usage	Open Input Counter	Open Output Counter	Remote Que
Normal	0	0	
Normal	0	0	
Normal	0	0	
Normal	0	0	
Normal	0	0	
Normal	0	0	
Normal	0	0	
Normal	0	0	

MD::Correl. ID	MD::Put Date	MD::Put Time
Text	20190929	20595476
Hex	20190929	21001923
	20190929	21001923

Nastel Navigator : MQ message management and message search

The screenshot shows the Nastel Navigator web application interface. A 'Settings window' is open, displaying 'Message Criteria Settings'. The 'Message Criteria' dropdown is set to 'SAP Shipments'. A list of other criteria is visible, including 'Collat. Debt Oblig.', 'Credit Default Swap', 'Interest Rate Swap', 'Mortgage Backed Securities', 'SAP Invoices', 'SAP Orders', 'SAP Shipments', and 'SAP Text Documents'. A yellow callout bubble highlights this list with the text: 'Criteria-based message search (ex: using payload string)'. The background shows a table of message queues and a table of message details.

Queue Name	Current Depth	Manager Name	Maximum Depth
CTIL_03	0	QM_A	5000
CTIL_01	0	QM_A	5000
CTIL_02	0	QM_A	5000
CTIL_22	0	QM_A	50
CTIL_11	0	QM_A	500
CTIL_999	0	QM_A	5000
CTIL_222	6	QM_A	50

Message Cursor	DLH	XQH	Data Size	MD
1	false	false	388	
2	false	false	386	
3	false	false	386	
4	false	false	384	
5	false	false	384	8
6	false	false	384	8

Nastel Navigator : MQ message management and message search

The screenshot shows the Nastel Navigator web application interface. A modal dialog titled "Message Descriptor Properties" is open, displaying configuration options for a Message Descriptor (MD). The dialog is divided into sections: General, Identity, Origin, Reports, and Groups. The "General" section is active, showing fields for Message Type (DATAGRAM), Message Format (NONE), Feedback (NONE), Expiry (1/10sec: -1), Priority (-1), Encoding (546), CCSID (0), and Backout Count (0). The "Application Message Type" is set to 8, and the "Application Feedback Code" is empty. The "Persistent" section has radio buttons for No, Yes, and As Queue (selected). The "Put Date" field is highlighted with a yellow callout bubble and contains the value "21001923". The "Put Time" field is empty. The "Reply to queue:" and "Reply to queue manager:" fields are also empty. The background shows a table of queues with columns for Queue Name, Current Depth, Manager Name, and Maximum Depth. Below the queue table, a message list is visible with columns for Message Cursor, DLH, XOH, Data Size, and MD.

Criteria-based message search (ex: using msg Put Date/Time)

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Role Management

Save Reset

Features	Administrator	Agent	FMS Admin	Message Admin	Message Browser	Operator	View Only	Add New Role
Expand All Collapse All	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
+ Authentication Information	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
+ Buffer Pool	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
+ Channel	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
+ Cluster Queue Manager	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
+ EMS Bridge	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
+ EMS Durables	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
+ EMS Route	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
+ EMS Transport	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
+ Events	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
+ Listener	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
+ Messages	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
+ Namelist	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
+ Navigator Features	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
+ Node	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
+ Page Set	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
+ Process	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
- Queue								
Change Queue	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Clear Messages from Queue	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Copy Queue	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Create Queue	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Delete Queue	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Refresh Queue Runtime	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Reset Queue Statistics	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Show Queue Attributes	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Show Queue Status	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Highly granular role-based user authorizations

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Edit Object Group

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Name Locked Disabled

Description

Object List

	Name	Type	Filter Type	Delete
<input type="checkbox"/>	<input type="text" value="^QL_(GEODE_ SPARK_)([0-9]{4})\$"/>	Local Queue	Include	<input type="checkbox"/>
<input type="checkbox"/>	<input type="text" value="^QL_(GEODE_ SPARK_)([0-9]{4})\$"/>	Queue	Include	<input type="checkbox"/>

[Back](#) [Save](#) [Reset](#)

Object groups
defined via regex

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User Management | **User Group Management** | Role Management | Server Group Management | Object Group Management | Audit Management | Trust Management

Edit User Group

Locked Disabled

Effective Name

Description

Users **Roles**

Expand All | View mode

Roles

- Administrator**
 - All Queue Managers
- QM_A**
 - QM_B
 - QM_C
- Agent
- EMS Admin
- Message Admin
- Message Browser**
 - All Queue Managers
 - QM_A
 - QM_B**
 - All Objects
 - NASTEL
 - PRJ_GS**
 - QM_C
 - Operator
 - View Only

Roles & object groups assigned to user groups

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Nastel Navigator : Granular, secure self-service for Dev/Ops teams

The screenshot displays the Nastel Navigator web application interface. The browser address bar shows the URL `apsvr:8080/navigator/#/tabs/David`. The application header includes the Nastel Navigator logo and a user profile for David. The main content area is divided into two sections: "QM_A - Admin Rights" and "QM_B - Message Browse Only".

QM_A - Admin Rights

Queue Name	Manager Name	Current Depth	Maximum Depth	Get Messages	Put Messages	Open Input Counter	Open Output Counter	Last Updated
QL_GEODE_0004	QM_A	0	5000	Allowed	Allowed	0	0	02:15:45 hours
QL_GEODE_0044	QM_A	0	5000	Allowed	Allowed	0	0	02:15:45 hours
QL_GEODE_0084	QM_A	0	5000	Allowed	Allowed	0	0	00:06:11 hours
QL_SPARK_0001	QM_A	0	5000	Allowed	Allowed	0	0	02:15:45 hours
QL_SPARK_0044	QM_A	0	5000	Allowed	Allowed	0	0	02:15:45 hours
QL_SPARK_0074	QM_A	0	5000	Allowed	Allowed	0	0	02:15:45 hours
QL_SPARK_0088	QM_A	0	5000	Allowed	Allowed	0	0	02:15:45 hours
QL_SPARK_0099	QM_A	0	5000	Allowed	Allowed	0	0	02:15:45 hours
QL_SPARK_1099	QM_A	0	5000	Allowed	Allowed	0	0	00:06:02 hours

Total: 9 Visible: 9 Selected: 0

Last refresh time: 11:36:10 AM

QM_B - Message Browse Only

Queue Name	Manager Name	Current Depth	Maximum Depth	Get Messages	Put Messages	Open Input Counter	Open Output Counter	Last Updated
QM_B	QM_B	0	5000	Allowed	Allowed	0	0	02:15:46 hours
QM_B	QM_B	0	5000	Allowed	Allowed	0	0	02:15:46 hours
QM_B	QM_B	0	5000	Allowed	Allowed	0	0	02:15:45 hours
QM_B	QM_B	0	5000	Allowed	Allowed	0	0	02:15:45 hours
QM_B	QM_B	0	5000	Allowed	Allowed	0	0	02:15:45 hours
QM_B	QM_B	0	5000	Allowed	Allowed	0	0	02:15:45 hours
QM_B	QM_B	0	5000	Allowed	Allowed	0	0	02:15:45 hours
QM_B	QM_B	0	5000	Allowed	Allowed	0	0	02:15:45 hours
QM_B	QM_B	0	5000	Allowed	Allowed	0	0	02:15:45 hours

Console

A yellow callout box highlights the text: "Dev/Ops user connects to Navigator with specific (limited) authorizations".

Nastel Navigator : Granular, secure self-service for Dev/Ops teams

Put New Message(s) to: QL_SPARK_0044

General: Number of Messages: 1
MD: Message Size (bytes): 0
MD1: If Put Failed: STOP
MDE: Contain headers: MD1 MDE DLH XQH

Error - Error

Description
MQRC_NOT_AUTHORIZED: The user is not authorized to perform the operation attempted: -On an MQCONN or MQCONNX call, the user is not authorized to connect to the queue manager. On z/OS, for CICS applications, MQRC_CONNECTION_NOT_AUTHORIZED is issued instead. -On an MQOPEN or MQPUT1 call, the user is not authorized to open the object for the option(s) specified. On z/OS, if the object being opened is a model queue, this reason also arises if the user is not authorized to create a dynamic queue with the required name. -On an MQCLOSE call, the user is not authorized to delete the object, which is a permanent dynamic queue, and the Hobj parameter specified on the MQCLOSE call is not the handle returned by the MQOPEN call that created the queue. This reason code can also occur in the Feedback field in the message descriptor of a report message; in this case it indicates that the error was encountered by a message channel agent when it attempted to put the message on a remote queue.
Corrective Action: Ensure that the correct queue manager or object was specified, and that appropriate authority exists. On z/OS, to determine for which object you are not authorized, you can use the violation messages issued by the External Security Manager.

Actions
Hide description
Ok

QM_A - Admin Rights

Queue Name	Manager Name	Current	Last Updated
QL_GEODE_0004	QM_A		02:15:45 hours
QL_GEODE_0044	QM_A		02:15:43 hours
QL_GEODE_0084	QM_A		00:06:11 hours
QL_SPARK_0001	QM_A		02:15:45 hours
QL_SPARK_0044	QM_A		02:15:45 hours
QL_SPARK_0074	QM_A		02:15:45 hours
QL_SPARK_0088	QM_A		02:15:45 hours
QL_SPARK_0099	QM_A		02:15:45 hours
QL_SPARK_1099	QM_A		00:06:02 hours

Total: 9 Visible/9 Selected: 0

QM_B - Message Browse Only

Queue Name	Manager Name	Current	Last Updated
0			02:15:46 hours
0			02:15:46 hours
0			02:15:43 hours
0			02:15:45 hours
0			02:15:45 hours
0			02:15:45 hours
0			02:15:45 hours
0			02:15:45 hours
0			02:15:45 hours
0			02:15:45 hours

Copy selected data; CTRL + V - Paste data

Ok Schedule Cancel

Console

Dev/Ops user can only perform authorized actions on authorized objects

Nastel Navigator : Granular, secure self-service for Dev/Ops teams

Monday, September 30, 2019 11:38:52 AM CEST Working as: [Admin] [Help](#) | [Log Off](#)

[Home](#) [Security Management](#) **Administration**

[Import Data](#) | [Export Data](#) | **Audit Report** | [Miscellaneous](#)

Audit Management

Use wildcards to filter audit records:
An underscore (_) in the pattern matches exactly one character in the value.
A percent sign (%) in the pattern can match zero or more characters in the value.

[Filter](#) [Export](#) 20 | 1 - 10 / 10

User Name	Manager Name	Object Type	Object Name	Command	Access	Date
david		All Objects			All	From: 09/30/2019 To:
DAVID	QM_B	Local Queue	QL_SPARK_1099	MQCMD_CREATE_Q	DENIED	Mon Sep 30 11:28:45 2019
DAVID	QM_A	Queue	QL_SPARK_1099	EXCMD_MG_NEW	GRANTED	Mon Sep 30 11:29:18 2019
DAVID	QM_A	Queue	QL_SPARK_1099	EXCMD_MG_COPY	GRANTED	Mon Sep 30 11:29:29 2019
DAVID	QM_A	Queue	QL_GEODE_0084	MQCMD_CLEAR_Q	GRANTED	Mon Sep 30 11:29:59 2019
DAVID	QM_A	Queue	QL_SPARK_1099	MQCMD_CLEAR_Q	GRANTED	Mon Sep 30 11:30:08 2019
DAVID	QM_B	Queue	QL_SPARK_0044	EXCMD_MG_BROWSE	GRANTED	Mon Sep 30 11:30:17 2019
DAVID	QM_B	Queue	QL_SPARK_0044	EXCMD_MG_NEW	DENIED	Mon Sep 30 11:30:21 2019
DAVID	QM_B	Local Queue	QL_GEODE_0084	MQCMD_COPY_Q	DENIED	Mon Sep 30 11:30:44 2019
DAVID	QM_B	Queue	QL_GEODE_0084	EXCMD_MG_NEW	DENIED	Mon Sep 30 11:37:05 2019
DAVID	QM_B	Queue	QL_SPARK_0044	EXCMD_MG_NEW	DENIED	Mon Sep 30 11:38:03 2019

[Filter](#) 20 | 1 - 10 / 10

MQ Administrator sees full audit report of user actions ... **Granted** or **Denied**

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Selected Demo Scenarios



Nastel Overview
prepared for



Guide Share France
01 October 2019

Nastel AutoPilot : MQ monitoring

The screenshot displays the Nastel AutoPilot Enterprise Manager interface. On the left, a dashboard features several monitoring tiles for components like AutoPilot for IBM MQ, WGS License Manager, IBM MQ Environment, Queue Managers, Queues, Dead Letter Queues, Channels, Listeners, Clusters, Events, System Services, and Topics & Subscript. The main window shows the 'NAV - Queues' section with a list of queues including CITL_03, CITL_01, CITL_02, CITL_22, CITL_11, CITL_999, and CITL_222. A 'Add new message to: CITL_22' dialog box is open, showing message configuration details:

- General: Number of Messages: 11, Message Size (bytes): 386
- MD: MD1, MDI, MDE, DLH, XQH
- File attachment: UEB_MSG_SAP202.SHPM
- Message template: [empty]
- Data: XML format selected

```
<?xml version="1.0" encoding="utf-8" standalone="yes">
<usr>
  <FILENAME>SAP202_SHPMNT_26168_KNVY0Q20FXG.dat</FILENAME>
  <DATE>2018-04-15 20:18</DATE>
  <SOURCE>UEBMSG_IDOC</SOURCE>
  <MSGTYPE>UEBMSG_SAP202_SHPMNT_IDOC</MSGTYPE>
  <PRODUCTID>KNVY0Q20FXG</PRODUCTID>
  <CURRENCY>USD</CURRENCY>
  <VALUE> 19444</VALUE>
  <AS2MSGID>26168@pas2-uebmsg.eu.gxs.com</AS2MSGID>
</usr>
```

At the bottom of the dialog, there are 'Ok', 'Schedule', and 'Cancel' buttons. The background interface shows a table of message details with columns for MD, Put Date, and Put Time.

AutoPilot provides real-time monitoring for IBM MQ estate ...

Nastel AutoPilot : MQ monitoring

The image displays two overlapping windows from the Nastel AutoPilot suite. The left window, titled 'Nastel AutoPilot M6® Enterprise Manager - Admin', shows a dashboard with various monitoring tiles for NASTEL, IBM MQ, Queue Managers, Queues, Dead Letter Queues, Channels, Listeners, Clusters, Events, System Services, and Topics & Subscriptions. The right window, titled 'Nastel Navigator for...', shows the 'NAV - Queues' interface. A modal window titled 'Add new message to: CITI_22' is open, displaying message configuration details such as 'Number of Messages: 11', 'Message Size (bytes): 386', and 'If Put Failed: STOP'. Below this, an 'Error - Error' dialog box is displayed, containing a table with the following data:

Status	Command status	Origin	Timestamp	Reason	Actions
⚠	(RC - 2053). CMD - EXCMD_MG_NEW - Failed!	\\MQM\APMDW\QM_A\CITI_22	Sep 29 2019 23:09:38	MQRC_Q_FULL	Description

A yellow callout bubble at the bottom left of the screenshot contains the text: "Queue full" MQ performance event detected ...

Nastel AutoPilot : MQ monitoring

The screenshot shows the 'Nastel AutoPilot for IBM MQ' Enterprise Manager Admin console. The dashboard features several monitoring tiles:

- AutoPilot for IBM MQ**: Main dashboard tile.
- WGS License Manager**: License management tile.
- IBM MQ Environment**: Environment monitoring tile.
- Queue Managers**: Overview of queue managers.
- Queues**: Overview of queues.
- Dead Letter Queues**: Monitoring of dead letter queues.
- Channels**: Overview of channels.
- Listeners**: Overview of listeners.
- Clusters**: Overview of clusters.
- Events**: Overview of system events.
- System Services**: Overview of system services.
- Topics & Subscript.**: Overview of topics and subscriptions.

“Queue full” MQ performance event detected ...

The screenshot shows the 'Nastel Navigator' web interface. The 'NAV - Queues' section displays a table of queues. A context menu is open over the queue 'CITI_22', which has a current depth of 47. The menu options include 'Browse messages', 'Show Object Attributes', 'Show Queue Status', 'Create Queue', 'Messages', 'Commands', 'Copy', 'Properties...', 'Events...', 'MQ Statistics...', 'Add to favorites...', 'Put New Message', 'Load From File...', 'Export All Messages...', 'Copy All', 'Move All', 'Delete All', and 'Clear All'. The 'Clear All' option is highlighted.

Queue Name	Current Depth	Manager Name	Maximum Depth	Node Name	Queue Type	Base Object Name	Last Updated	Definition Type	Get M
CITI_03	0	QM_A	5000	APMDW	Local Queue		05:17:52 hours	Predefined	Allowe
CITI_01	0	QM_A	5000	APMDW	Local Queue		05:17:52 hours	Predefined	Allowe
CITI_02	0	QM_A	5000	APMDW	Local Queue		05:17:52 hours	Predefined	Allowe
CITI_22	47	QM_A	50	APMDW	Local Queue		00:05:12 hours	Predefined	Allowe
Browse messages	0	QM_A	500	APMDW	Local Queue		05:17:52 hours	Predefined	Allowe
Show Object Attributes	0	QM_A	5000	APMDW	Local Queue		00:05:12 hours	Predefined	Allowe
Show Queue Status	0	QM_A	50	APMDW	Local Queue		05:17:52 hours	Predefined	Allowe
Create Queue									

MQ Admin clears messages from queue ...

Nastel AutoPilot : Monitoring of multi-instance MQ Qmgrs

The screenshot shows the Nastel AutoPilot Enterprise Manager Admin interface. The dashboard features several green tiles for monitoring different components: NASTEL AutoPilot for IBM MQ, WGS License Manager, IBM MQ Environment, Queue Managers, Queues, Dead Letter Queues, Channels, Listeners, Clusters, Events, System Services, and Topics & Subscriptions. The interface includes a menu bar (File, Tools, User, Look&Feel, Window, Help) and a toolbar with various icons.

AutoPilot shows no current issues in MQ estate ...

The screenshot shows the Nastel Navigator web interface. The top navigation bar includes 'WorkSpace', 'MY DASHBOARD', 'MY FAVORITES', 'FINCORP', 'CITI GEODE SPARK', and a 'Viewlet +' button. The main content area displays a 'Summary' view for 'NAV - Qmgrs'. A table lists the following data:

Manager Name	Node Name	Queue manager state	OS Platform	Queue Manager Identifier	Active Channels	Dead Letter Queue	Queue Manage
QM1	APMDW	Running	UNIX	QM1_2019-07-18_19.02.37	0		Permitted
QM1	MQSVR	Running As Standby	UNIX	QM1_2019-07-18_19.02.37	0		Permitted

Below the table, it indicates 'Total: 2 Visible: 2 Selected: 0'. The interface also shows a 'NAV - Queues' section with a table of queue details.

Multi-instance qmgr "QM1" now running on node APMDW, running as standby on node MQSVR ...

Nastel AutoPilot : Monitoring of multi-instance MQ Qmgrs

The screenshot shows the 'Nastel AutoPilot M6® Enterprise Manager - Admin' interface. The dashboard includes several green widgets for monitoring: NASTEL AutoPilot for IBM MQ, WGS License Manager, IBM MQ Environment, Queue Managers, Queues, Dead Letter Queues, Channels, Listeners, Clusters, Events, System Services, and Topics & Subscript.

The screenshot shows the 'Nastel Navigator' web interface. A table titled 'NAV - Qmgrs' is visible with columns: Manager Name, Node Name, Queue manager state, OS Platform, Queue Manager Identifier, Active Channels, Dead Letter Queue, and Queue Manager Sta. Two rows are selected, both with 'QM1' as the Manager Name. A modal dialog titled 'This action will stop Queue Manager' is open, showing options for 'Shutdown Method' (Quiesced, Immediate, Preemptive) and 'Shutdown Options' (Try to Reconnect to Reconnectable Clients, Switch Over to a Standby QMgr, End a standby instance of the QMgr). A yellow callout bubble points to the dialog.

Manager Name	Node Name	Queue manager state	OS Platform	Queue Manager Identifier	Active Channels	Dead Letter Queue	Queue Manager Sta
QM1	APMDW	Running					Permitted
QM1	MOSVR	Running					Permitted

Stopping 1 instance of multi-instance qmgr "QM1" ...

Nastel AutoPilot : Monitoring of multi-instance MQ Qmgrs

The screenshot shows the 'Nastel AutoPilot M6® Enterprise Manager - Admin' interface. The dashboard includes several monitoring tiles:

- AutoPilot for IBM MQ
- WGS License Manager
- IBM MQ Environment
- Queue Managers
- Queues
- Dead Letter Queues
- Channels
- Listeners
- Clusters
- Events
- System Services
- Topics & Subscript.

The screenshot shows the 'Nastel Navigator' web interface. The 'NAV - Qmgrs' section displays a table of Queue Managers. A callout box points to the first row, which is in a greyed-out state, indicating it is quiescing.

Manager Name	Node Name	Queue manager state	OS Platform	Queue Manager Identifier	Active Channels	Dead Letter Queue	Queue Manager Sta
QM1	APMDW	Quiescing	UNIX	QM1_2019-07-18_19.02.37	0		Permitted
QM1	MQSVR	Running As Standby	UNIX	QM1_2019-07-18_19.02.37	0		Permitted

1 instance of qmgr "QM1" is quiescing ...

Nastel AutoPilot : Monitoring of multi-instance MQ Qmgrs

The screenshot displays two interfaces side-by-side. On the left is the Nastel AutoPilot Enterprise Manager Admin console, showing a dashboard with various monitoring tiles for IBM MQ, WGS License Manager, Queue Managers, Queues, Dead Letter Queues, Channels, Listeners, Clusters, Events, System Services, and Topics & Subscriptions. On the right is the Nastel Navigator web interface, showing a summary page for Queue Managers. A modal dialog is open, asking for confirmation to start a standby instance of a multi-instance queue manager. Below the dialog is a table of Queue Managers.

Manager Name	Node Name	Queue manager state	OS Platform	Queue Manager Identifier	Active Channels	Dead Letter Queue	Queue Manager Sta
QM1	APMDW	Running Elsewhere	UNIX	QM1_2019-07-18_19.02.37	0		Permitted
QM1	MQSVR	Running As Standby	UNIX	QM1_2019-07-18_19.02.37	0		Permitted

Modal Dialog: This action will start Queue Manager. Start channels. Start an instance of a multi-instance queue manager. Do you still want to proceed? [Yes] [Schedule] [No]

NAV - Queues Table:

Queue Name	Current Depth	Manager Name
03	0	QM_A
01	0	QM_A
02	0	QM_A
02	0	QM_A
11	0	QM_A
999	0	QM_A
222	0	QM_A

AutoPilot detects only 1 instance of multi-instance "QM1" is running ...

Using Navigator, MQ administrator starts the standby instance of "QM1"

Nastel AutoPilot : Monitoring of multi-instance MQ Qmgrs

The image displays two overlapping windows. The left window is the 'Nastel AutoPilot M6® Enterprise Manager - Admin' desktop application, showing a dashboard with various monitoring tiles for components like Queue Managers, Queues, Channels, Listeners, Clusters, Events, System Services, and Topics & Subscriptions. The right window is a web browser displaying the 'Nastel Navigator' interface. The browser address bar shows 'apsvr:8080/navigator/#/tabs/'. The main content area shows a 'NAV - Qmgrs' summary page with a table of queue manager instances.

Manager Name	Node Name	Queue manager state	OS Platform	Queue Manager Identifier	Active Channels	Dead Letter Queue	Queue Manager Sta
QM1	APMDW	Running As Standby	UNIX	QM1_2019-07-18_19.02.37	0		Permitted
QM1	MQSVR	Running	UNIX	QM1_2019-07-18_19.02.37	0		Permitted

Below the table, there is a 'NAV - Queues' section with another table showing queue details.

Queue Name	Current Depth	Definition Type	Get M
QM_A	5000	Predefined	Allowe
QM_A	5000	Predefined	Allowe
QM_A	50	Predefined	Allowe
QM_A	500	Predefined	Allowe
QM_A	5000	Predefined	Allowe
QM_A	50	Predefined	Allowe

AutoPilot detects 2 instances of multi-instance "QM1" are running ... alerts are cleared

Multi-instance qmgr "QM1" now running on node MQSVR, running as standby on node APMDW...

Nastel AutoPilot : Monitoring dashboards with automated actions

The image shows two windows from the Nastel AutoPilot software. The left window, 'Nastel AutoPilot M6® Enterprise Manager', displays a configuration tree for 'USE CASE - Monitor Queue Attributes'. The right window, 'Nastel Navigator for...', shows a dashboard with a table of queues and a 'NAV - Queues' section.

USE CASE - Monitor Queue Attributes (Using Environment Variable)

- DEFPSIST Value should be: NO
- MAXDEPTH Value should be: 5000
- ERROR ... : 5009 was detected for attribute MAXDEPTH of ob
- MAXMSGL Value should be: 4194304
- PUT Value should be: ENABLED
- ERROR ... : DISABLED was detected for attribute PUT of objec
- GET Value should be: ENABLED
- QDEPTHHI Value should be: 80
- QDEPTHLO Value should be: 20
- TRIGTYPE Value should be: FIRST
- QDPHIEV Value should be: ENABLED
- ERROR ... : DISABLED was detected for attribute QDPHIEV of
- QDPLOEV Value should be: DISABLED

NAV - Queues

Queue Name	Current Depth	Manager Name	Maximum Depth	Node Name	Queue Type	Base Object Name	Last Updated	Definition Type	Get Messages	Put I
QL_SPARK_00909	0	QM_B	5000	APMDW	Local Queue		00:08:31 hours	Predefined	Allowed	Allow
		QM_B	5000	APMDW	Local Queue		00:08:31 hours	Predefined	Allowed	Allow
		QM_B	5000	APMDW	Local Queue		00:08:31 hours	Predefined	Allowed	Allow
		QM_B	5009	APMDW	Local Queue		00:00:44 hours	Predefined	Allowed	Allow
		QM_B	5000	APMDW	Local Queue		00:00:33 hours	Predefined	Allowed	Inhib
		QM_B	5000	APMDW	Local Queue		00:08:31 hours	Predefined	Allowed	Allow
		QM_B	5000	APMDW	Local Queue		00:00:22 hours	Predefined	Allowed	Allow
		QM_B	5000	APMDW	Local Queue		00:08:31 hours	Predefined	Allowed	Allow
		QM_B	5000	APMDW	Local Queue		00:08:31 hours	Predefined	Allowed	Allow

AutoPilot monitoring policy with automated action – enforces standard attributes for MQ objects ... **alert** before executing action

Nastel AutoPilot : Monitoring dashboards with automated actions

The screenshot displays the Nastel AutoPilot Enterprise Manager interface. On the left, a tree view shows monitoring policies for 'USE CASE - Monitor Queue Attributes'. A yellow callout box highlights the text: 'AutoPilot monitoring policy with automated action – enforces standard attributes for MQ objects ... action executed ... OK'. The main window shows the 'Nastel Navigator' dashboard with a table of queue manager data.

Manager Name	Node Name	Queue manager state	OS Platform	Queue Manager Identifier	Active Channels	Dead Letter Queue	Queue Manager Standby State
AGNT1	APMDW	Running	UNIX	AGNT1_2019-02-03_16.41.53	0		Not Permitted
AGNT2	APMDW	Running	UNIX	AGNT2_2019-02-03_16.44.19	0		Not Permitted
QM1	APMDW	Running As Standby	UNIX	QM1_2019-07-18_19.02.37	0		Permitted
CORD	APMDW	Running	UNIX	CORD_2019-02-03_16.46.08	0		Not Permitted
QM_B	APMDW	Running	UNIX	QM_B_2018-10-27_19.07.49	0		Not Permitted
QM_A	APMDW	Running	UNIX	QM_A_2018-10-27_19.07.31	0		Not Permitted
QM_JIB	APMDW	Running	UNIX	QM_JIB_2018-11-19_13.15.23	0		Not Permitted
QM_C	APMDW	Running	UNIX	QM_C_2018-10-27_19.08.04	0		Not Permitted
QM1	MQSVR	Running	UNIX	QM1_2019-07-18_19.02.37	0		Permitted
QM_D	MQSVR	Running	UNIX	QM_D_2019-09-28_19.13.13	0		Not Permitted

Manager Name	Maximum Depth	Node Name	Queue Type	Base Object Name	Last Updated	Definition Type	Get Messages	Put I
QM_B	5000	APMDW	Local Queue		00:08:31 hours	Predefined	Allowed	Allow
QM_B	5000	APMDW	Local Queue		00:08:31 hours	Predefined	Allowed	Allow
QM_B	5000	APMDW	Local Queue		00:08:31 hours	Predefined	Allowed	Allow
QM_B	5009	APMDW	Local Queue		00:00:44 hours	Predefined	Allowed	Allow
QM_B	5000	APMDW	Local Queue		00:00:33 hours	Predefined	Allowed	Inhib
QM_B	5000	APMDW	Local Queue		00:08:31 hours	Predefined	Allowed	Allow
QM_B	5000	APMDW	Local Queue		00:00:22 hours	Predefined	Allowed	Allow
QM_B	5000	APMDW	Local Queue		00:08:31 hours	Predefined	Allowed	Allow
QM_B	5000	APMDW	Local Queue		00:08:31 hours	Predefined	Allowed	Allow

Nastel AutoPilot : Monitoring dashboards with automated actions

USE CASE - MSG REINJECTION - QL_REBUT_004 - ds://Nastel_Customer_Use_C...

- 15: messages on queue QL_REBUT_004 on qmgr QM_C
- 0: messages on queue QL_GEODE_004 on qmgr QM_C

AutoPilot monitoring policy with automated action – handling of messages on application backout queue ... alert before executing action

Summary

Queue Name	Manager Name	Status	Node Name	Messages	Permissions
QM_B	APMDW	Running	UNIX	0	Not Permitted
QM_A	APMDW	Running	UNIX	0	Not Permitted
QM_JIB	APMDW	Running	UNIX	0	Not Permitted
QM_C	APMDW	Running	UNIX	0	Not Permitted
QM1	MQSVR	Running	UNIX	0	Permitted
QM_D	MQSVR	Running	UNIX	0	Not Permitted

NAV - Queues

Queue Name	Current Depth	Manager Name	Maximum Depth	Node Name	Queue Type	Base Object Name	Last Updated	Definition Type	Get
QL_GEODE_004	0	QM_C	5000	APMDW	Local Queue		02:53:08 hours	Predefined	Allo
QL_GEODE_014	0	QM_C	5000	APMDW	Local Queue		02:53:08 hours	Predefined	Allo
QL_GEODE_024	0	QM_C	5000	APMDW	Local Queue		02:53:07 hours	Predefined	Allo
QL_GEODE_TD01	0	QM_C	5000	APMDW	Local Queue		01:04:33 hours	Predefined	Allo
QL_GEODE_TD02	0	QM_C	5000	APMDW	Local Queue		01:04:33 hours	Predefined	Allo
QL_GEODE_TD03	0	QM_C	5000	APMDW	Local Queue		01:04:33 hours	Predefined	Allo
QL_REBUT_004	15	QM_C	5000	APMDW	Local Queue		02:53:07 hours	Predefined	Allo

Nastel AutoPilot : Monitoring dashboards with automated actions

The screenshot displays the Nastel AutoPilot Enterprise Manager interface. On the left, a console window shows a log entry: "15: messages on queue QL_GEODE_004 on qmgr QM_C". A yellow callout box highlights this message with the text: "AutoPilot monitoring policy with automated action – handling of messages on application backout queue ... action executed, OK". The main interface shows the "NAV - Queues" dashboard with a table of queues and their details.

Queue Name	Current Depth	Manager Name	Maximum Depth	Node Name	Queue Type	Base Object Name	Last Updated	Definition Type	Get
QL_GEODE_004	15	QM_C	5000	APMDW	Local Queue		02:53:45 hours	Predefined	Allo
QL_GEODE_014	0	QM_C	5000	APMDW	Local Queue		02:53:44 hours	Predefined	Allo
QL_GEODE_024	0	QM_C	5000	APMDW	Local Queue		02:53:44 hours	Predefined	Allo
QL_GEODE_TD01	0	QM_C	5000	APMDW	Local Queue		01:05:10 hours	Predefined	Allo
QL_GEODE_TD02	0	QM_C	5000	APMDW	Local Queue		01:05:10 hours	Predefined	Allo
QL_GEODE_TD03	0	QM_C	5000	APMDW	Local Queue		01:05:10 hours	Predefined	Allo
QL_REBUT_004	0	QM_C	5000	APMDW	Local Queue		02:53:44 hours	Predefined	Allo

Nastel AutoPilot : IIB Monitoring

The screenshot displays the IBM Integration Toolkit interface. The main workspace shows a message flow diagram with three nodes: 'QuoteInput', 'Java Compute', and 'QuoteOutput'. A yellow callout box points to the 'QuoteInput' node with the text 'IBM Integration Bus ... message flow'. The 'Properties' pane is open for the 'QuoteInput' node, showing the 'Monitoring' tab. This tab includes a table for configuring monitoring events.

Enable	Event Source	Event Source Address	Event Name	Event Action
<input checked="" type="checkbox"/>	Transaction start	QuoteInput.transaction.St	QuoteInput.TransactionSt	true()
<input checked="" type="checkbox"/>	Transaction end	QuoteInput.transaction.Er	QuoteInput.TransactionEn	true()
<input checked="" type="checkbox"/>	Transaction rollback	QuoteInput.transaction.Rc	QuoteInput.TransactionRc	true()
<input checked="" type="checkbox"/>	Failure terminated	QuoteInput.transaction.Fa	QuoteInput.FailureTermi	true()

Nastel AutoPilot : IIB Monitoring

The screenshot displays the Nastel AutoPilot Enterprise Manager interface. On the left is a dashboard with various monitoring widgets. On the right is a detailed monitoring window for 'IIB Message Flows in Integration Server: default'. This window includes a tree view of message flows, a grid of performance graphs, and a table of sensor data.

Dashboard Widgets:

- AutoPilot IBM Integration Bus Monitoring
- AutoPilot for IIB
- IIB Status
- IIB Queue Mgr
- IIB Resources
- IIB Server Stats
- IIB Message Flows
- IIB Threads

Monitoring Window Details:

Tree View:

- HTTPInputMessageFlow
- Transformation_Java
- Transformation_Map
- QuoteRequestMessageFlow
 - 3.297: CPUTimeWaitingForInputMessage : QuoteRequestMessageFlow
 - 23.132.024: ElapsedTimeWaitingForInputMessage : QuoteRequestMessageFlow
 - 3.100: MaximumCPUTime : QuoteRequestMessageFlow
 - 5.309: MaximumElapsedTime : QuoteRequestMessageFlow
 - 795: MaximumSizeOfInputMessages : QuoteRequestMessageFlow
 - 1: NumberOfThreadsInPool : QuoteRequestMessageFlow
 - 1: TimesMaximumNumberOfThreadsReached : QuoteRequestMessageFlow
 - 3.100: TotalCPUTime : QuoteRequestMessageFlow
 - 5.309: TotalElapsedTime : QuoteRequestMessageFlow
 - 1: TotalInputMessages : QuoteRequestMessageFlow
 - 0: TotalNumberOfBackouts : QuoteRequestMessageFlow
 - 0: TotalNumberOfErrorsProcessingMessages : QuoteRequestMessageFlow
 - 0: TotalNumberOfErrors : QuoteRequestMessageFlow
 - 0: TotalNumberOfMQErrors : QuoteRequestMessageFlow
 - 0: TotalNumberOfTimeOutsWaitingForRepliesToAggregate : QuoteRequestMessageFlow
 - 795: TotalSizeOfInputMessages : QuoteRequestMessageFlow
 - Nodes : QuoteRequestMessageFlow
 - 0.00: CountOfInvocations
 - 0: QuoteOutput
 - 0: QuoteInput
 - 0: Java_Compute
 - 2.00: NumberOfInputTerminals
 - 1: QuoteOutput
 - 0: QuoteInput
 - 0: Java_Compute

Graphs (QuoteRequestMessageFlow):

The graphs display various performance metrics over time, including CPU Time, Elapsed Time, Maximum CPU Time, Total CPU Time, Total Elapsed Time, Total Input Messages, Total Number of Backouts, Total Number of Errors, Total Number of MQ Errors, Total Number of Time Outs, Total Size of Input Messages, Nodes, Count of Invocations, Number of Input Terminals, and Number of Output Terminals.

Sensor Data Table:

Sensor	Value	Avg	Max	Min Velocity u/sec	% Change	% Dispersion	Updates	Last Updated
QuoteRequestMessageFlow		0						
3.297: CPUTimeWaitingForInp...	3,297	2,600.98	22,761	1,906	115.99	▲ 55.67%	▲ 131.05%	432 2019-09-30 19:38:41
23,132.024: ElapsedTimeWaitin...	23,132.024	20,002.854.44	25,235.873	14,794.752	591527.69	▲ 35.12%	▲ 179.65%	433 2019-09-30 19:38:41
3,100: MaximumCPUTime : Qu...	3,100	2,048.43	5,861	0	115.30	▲ 60.79%	▲ 61.06%	104 2019-09-30 19:38:41
5,309: MaximumElapsedTime : ...	5,309	3,366.1	10,880	0	218.89	▲ 72.15%	▲ 75.98%	104 2019-09-30 19:38:41
795: MaximumSizeOfInputMes...	795	557.76	795	0	0.15	▲ 0.38%	▲ 55.42%	74 2019-09-30 19:37:50
1: NumberOfThreadsInPool : Q...	1	1	1	1	0.00	0.00%	0.00%	1 2019-09-30 17:14:44
1: TimesMaximumNumberOfThre...	1	0.57	2	0	0.02	0.00%	▲ 75.46%	46 2019-09-30 19:37:10
3,100: TotalCPUTime : QuoteR...	3,100	2,091.1	5,861	0	115.30	▲ 60.79%	▲ 61.06%	104 2019-09-30 19:38:41
5,309: TotalElapsedTime : Quot...	5,309	3,435.78	13,704	0	218.89	▲ 72.15%	▲ 75.98%	104 2019-09-30 19:38:41

AutoPilot monitoring dashboards for for IBM Integration Bus



Selected Demo Scenarios



Nastel Overview
prepared for



Guide Share France
01 October 2019

Nastel XRay : IBM MQ Analytics

The screenshot displays the Nastel XRay web application interface. At the top, there is a navigation bar with the 'NASTEL XRay' logo and a search bar. Below this, a dashboard area is divided into several panels. The left panel, titled 'Messaging Activity - All QMGRS', features a line chart showing 'PUTS' (green line with square markers) and 'GETS' (blue line with circle markers) over time, with the x-axis labeled 'SnapshotTime'. A yellow callout bubble points to this chart with the text 'MQ metrics & events'. The right panel, titled 'IBM MQ Performance Events - Full Scorecard Summar', shows a table of event counts by severity level: INFO (15890), WARNING (1377), and ERROR (1200). A yellow callout bubble points to this table with the text 'Performance events'. Below the table is a pie chart titled 'IBM MQ Performance Events - Piechart' showing the distribution of event types: ERROR (6.50%) and WARNING (7.46%). Another yellow callout bubble points to this pie chart with the text 'Performance events'. At the bottom of the interface, a console area is visible with a yellow callout bubble pointing to it containing the text 'Message Activity'.

Nastel XRay : IBM MQ Analytics

The screenshot displays the Nastel XRay web application interface. At the top, there is a browser window with the URL `https://jkool.jkoolcloud.com/jkool/O_scottcorigan/index.jsp`. The application header includes the Nastel XRay logo, a search bar, and a navigation menu with tabs for various systems like FINTECH, MQ Metrics, and ActiveMQ. A yellow callout box with a white background and a yellow border points to the 'MQ Metrics' tab, containing the text: **Drill-down to MQ performance event details**.

The main content area is divided into several sections:

- Legend:** INFO (blue square), WARNING (yellow square), ERROR (red square).
- Summary:** A table showing event counts for different categories. The visible data is as follows:

Category	Count
ds://IBM MQ/MQE2_Dashboard.bsp...	87
AGNT1 (APMDW)@MQ_Qmgrs@W...	7
AGNT1 (apmdw)@MQ_Qmgrs@WG...	1
- IBM MQ - Performance Events - CITI Queues - Details:** A table listing individual events with columns for Severity, StartTime, ElapsedTime, Cause, and Reason. The table shows a mix of INFO and ERROR events. The last two rows are highlighted in red, indicating errors:

Severity	StartTime	ElapsedTime	Cause	Reason
INFO	9/29/2019, 11:25:59 PM	169µs	Queue Depth Event - Queue('Queue Depth Event - Qu	
INFO	9/29/2019, 11:10:52 PM	64µs	Queue(CITI_22), Qmgr(QM_)	'Queue Status Monitor@
INFO	9/29/2019, 11:10:52 PM	88µs	Queue Depth Event - Queue('IBM MQ Events@MQ_Ev	
INFO	9/29/2019, 11:10:52 PM	136µs	Queue Depth Event - Queue('Performance@MQ_Ever	
INFO	9/29/2019, 11:10:52 PM	179µs	Queue(CITI_22), Qmgr(QM_)	'Slowly draining@MQ_Qu
INFO	9/29/2019, 11:10:52 PM	1ms 51µs	Queue Depth Event - Queue('Queue Depth Event@MC	
INFO	9/29/2019, 11:10:44 PM	1ms 133µs	Queue(CITI_22), Qmgr(QM_)	'Queue(CITI_22), Qmgr(C
INFO	9/29/2019, 11:10:33 PM	10s 282ms	Queue Depth Event - Queue('Queue Depth Event - Qu	
ERROR	9/29/2019, 11:09:38 PM	98µs	Queue Depth Event - Queue('IBM MQ Events@MQ_Ev	
ERROR	9/29/2019, 11:09:38 PM	131µs	Queue Depth Event - Queue('Performance@MQ_Ever	
- IBM MQ Monitoring Events - Stackchart:** A 3D bar chart showing the count of events over time, categorized by severity (INFO, WARNING, ERROR). The x-axis is labeled 'StartTime' with markers at 12:04, 15:04, and 18:04. The y-axis is labeled 'Events Count' ranging from 0 to 200. A legend at the bottom indicates INFO (blue), WARNING (yellow), and ERROR (red).

Nastel XRay : IBM MQ Analytics

The screenshot shows the Nastel XRay web interface. At the top, there's a browser window with the URL `https://jkool.jkoolcloud.com/jkool/O_scottcorigan/index.jsp`. The application header includes the Nastel XRay logo, a stream bytes per day indicator at 11%, and a search bar. Below the header, there are several tabs for different metrics: FINTECH_R..., MQ Metrics..., Metrics Rep..., IBM IIB and..., IBM Integrati..., Solace, ActiveMQ, DataPower..., RabbitMQ, Kafka, and Danone. The main content area is divided into two sections. The left section displays a line graph titled "Graph of MQ queue statistics for selected queue(s)". The graph plots "PUTS" (blue line with circles) and "GETS" (green line with squares) over time, with the x-axis labeled "SnapshotTime" and the y-axis ranging from 0 to 300. The right section displays a table titled "Table with Message Counts (Sum)". The table has columns for "QMGR", "GETS", and "PUTS". Below the table, there's a console window showing the command `jkool> get Snapshot fields Properties('@level4') as QMGR, sum(Properties('Mqj ...`.

QMGR	GETS	PUTS
QM A	262888	211360
QM B	188461	133343
QM C	188418	133774

Graph of MQ queue statistics for selected queue(s)

Details of MQ queue statistics for selected queue(s)

Nastel XRay : IBM MQ Analytics

The screenshot displays the Nastel XRay web application interface. At the top, there is a navigation bar with the 'NASTEL XRay' logo and a search bar. Below the navigation bar, there are several tabs for different messaging systems: FINTECH_R..., MQ Metrics..., Metrics Rep..., IBM IIB and..., IBM Integrati..., Solace, ActiveMQ, DataPower..., RabbitMQ, Kafka, and Danone. The main content area is divided into several panels. The top-left panel shows a table titled 'Number of Bytes - Table' with columns '@level6' and 'BYTES'. The top-right panel shows a chart titled 'Number of Bytes - Chart' with a horizontal bar chart showing the number of bytes for various queues. The bottom-left panel shows a table titled 'Failed GETS - Table' with columns '@level6' and 'MESSAGES'. The bottom-right panel shows a chart titled 'Failed GETS - Chart' with a horizontal bar chart showing the number of failed gets for various queues. A yellow callout box with a white background and a yellow border is positioned over the bottom-right panel, containing the text: 'Summaries of messaging activity for selected queue(s)'. The callout box has a pointer pointing towards the bottom-right panel.

@level6	BYTES
QM_C	57562
QuoteRequestIN	44270
QuoteRequestOUT	44270
QM_B	39162
FINCORP_TRADE_FINAL	21742
FINCORP_TRADE_ACCEPT	21022
FINCORP_TRADE_VALIDATI	20302
FINCORP_TRADE_CONFIR	19582
FINCORP_TRADE_VERIFY	18862
FINCORP_TRADE_ORDER	18142
QL_GEODE_004	4440

@level6	MESSAGES
QuoteRequestIN	103

Nastel XRay : IBM MQ Message Flow Tracing

The screenshot displays the Nastel XRay application interface. The top navigation bar includes the Nastel XRay logo, a search bar, and user information. The main interface is divided into several sections:

- Message Flow Diagram:** A complex flow diagram on the left showing message paths between various components like QM, CHL, and fintech. It includes metrics such as average processing time (Avg) and message count (Count) for each step.
- Summary Panel:** A bar chart on the right showing 'Events Count' over time. The chart has two series: MQGET (purple) and MQPUT (green). The x-axis is labeled 'StartTime' with values 17:51, 18:01, 18:11, and 18:21. The y-axis is labeled 'Events Count' ranging from 0 to 200.
- Console:** A terminal window at the bottom showing jKQL queries and their results.

A yellow callout box with a white background and a drop shadow is positioned over the bottom left of the interface, containing the text:

MQ message flow tracing

Nastel XRay : IBM MQ Message Flow Tracing

The screenshot displays the Nastel XRay web interface. At the top, there's a browser window with the URL `https://jkool.jkoolcloud.com/jkool/O_scottcorigan/index.jsp`. The interface includes a navigation bar with tabs for various systems like `FINTECH_R...`, `MQ Metrics`, `Metrics Rep...`, `IBM IIB and...`, `IBM Integrati...`, `Solace`, `ActiveMQ`, `DataPower...`, `RabbitMQ`, `Kafka`, and `Danone`. Below the navigation bar, there are two main panels:

- Left Panel: FinTech - Resource Details**
The query is: `jkQL> get number of Event where EventName STARTS WITH 'MQ' AND SetName IN ('FI ...`
The pie chart shows the following breakdown of MQ resources:
 - QUEUE=QM_C:FINCORP_TRA... : 12.50%
 - QUEUE=QM_A:FINCORP_TRA... : 12.50%
 - QUEUE=QM_B:QM_C:FINCOR... : 6.25%
 - QUEUE=QM_B:QM_C: 6.25%
 - QUEUE=QM_B:FINCORP_TRA... : 12.50%
 - QUEUE=QM_A:QM_B: 6.25%
 - QUEUE=QM_A:QM_B_FINCOR... : 6.25%
 - QUEUE=QM_B:FINCORP_TRA... : 12.50%
- Right Panel: FinTech - Application Details**
The query is: `jkQL> get number of Event where SetName IN ('FINTECH') group by ApplName ...`
The pie chart shows the following breakdown of applications:
 - fintech_r_VER: 12.50%
 - fintech_r_VAL: 12.50%
 - fintech_r_FIN: 12.50%
 - fintech_r_CON: 12.50%
 - fintech_r_ACC: 12.50%
 - CHL:RECEIVER:QM_A.QM_B: 6.25%
 - CHL:RECEIVER:QM_B.QM_C: 6.25%
 - CHL:SENDER:QM_A.QM_B: 6.25%
 - CHL:SENDER:QM_B.QM_C: 6.25%
 - fintech_g_FIN: 6.25%
 - fintech_p_ORD: 6.25%

MQ message flow tracing ... breakdown of MQ resources

MQ message flow tracing ... breakdown of applications

Nastel XRay : IBM MQ Message Flow Tracing

The screenshot displays the Nastel XRay application interface. At the top, there's a browser window with the URL `https://jkool.jkool.com`. The main dashboard includes a graph on the left showing 'Elapsed Time' (0 to 15s) and 'EventCount' (15 to 16) over time (17:59 to 18:22). A table on the right lists message execution details:

Message ID	Destination	Execution Time	Timestamp	Status
FINTECH RP43	FINTECH	11s 700ms	9/30/2019, 6:23:01 PM	FINTECH Execution Time
FINTECH RP43	FINTECH	11s 659ms	9/30/2019, 6:22:50 PM	FINTECH Execution Time
FINTECH RP43	FINTECH	11s 707ms	9/30/2019, 6:22:39 PM	FINTECH Execution Time
FINTECH RP43	FINTECH	11s 867ms	9/30/2019, 6:07:28 PM	FINTECH Execution Time
FINTECH RP43	FINTECH	12s 396ms		
FINTECH RP43	FINTECH	11s 294ms		

Below the graph is a 'Root Cause Analysis' section with a terminal command: `jkQL> get activity compute rogueEdges(") where activityid = '3fdc1098-e3a0-11e9-894b-12350bc94aec' show as topology`. The resulting topology diagram shows message flows between components like `CHL:RECEIVER:QM_A_QM_B`, `fintech_r_VAL`, `fintech_r_ACC`, `QM_B:QM_C_FINCORP_TRADE_A`, `QM_B:FINCORP_TRADE_CONFIRM`, `CHL:SENDER:QM_B_QM_C`, `QM_B:QM_C`, `QM_C:FINCORP_TRADE_FINAL`, `fintech_r_FIN`, and `fintech_g_FIN`. Red edges indicate anomalies, such as `fintech_r_VAL` (11s 561ms anomaly) and `QM_B:FINCORP_TRADE_CONFIRM` (11s 697ms anomaly).

Elapsed time of each message workflow

MQ message flow tracing ... root cause analysis for delayed message flows

Nastel XRay : Message Flow Tracing - IIB & IBM MQ

The screenshot displays the Nastel XRay web application interface. At the top, there's a browser window with the URL `https://jkool.jkoolcloud.com/jkool/O_scottcorigan/index.jsp`. The application header includes the 'NASTEL XRay' logo, a 'Stream bytes per day' indicator at 11%, and a search bar. Below the header, a navigation bar shows various system tabs like 'FINTECH_R...', 'MQ Metrics...', 'Metrics Rep...', 'IBM IIB and ...', 'IBM Integrati...', 'Solace', 'ActiveMQ', 'DataPower...', 'RabbitMQ', 'Kafka', and 'Danone'. The main content area is split into two panels. The left panel, titled 'Topology View of Quote Request', shows a message flow diagram with nodes like 'quodmq_p_01', 'quodmq_g_99', and 'QM_A:QuoteRequestIN'. The right panel, titled 'Event StackChart', displays a 3D stacked bar chart showing event counts over time from 19:10 to 19:40. A yellow callout bubble is overlaid on the bottom right of the interface.

Message trace for workflow IBM MQ & IIB

Nastel XRay : Message Flow Tracing - IIB & IBM MQ

Summary

Java Compute.InTerminal	INFO	61
Java Compute.OutTerminal	INFO	61
QuoteInput.OutTerminal	INFO	61
QuoteInput.TransactionEnd	INFO	62
QuoteInput.TransactionStart	INFO	61
QuoteOutput.InTerminal	INFO	61

Activities Table - Quote Request

StartTime	ElapsedTime
0/2019, 7:44:50 PM	786ms 182us
0/2019, 7:44:32 PM	663ms 2us
0/2019, 7:44:05 PM	539ms 767us
0/2019, 7:43:36 PM	412ms 679us
0/2019, 7:43:17 PM	293ms 838us

List of Processed Quote Requests by IDOC Number

```
jKQL> get events fields prop('IDOC'), prop('PRODUCTID'), prop('CURRENCY'), prop('VALU...
```

IDOC	PRODUCTID	CURRENCY	VALUE	MSGTYPE
5626	6CINB4P9CXWQ	GBP	28436	SAP.SAP503.ORDER RE
5613	6PLB8KNDG0Y6	GBP	7285	SAP.SAP502.ORDER RE
2616	XEGX7UGO311H	GBP	65217	SAP.SAP503.ORDER RE

Graph Data:

- Max(ElapsedTime): 867ms
- Avg(ElapsedTime): 219ms
- Start Time: Mon Sep 30 2019 19:16:00 GMT+0200 (Central European Summer Time)

Messages listed with business content