Data Communications Company

Switching Change Proposal: SLAs & Exclusions

R0092

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August 2023

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Overview on the new evolved proposals

Following the successful go-live of the Switching Service, and subsequent understanding of user and system behaviour, DCC initiated a REC Change Proposal (R0092) to align the Switching SLAs (originally defined early in the design process) with this real-world behaviour.

DCC has used the feedback gained through the R0092 working group with REC and Industry to create an updated proposal covering the areas discussed to date. This slide pack outlines our best suggestions of how these SLAs could be changed to enable an accurate and tangible measurement of the performance levels in these areas.

Category	Metric	Service Definition Ref.
CSS Message Targets	Synchronous Messages	CSS 6.1
	Asynchronous Messages	CSS 6.2
	Gate Closure	CSS 6.3
Incident Management Targets	SO (DCC) and CSS (Landmark) Incidents	SO/CSS 5.2
	ERDS/GRDS Incidents	ERDS/GRDS 6.2
	Service Requests	
Performance Measurement Exclusions	Relevant to all areas	
Working Group Next Steps		

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6.1 Synchronous Response

Following receipt of Market Messages from CSS Users, the CSS Provider shall carry out synchronous validation and provide a response within the following times:

Current Definition

Performance Parameter	Performance Level
Average daily volume	mean time of two seconds or less
Average daily volume	90th percentile time of four seconds or less
Peak daily volume	mean time of three seconds or less
Peak daily volume	90th percentile time of six seconds or less

Proposal

Performance Parameter	Performance Level
Average and Peak daily volume	mean time of two seconds or less

Definition	$Mean\ Daily\ Response = \frac{Nr\ Days\ where\ Mean\ Response\ Time\ for\ All\ Messages \leq 2s}{Count\ of\ Days\ in\ the\ Month} \times 100$
Target	100% of days in month meeting mean daily response of 2 seconds or less
Boundary	Target applies where **daily** volume of **all** messages received <= 281,600 (current Peak limit)

Key Outcomes

- Applying the two-second performance level to both Average and Peak category days simplifies the measure and reduces the overall target time
- The 90th percentile measure does not bring any additional Performance Assurance benefits; removing it negates the need for a CR and saves costs
- As daily volumes are sufficiently high to avoid single anomalies causing a failure for the month, a 100% SLA is challenging yet achievable within existing service design
- All message types are included as per Service Definition (removal of ambiguity)
- Daily measurement maintained as per Service Definition

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6.2 Asynchronous Response

The CSS Provider shall process Market Messages (from the point of receipt by CSS to the point where CSS sends out the response of either "Validated" or "Rejected") as follows:

Current Definition

Performance Parameter	Performance Level
Average hourly volume	mean time of three seconds or less
Average hourly volume	90th percentile time of six seconds or less
Peak hourly volume	mean time of five seconds or less
Peak hourly volume	90th percentile time of eight seconds or less

Proposal

Performance Parameter	Performance Level
Average and Peak daily volume	mean time of three seconds or less

Definition	$\text{Mean Daily Response} = \frac{\text{Nr Days where Mean Response Time for All Messages} \leq 3s}{\text{Nr of Days in the Month}} \times 100$
Target	100% of days in month meeting mean daily response of 3 seconds or less
Boundary	Target applies where **daily** volume of **all** messages received <= 281,600 (current Peak limit)

Key Outcomes

- Applying the three-second performance level to both Average and Peak category days simplifies the measure and reduces the overall target time
- In moving to daily volumes, the message counts are sufficiently high to avoid single anomalies causing a failure for the month, therefore a 100% SLA is challenging yet achievable within the current service design
- The 90th percentile measure does not bring any additional Performance Assurance benefits; removing it negates the need for a CR and saves costs
- All message types are included to align with measure 6.1 and ensure that all critical messages are tracked
- Measure simplified and ambiguity removed

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6.3 Gate Closure

The CSS Provider shall process the securing of Switches up to the point where all messages are queued for delivery to each relevant Market Participant (from the time of Gate Closure to CSS Processing Complete) as follows:

Current Definition

Performance Parameter	Performance Level
Average daily volume	mean response time of 20 minutes or less
Average daily volume	90th percentile response time of 25 minutes or less
Peak daily volume	mean response time of 35 minutes or less
Peak daily volume	90th percentile response time of 40 minutes or less

Key Outcomes

- The use of the Processing Complete point in time means that DCC's SLA will be completely within DCC's control
- End-to-end system design will still target 35 minute mean Gate Closure time, but SLA will be against elements within DCC control
- DCC will continue to report the end-to-end gate closure time as supporting evidence, highlighting any slow user end points
- Applying the same performance levels to both Average and Peak category days simplifies the measures and removes ambiguity

Proposal

Performance Parameter	Performance Level
Average and Peak daily volume	mean time of 35 minutes or less
Average and Peak daily volume	90th percentile response time of 40 minutes or less

Definitions	$$\text{Mean Processing Complete Time} = \frac{\text{Nr Days where Processing Complete reached in} \leq 35m}{\text{Nr of Days in the Month}} \times 100$$
	$$\text{90th Percentile Processing Complete Time} = \frac{\text{Nr Days where 90th percentile Processing Complete time is} \leq 40m}{\text{Nr of Days in the Month}} \times 100$$
Targets	100% of days in month meeting each performance level
Boundaries	Targets apply where **daily** volume of **all** messages received <= 281,600 (current Peak limit)

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5 (SO) Service Levels: Switching Incidents

Current Definition

Priority	Target Response Time	Target Resolution Time
Priority 1	30 minutes	4 hours
Priority 2	1 hour	24 hours
Priority 3	3 working hours	3 working days
Priority 4	1 working day	10 working days

Proposal

- No change to response and resolution target times for any event
- Exclusions to be defined and applied (see later slides)
- Response targets are only applicable to incidents raised by Market Participants via the Switching Portal
- Incident response and resolution for ERDS and GRDS are not part of DCC's targets
- Currently implied 100% target changed to the following:

Priority	Response Target	Resolution Target
Priority 1	100%	100%
Priority 2	100%	100%
Priority 3/4	99%	90%

Key Outcomes

- DCC is only responsible for incidents that are within its control as SO and CSS provider
- Focus is maintained on high priority incidents
- Ambiguity on target levels is removed
- Applying a 90% resolution target on lower priority incidents will enable detailed investigation of P3/P4s, and will allow P1 & P2s to be prioritised. It also allows for service infancy and the associated new issues experienced and this is backed off with the supplier contracts.
- A 99% response target for lower priority incidents allows flex in scenarios where a P1/P2 has spawned a high number of P3s/P4s – enabling the service centre to focus on the core incident
- Value for Money – There would be a Commercial cost of staffing to 100% target as this is not currently in supplier contracts.

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Performance Measurement Exclusions: Context

DCC has been providing REC Manager with additional reporting, taking into account events that are outside of DCC's control, helping to provide clarity around core system performance and incident resolution. These events form an exclusions list, which is a living document that is updated in response to ongoing events and User behaviour. DCC is seeking to formalise this exclusions list and integrate it into the SLA reporting.

Exclusions are required to remove events that do not fall within the criteria for the metric calculation or are erroneous due to incorrect data entered.

There are different types of exclusions that fall into two classifications: Data Cleanse and Business Exception

- **Data Cleanse** - The Event is in scope for the Measure but is removed from the Service Level calculation because the attributes of the Event have been identified as erroneous by DCC
- **Business Exception** - The Event is in scope for the Measure but is removed from the Service Level calculation on agreement by DCC

• National Outage impacting the Internet

- Impact:
  - Target Response times failing SLA
- PMEL:
  - Events failing Target Response times during the outage removed from the calculation as part of Business Exception Rule

• System reported SLA status does not reflect the true SLA due to Incident State Change to Resolved after Service Restoration

- Impact:
  - SLA reported inaccurately
- PMEL:
  - Evidence analysed and SLA Status updated to reflect true SLA as part of Business Exception Rule

Incident Assigned to Landmark incorrectly

- Impact:
  - The Provider, Switching Operator Service Centre and Switching Operator are all measured against Incident Resolution although the provider had no intervention on support of the issue
- PMEL:
  - Removed from Landmark Resolution Calculation only as part of Data Cleanse Rule

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Performance Measurement Exclusions: Approach

All service areas

Ref	Method Title	Service Level Calculation Methodology	Applies To
PMEL1	Auto Identified Exclusions/Exceptions	Events that can be auto identified based on rules will have the PMEL Classification applied where applicable and will be removed from any Performance Measure Calculations Not included in count of Total Events regardless Event SLA Status	ALL
PMEL2	Manually Identified Exclusions/Exceptions	Events that have breached their SLA will be examined to ascertain if they meet the PMEL definition, PMEL classification applied where applicable and will be removed from any Performance Measure Calculations Missed Events analysed only	ALL
PMEL3	Manually Reviewed SLA Metric Change	Events that have breached their SLA will be examined to ascertain if the system reported SLA status reflects the true SLA - Evidence based Missed Events analysed only	ALL
PMEL4	Switching Operator Specific Exception	Incident records that have a ERDS/GRDS SLA attached Not included in count of Total Events regardless Event SLA Status	SO
PMEL5	Service Catalogue Requests	Service Catalogue Requests will be manually examined to ascertain if they should be classified as an exclusion, if applicable a PMEL Classification will be applied and will be removed from any Performance Measure Calculation Not included in count of Total Events regardless Event SLA Status	ALL

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Proposed Performance Measurement Exclusions

Incident-Related

	Title	Use Case/Justification	Related Service Definition Criteria	Identification Process	Governance Process	Exclusion Type	Approach Type
Incident	ERDS and GRDS – Attached SLA	RECCo Managed, not under DCC Control	SO 5.2.1 to 5.2.8	Automatic	DS&A	Data Cleanse	PMEL4
	Cancelled State	Cancelled	SO 5.2.1 to 5.2.8	Automatic	DS&A	Data Cleanse	PMEL1
	Duplicate Incident	Duplicate incident created	SO 5.2.1 to 5.2.8	Automatic	DS&A	Data Cleanse	PMEL1
	Raised In Error	Incident raised in error – manually or system generated	SO 5.2.1 to 5.2.8	Manual – Data Analysis	DS&A	Data Cleanse	PMEL2
	Non CSS Impacting	Issue not impacting CSS or Switches	SO 5.2.1 to 5.2.8	Manual – Data Analysis	DS&A, DCC Service Owner, ILSM	Business Exception	PMEL2
	Not SO Or Provider Responsibility	Incident raised due to message unable to be delivered - this could be due to an endpoint being down, capacity issues/scaling or a business rule failure (failed to deliver)	SO 5.2.1 to 5.2.8	Manual – Data Analysis	DS&A, DCC Service Owner, ILSM	Business Exception	PMEL2
	Catalogue Request/Service Request	Request erroneously raised in Incident module	SO 5.2.1 to 5.2.8	Manual – Data Analysis	DS&A	Data Cleanse	PMEL2

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Proposed Performance Measurement Exclusions

Incident-Related

	Title	Use Case/Justification	Related Service Definition Criteria	Identification Process	Governance	Exclusion Type	PMEL Approach
Incident	Planned Maintenance	Incident raised due to unavailability during Planned Maintenance Window	SO 5.2.1 to 5.2.8	Manual – Data Analysis	DS&A, DCC Service Owner, ILSM	Data Cleanse	PMEL2
	Event Monitoring	Alert/Alarm for Information only	SO 5.2.1 to 5.2.8	Manual – Data Analysis	DS&A	Data Cleanse	PMEL2
	Testing/Production Proving	Incident raised for testing purposes only	SO 5.2.1 to 5.2.8	Manual – Data Analysis	DS&A	Data Cleanse	PMEL2
	Known Defects	We have an open Problem Record	SO 5.2.1 to 5.2.8	Manual – Data Analysis	DS&A, DCC Service Owner, ILSM	Data Cleanse	PMEL2
	Tooling Defect/Issue	ServiceNow Configuration/Workflow Issues – This could be where an SLA has incorrectly attached, integration has failed	SO 5.2.1 to 5.2.8	Manual – Data Analysis	DS&A	Data Cleanse	PMEL2
	SLA Metric Correction	Where the System generated SLA status based on Service Restoration or Incident Response is different to actual – this could be due to incorrect tool usage	SO 5.2.1 to 5.2.8	Manual – Data Analysis	DS&A, DCC Service Owner, ILSM	Business Exception	PMEL3

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Proposed Performance Measurement Exclusions

Availability, Transaction Times

	Title	Use Case/Justification	Related Service Definition Criteria	Identification Process	Governance	Exclusion Type	PMEL Approach
Availability	Planned Maintenance	Planned Maintenance excluded from Availability Measure		Manual – Data Analysis	DS&A, DCC Service Owner, ILSM	Data Cleanse	PMEL3
Transaction Times	Planned Maintenance						
	Volumes above agreed thresholds	Message volumes beyond the agreed system capacity thresholds E.g. instances where the volume of hourly messages is over 25,300 or daily switches is over 281,600	CSS 6.1, 6.2 & 6.3 Response times	Automatic	DS&A, DCC Service Owner, ILSM	Data Cleanse	PMEL3

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Proposed Performance Measurement Exclusions

Miscellaneous

	Title	Use Case/Justification	Related Service Definition Criteria	Identification Process	Governance	Exclusion Type	PMEL Approach
Miscellaneous	Event Outside of Service Provider Control	Any 'event'/non-standard behaviour by Market Participants that negatively/positively impacts the performance metrics E.g. where user end-points are responding slowly (or not at all)	ALL	Manual – Data Analysis	DS&A, DCC Service Owner, ILSM	Business Exception	PMEL3
	Erroneous User Service Levels that indicates User issue		ALL	Manual – Data Analysis	DS&A, DCC Service Owner, ILSM	Business Exception	PMEL3
	Exceptional Industry Incidents that impact DCC Service		ALL	Manual – Data Analysis	DS&A, DCC Service Owner, ILSM	Business Exception	PMEL3
	Force Majeure		ALL	Manual – Data Analysis	DS&A, DCC Service Owner, ILSM	Business Exception	PMEL3
	Incorrect Tool Usage by Market Participants		CSS 6.1, 6.2, 6.3 & 6.5 SO 5.2.1 to 5.2.8, 5.4.1 – 5.4.4, 6.2, **6.5**	Manual – Data Analysis	DS&A, DCC Service Owner, ILSM	Data Cleanse	PMEL3

SO (DCC) Switching Service Requests

SO 5.4

Current Definition

Priority	Target Fulfilment Time
Priority 1	1 working day
Priority 2	2 working days
Priority 3	3 working days
Priority 4	10 working days

Proposal

- No change to fulfilment times for any request
- Exclusions to be defined and applied (see later slides)
- Currently implied 100% target changed to the following:

Priority	Fulfilment Target
Priority 1	100%
Priority 2	100%
Priority 3	90%
Priority 4	90%

Key Outcomes

- Align Service Request performance with Incident measures
- Focus is maintained on high priority service requests
- Ambiguity on target levels is removed
- Applying a 90% fulfilment target on lower priority requests will enable detailed responses of P3/P4s, and will allow P1 & P2s to be prioritised.
- Value for Money – There would be a Commercial cost of staffing to 100% target as this is not currently in supplier contracts.

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Proposed Performance Measurement Exclusions

Service Catalogue-Related

	Title	Use Case/Justification	Related Service Definition Criteria	Identification Process	Governance	Exclusion Type	PMEL Approach
Service Catalogue	Non Standard Service Request	Non-standard Service Requests have no defined SLAs	SO 5.4.1 – 5.4.4	Automatic and Manual – Data Analysis	DS&A	Data Cleanse	PMEL5
	Cancelled Service Request	Service Request has been cancelled	SO 5.4.1 – 5.4.4, 6.2, **6.5**	Automatic and Manual – Data Analysis	DS&A	Data Cleanse	PMEL5
	Duplicate Service Request	Duplicate Service Request created	SO 5.4.1 – 5.4.4, 6.2, **6.5**	Automatic and Manual – Data Analysis	DS&A	Data Cleanse	PMEL5
	Service Request Raised In Error	Service Request raised in error	SO 5.4.1 – 5.4.4, 6.2, **6.5**	Automatic and Manual – Data Analysis	DS&A	Data Cleanse	PMEL5
	Mandatory Information Not Supplied/Inaccurate	Information to support fulfilment not provided or inaccurate	SO 5.4.1 – 5.4.4, 6.2, **6.5**	Automatic and Manual – Data Analysis	DS&A	Data Cleanse	PMEL5
	Service Request Related to Pre Prod/Dev	Non CSS Service Impacting	SO 5.4.1 – 5.4.4, 6.2	Automatic and Manual – Data Analysis	DS&A	Data Cleanse	PMEL5

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Working Group Next Steps

Following the really positive interactive workshops -

- DCC has evolved its original set of proposals
- We believe these measures are an accurate way of measuring the customer experience; they are stretching but are also realistic

- **The members of the workgroup are asked to consider the proposals and come back to Elise with any comments and questions prior to the face to face workshop**

- **Face to Face workshop 7th September**
  - to walk through the proposals
  - agree the way forward and a set of measures we can all buy into
  - Implement into the PAB
  - DCC may need to engage Landmark and/or Capgemini on any possible system changes – need to detail a timeline plan

- **Formal agreement and sign off**

As a workgroup we should then do a final review / tidy up of all the PAB measures to ensure we have set the legacy for success in the future across CSS.

Appendix

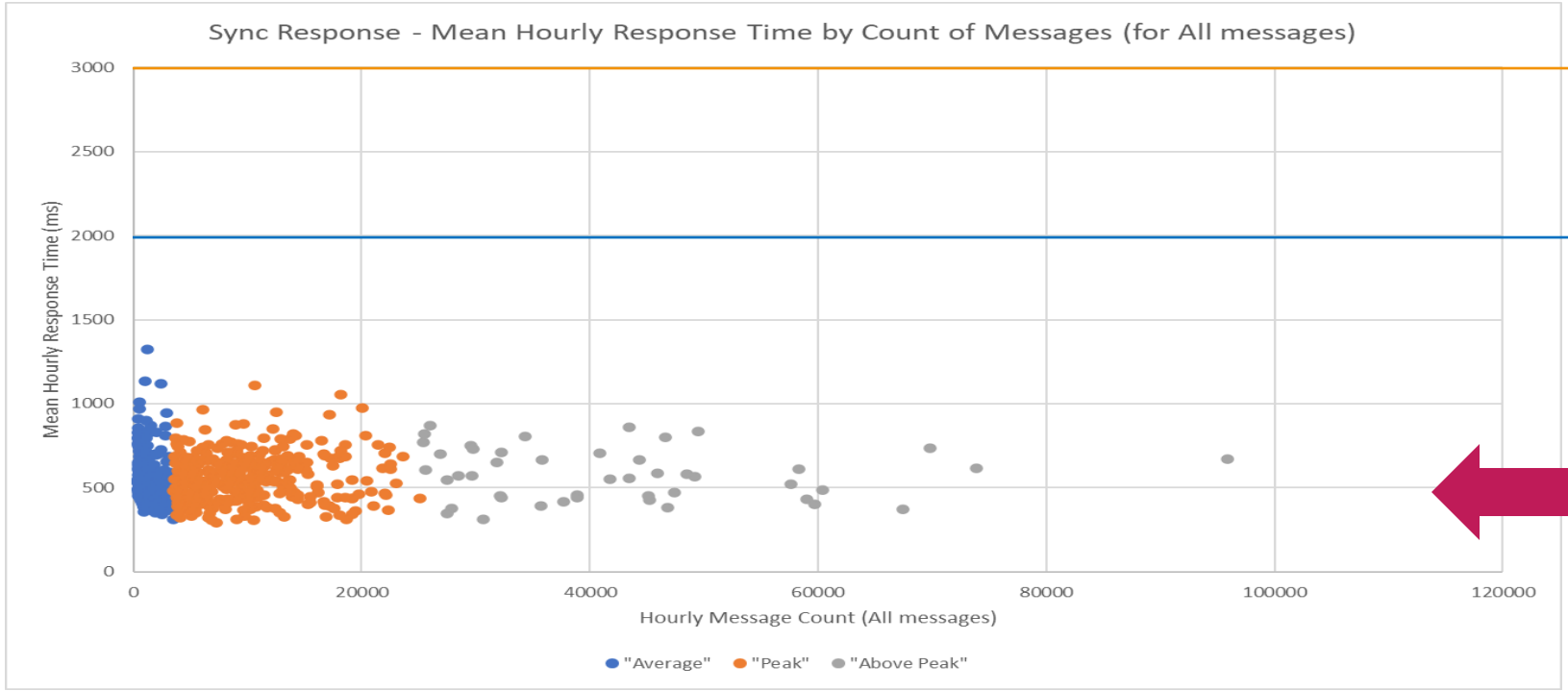
Previously presented supporting slides

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1506_02 - Synchronous Response – Mean Hourly Response for ALL messages

Action 1506_02: The DCC to confirm the required timescales to process synchronous and asynchronous responses during peak demand volumes.

The data below shows the Mean hourly response for ALL message types in May 2023. It shows that there is no obvious correlation between mean response time and the volume of messages processed in any hourly period.



3-second Target for Peak Hours

2-second Target for Average Hours

Each dot represents an hour.
The position of the dot on the y-axis (time) does not depend on the message volume in that hour (x-axis)

Average hour = 0 - 3,500 messages; Peak = 3,501 - 25,300; Above Peak = 25,301+

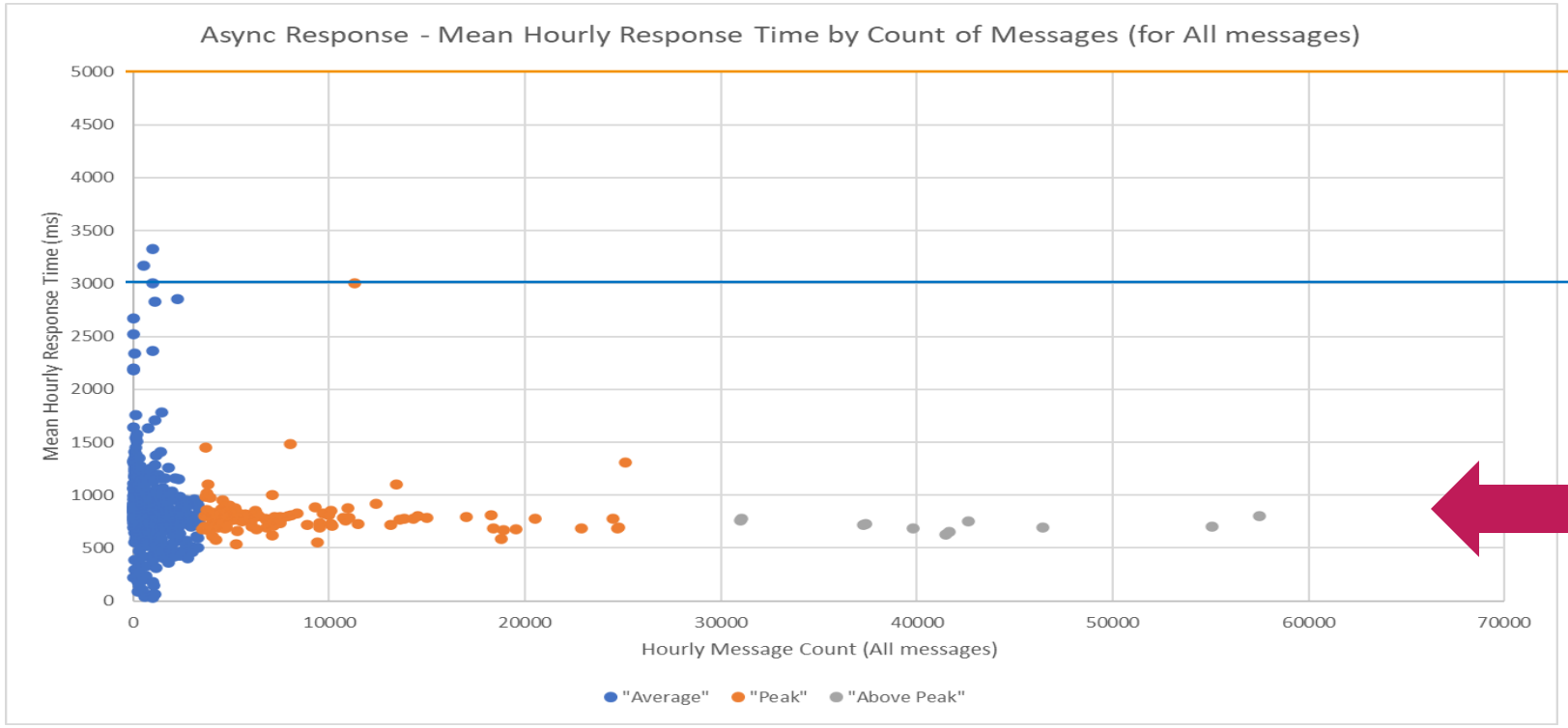
DCC Controlled

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1506_02 - Asynchronous Response – Mean Hourly Response for ALL messages

Action 1506_02: The DCC to confirm the required timescales to process synchronous and asynchronous responses during peak demand volumes.

The data below shows the Mean hourly response for ALL message types in May 2023. It shows that there is no obvious correlation between response time and the volume of messages processed in any hourly period.



5-second Target for Peak Hours

3-second Target for Average Hours

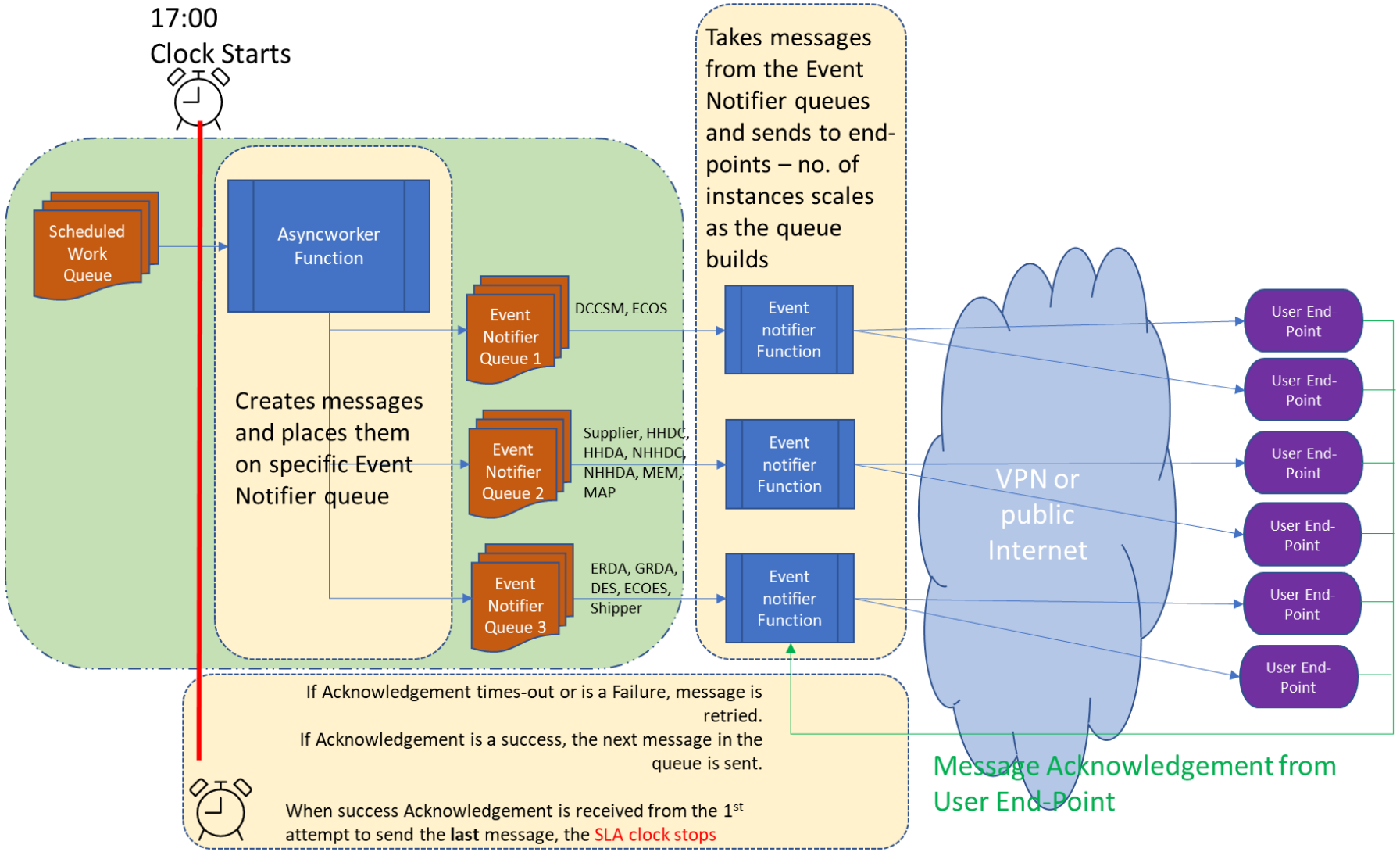
Each dot represents an hour.
The position of the dot on the y-axis (time) does not depend on the message volume in that hour (x-axis)

Average hour = 0 - 3,500 messages; Peak = 3,501 - 25,300; Above Peak = 25,301+

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1506_04 – Gate Closure Diagram

Action 1506_04 DCC to produce a slide demonstrating the dependencies on user response vs dependencies on the DCC to complete processes regarding gate closure



Boundary of DCC's exclusive control

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1506_03 – Time for CSS Instances to Scale-Up

Action 1506_03: The DCC to confirm how long in-hour scaling processes takes to account for unexpected peak volumes.

Microsoft (Azure) do not provide scaling timescales for new function instances, nor do they publish the scaling algorithms.

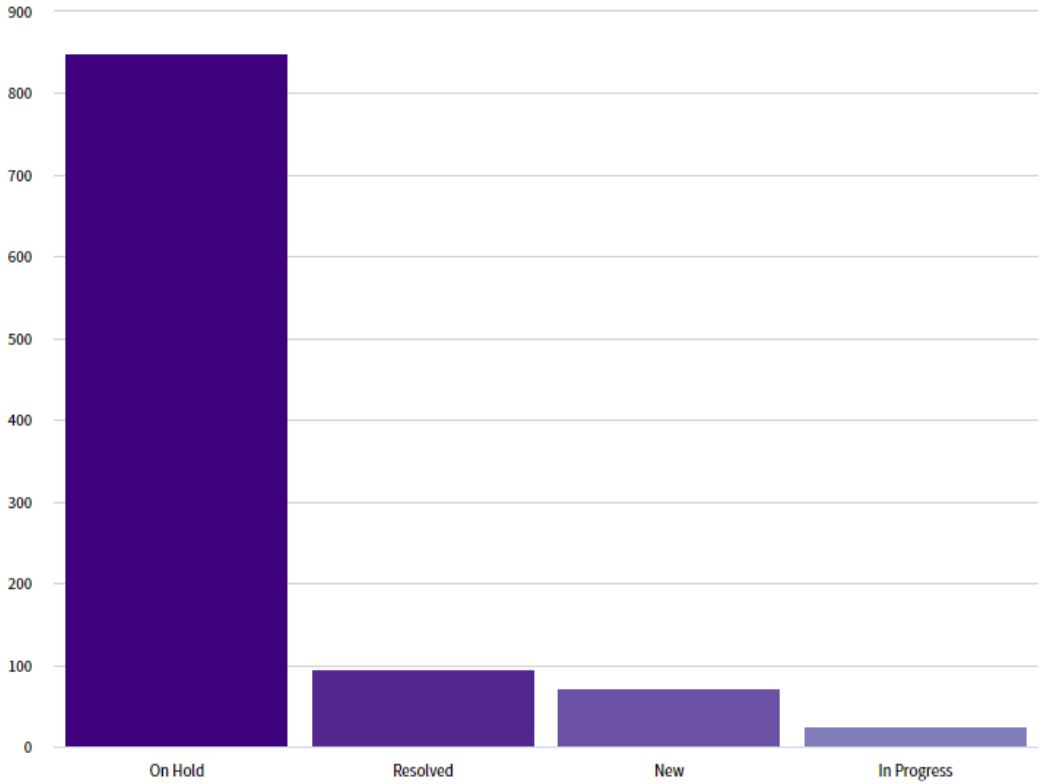
CSS can specify the **minimum** number of function instances. This is currently set at 4 per data centre (8 in total).

Microsoft keep an **equivalent** number of function instances in the background ready to add – effectively on **hot standby**. Adding these in is a matter of seconds (exact timing is not known).
We can therefore scales from 4 to 8 instances per site quickly (but still in the same order as a 2-second SLA).

Scaling **beyond** the number of instances on hot standby takes longer. Again, MS do not specify and we can only sample at minute intervals. We see it scales-up **within a minute** but exact timing is not known.
Increases in demand of this type will not achieve the SLA.

Snapshot view of the open Incidents by state and priority as of 22/06

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State	Incident Count	Percentage of Count
On Hold	849	81.48%
Resolved	95	9.12%
New	72	6.91%
In Progress	26	2.5%
Total	1,042	100%

Priority Totals		Incident Count Totals	Percentage of Count
4 - Low Total		1,031	98.94%
3 - Moderate Total		11	1.06%
Priority	State	Incident Count	Percentage of Count
4 - Low	New	71	6.89%
	In Progress	23	2.23%
	On Hold	844	81.86%
	Resolved	93	9.02%
3 - Moderate	New	1	9.09%
	In Progress	3	27.27%
	On Hold	5	45.45%
	Resolved	2	18.18%
Total		1,042	100%

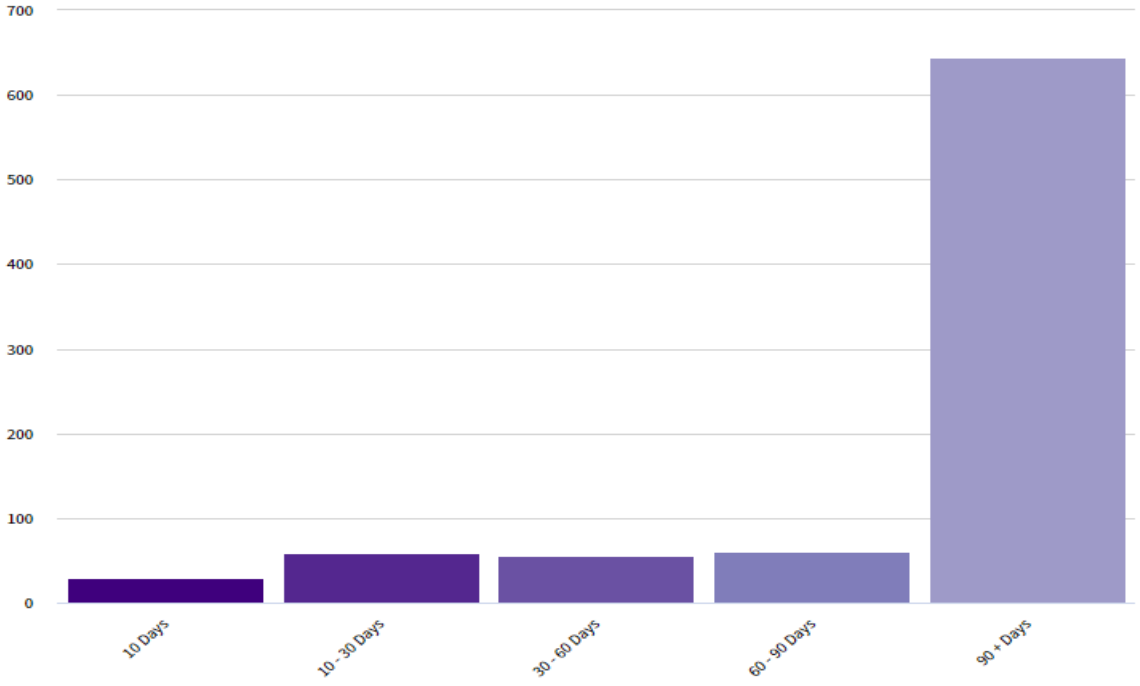
Summary

As of 22/06 there are 1042 incidents in an open state which includes “Resolved” as incidents stay in this state for 3 days to allow users to reject the resolution provided.

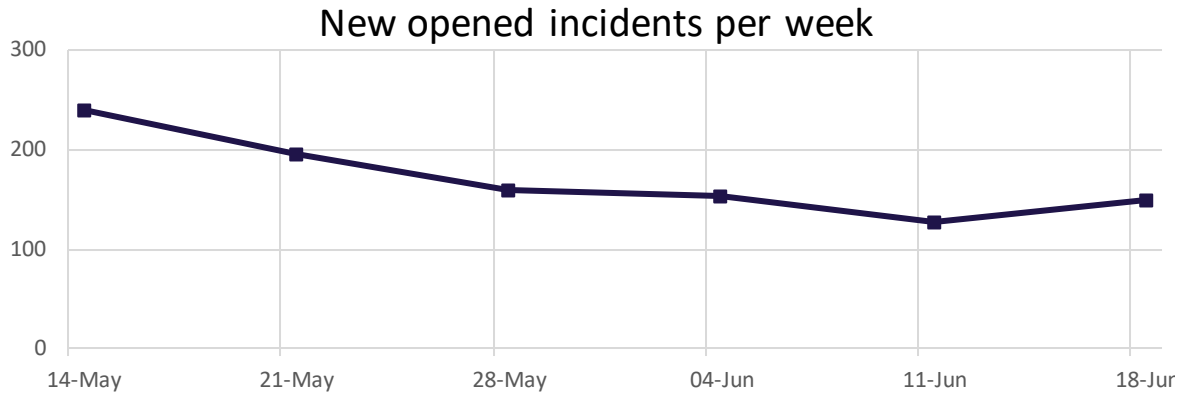
Within this stage 849 are on hold with a market participant, New and In progress states are used for DNO’s and other licensed parties.

Out of the 1042, 98.94% of these are P4 incidents, 1.06% are P3 and we have no current major incidents open.

A view of trending of new incidents coming into the desk and age of current on hold incidents



Created	Incident Count	Percentage of Count
10 Days	29	3.42%
10 - 30 Days	59	6.95%
30 - 60 Days	55	6.48%
60 - 90 Days	61	7.18%
90 + Days	645	75.97%
Total	849	100%



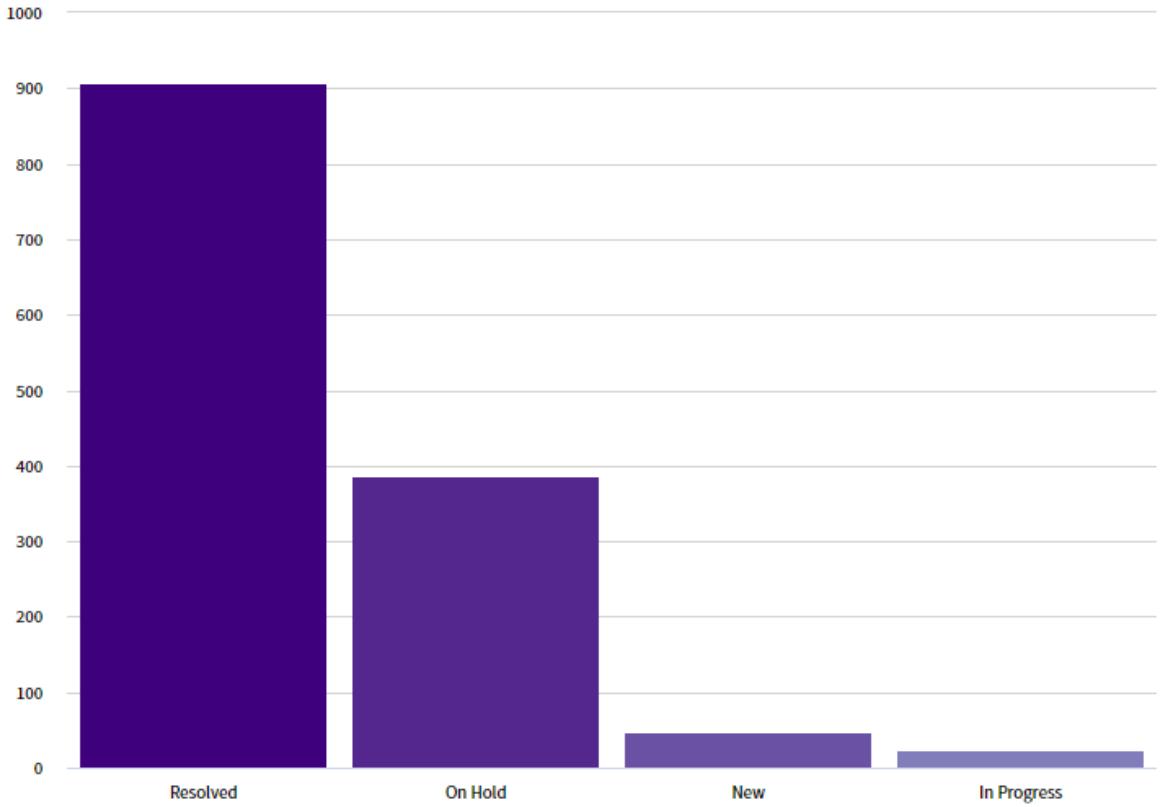
Commentary

Between the 12th June and 18th of June we have received 150 Incidents

101 were related to Error API.
15 were related to Failed Registration.
11 were related to One or more CSS business validation errors
With the remainder being across several areas.

To the left the graph is showing the age of incidents which are currently on hold awaiting a market participant response.

Snapshot view of the open Incidents by state and priority as of 28/06



State	Incident Count	Percentage of Count
Resolved	907	66.5%
On Hold	386	28.3%
New	48	3.52%
In Progress	23	1.69%
Total	1,364	100%

State	Priority	Incident Count	Percentage of Count
Resolved	2 - High	1	0.11%
	3 - Moderate	1	0.11%
	4 - Low	905	99.78%
On Hold	3 - Moderate	4	1.04%
	4 - Low	382	98.96%
New	3 - Moderate	2	4.17%
	4 - Low	46	95.83%
In Progress	3 - Moderate	3	13.04%
	4 - Low	20	86.96%
Total		1,364	100%

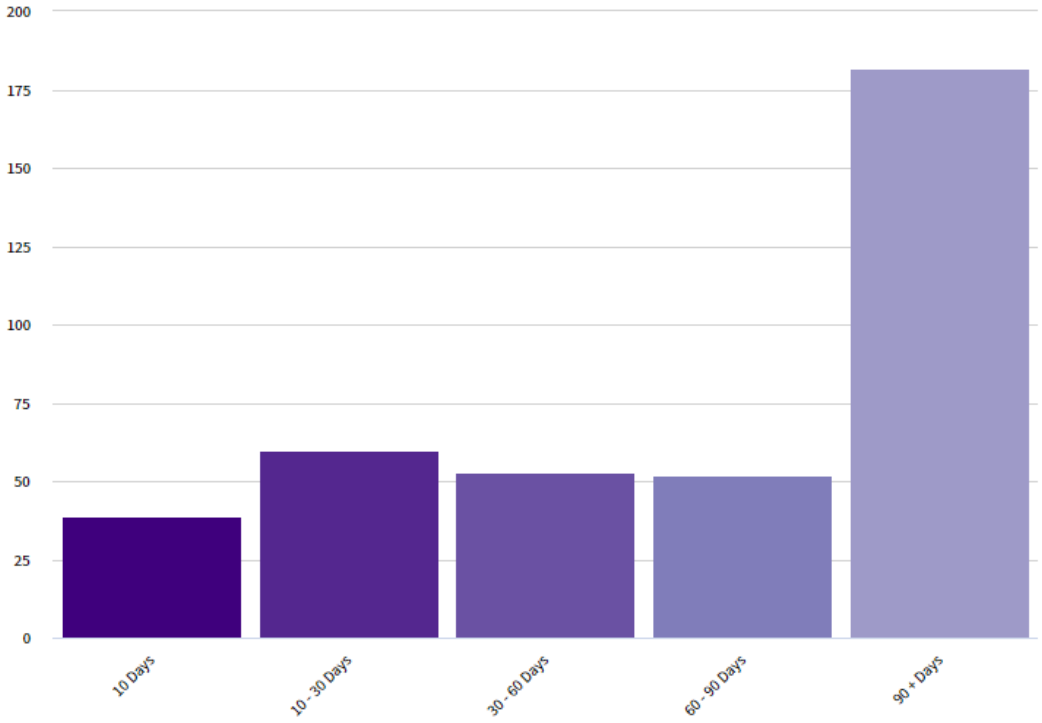
Summary

As of 28/06 there are 1364 incidents in an open state which includes “Resolved” as incidents stay in this state for 3 days to allow users to reject the resolution provided.

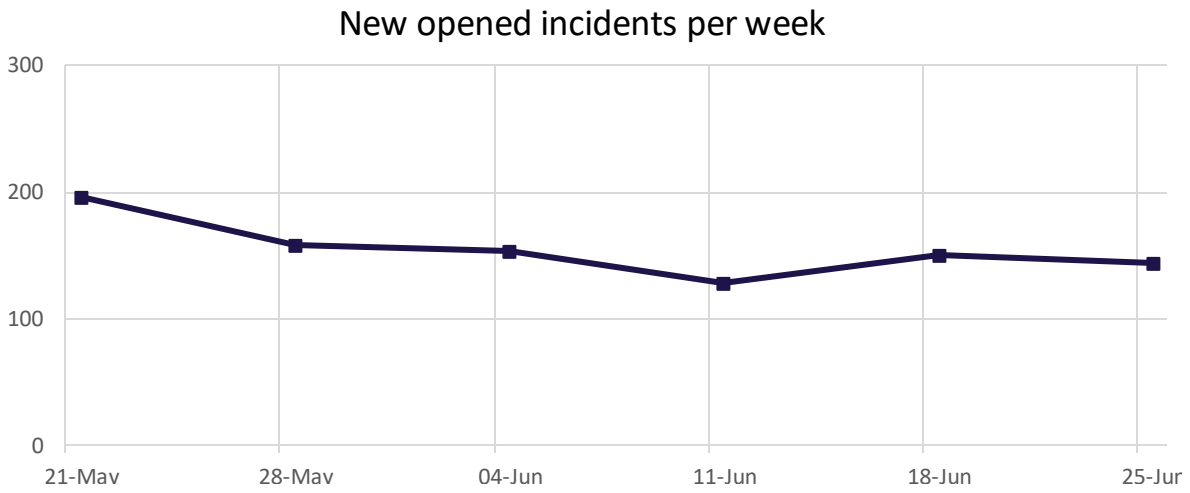
Within this stage 386 are on hold with a market participant, New and In progress states are used for DNO’s and other licensed parties.

Out of the 1364, 98.98% of these are P4 incidents, 1.02% are P3 and we have one current major incident open.

A view of trending of new incidents coming into the desk and age of current on hold incidents



Created	Incident Count	Percentage of Count
10 Days	39	10.1%
10 - 30 Days	60	15.54%
30 - 60 Days	53	13.73%
60 - 90 Days	52	13.47%
90 + Days	182	47.15%
Total	386	100%



Commentary

Between the 19th June and 25th of June we have received 144 Incidents

- 75 were related to Error API.
- 14 were related to Failed Registration.
- 29 were related to One or more CSS business validation errors
- With the remainder being across several areas.

To the left the graph is showing the age of incidents which are currently on hold awaiting a market participant response.

The largest contributing party to the on-hold queue (500 incidents) confirmed closure this week.