ΥΠΗΡΕΣΙΑ ΣΥΣΤΗΜΑΤΩΝ ΠΛΗΡΟΦΟΡΙΚΗΣ ΚΑΙ ΤΕΧΝΟΛΟΓΙΑΣ
INFORMATION SYSTEM AND TECHNOLOGY

ΣΗΜΕΙΩΜΑ

ΠΡΟΣ: Πρόεδρο και Μέλη Επιτροπής Προσφορών

ΑΠΟ: Θεόδοτο Ανδρέου, Συντονιστή Επιτροπής Αξιολόγησης

ΜΕΣΩ.: Προϊσταμένου ΥΣΠΤ

ΗΜΕΡ.: 31 Οκτωβρίου 2016

ΘΕΜΑ: **Έκθεση Αξιολόγησης Διαγωνισμού αρ. ΥΣΠΤ(1)/002/2016 που αφορά στην αναβάθμιση ή/και αντικατάσταση του Κεντρικού Συστήματος Αποθήκευσης δεδομένων (Consolidated Storage System) του Τεχνολογικού Πανεπιστημίου Κύπρου**

Παρακαλώ όπως συμπεριληφθεί στην ημερήσια διάταξη της επόμενης συνεδρίας της Επιτροπής Προσφορών η επισυναπτόμενη έκθεση αξιολόγησης του αναφερόμενου διαγωνισμού.

Έκθεση Αξιολογησης

(ΑΝΟΙΚΤΗ ΔΙΑΔΙΚΑΣΙΑ – ΕΝΑΣ ΦΑΚΕΛΟΣ)

Διαγωνισμος αρ. ΥΣΠΤ(1)/002/2016 που αφορα στην αναβαθμιση η/και αντικατασταση του Κεντρικου Συστηματος Αποθηκευσης Δεδομενων (Consolidated Storage System) του Τεχνολογικου Πανεπιστημιου Κυπρου

ΟΚΤΩΒΡΙΟΥ 2016

ΠΕΡΙΕΧΟΜΕΝΑ

ΕΚΘΕΣΗ ΑΞΙΟΛΟΓΗΣΗΣ

1. ΓΕΝΙΚΑ ΣΤΟΙΧΕΙΑ

1.1 Στοιχεία διαγωνισμού

Αριθμός διαγωνισμού:	ΥΣΠΤ(1)/002/2016

Τίτλος διαγωνισμού:	Διαγωνισμός που αφορά στην αναβάθμιση ή/και αντικατάσταση του Κεντρικού Συστήματος Αποθήκευσης Δεδομένων (Consolidated Storage System) του Τεχνολογικού Πανεπιστημίου Κύπρου

Προϋπολογισμός:	Εκατό Ενενήντα Πέντε Χιλιάδες Ευρώ (€195.000,00) ευρώ μη συμπεριλαμβανομένου του Φ.Π.Α.
Αναθέτουσα Αρχή:	Τεχνολογικό Πανεπιστήμιο Κύπρου
Είδος Σύμβασης:	Προμήθεια
Διαδικασία:	Ανοικτή Διαδικασία
Κριτήριο Ανάθεσης:	Χαμηλότερη τιμή

Ημερομηνία προκήρυξης:	22/09/2016	Ημερομηνία και ώρα λήξης προθεσμίας υποβολής προσφορών:	24/10/2016 και ώρα 12:30 μ.μ	Ημερομηνία λήξης ισχύος προσφορών:	23/1/2017 (Τρείς (3) μήνες)

1.2 Αρμόδιο Όργανο Αξιολόγησης

Συντονιστής Αρμοδίου Οργάνου:	*Θεόδοτος Ανδρέου, Λειτουργός Πανεπιστημίου*
Μέλος Αρμοδίου Οργάνου:	*Γιούλα Ιωαννίδου, Βοηθός Μηχανογράφησης*
Μέλος Αρμοδίου Οργάνου:	*Σωτήρης Κουλλαπής, Λειτουργός Πανεπιστημίου*
Μέλος Αρμοδίου Οργάνου:	*Δημήτρης Πιπερής, Λειτουργός Πανεπιστημίου*

1.3 Υποβληθείσες προσφορές

Α/Α	ΕΠΩΝΥΜΙΑ ΟΙΚΟΝΟΜΙΚΟΥ ΦΟΡΕΑ
1.	**Mechatronic Ltd**

2. ΕΚΘΕΣΗ ΠΟΙΟΤΙΚΗΣ ΕΠΙΛΟΓΗΣ

2.1 Συναντήσεις

Βάσει των κανονισμών περί Δημοσίων Συμβάσεων (Κ.Δ.Π.242/2012) ζητήθηκε όπως τα πιο κάτω άτομα παραστούν ως παρατηρητές στην πιο κάτω συνεδρία της Επιτροπής Αξιολόγησης:

- Γενική Λογίστρια της Κυπριακής Δημοκρατίας
- Γενική Ελέγκτρια της Κυπριακής Δημοκρατίας και
- Εσωτερικό Ελεγκτή του Τεχνολογικού Πανεπιστημίου Κύπρου.

(*Δες **Παράρτημα Α**: Επιστολή πρόσκλησης και **Παράρτημα Γ**: Πρακτικά συνάντησης Επιτροπής Αξιολόγησης*)

Α/Α	ΗΜΕΡΟΜΗΝΙΑ	ΩΡΑ	ΤΟΠΟΣ	ΗΜΕΡΗΣΙΑ ΔΙΑΤΑΞΗ
1.	26/10/2016	09:00	Γραφεία Υπηρεσίας Συστημάτων Πληροφορικής και Τεχνολογίας, *(2ος Όροφος, Ανεξαρτησίας 187, Λεμεσός.)*	1. Ενημέρωση για την παραλαβή όλων των απαραίτητων πληροφοριών. 2. Προκαταρκτική εξέταση πληρότητας προσφορών 3. Έλεγχος τυπικών προϋποθέσεων συμμετοχής 4. Έλεγχος πλήρωσης κριτηρίων ποιοτικής επιλογής 4.1 Έλεγχος προσωπικής κατάστασης 4.2 Έλεγχος οικονομικής και χρηματοοικονομικής επάρκειας 4.3 Έλεγχος τεχνικών και επαγγελματικών ικανοτήτων 5. Σύνταξη έκθεσης ποιοτικής αξιολόγησης

2.2 Προκαταρκτική εξέταση πληρότητας προσφορών

Κατά το στάδιο αυτό της Αξιολόγησης, εξετάστηκαν οι υποβληθείσες προσφορές, με βάση τον πιο κάτω πίνακα:

ΠΡΟΚΑΤΑΡΚΤΙΚΗ ΕΞΕΤΑΣΗ ΠΛΗΡΟΤΗΤΑΣ ΠΡΟΣΦΟΡΩΝ	
ΑΠΑΙΤΗΣΕΙΣ ΕΓΓΡΑΦΩΝ ΔΙΑΓΩΝΙΣΜΟΥ	*ΠΛΗΡΩΣΗ ΑΠΑΙΤΗΣΕΩΝ*
	Mechatronic Ltd
1 ΠΡΩΤΟΤΥΠΟ ΚΑΙ 2 ΑΝΤΙΓΡΑΦΑ	✓
ΜΟΝΟΓΡΑΦΗ ΤΗΣ ΚΑΘΕ ΣΕΛΙΔΑΣ, ΣΥΜΠΕΡΙΛΑΜΒΑΝΟΜΕΝΩΝ ΚΑΙ ΤΩΝ ΕΝΤΥΠΩΝ, ΑΠΟ ΤΟΝ ΠΡΟΣΦΕΡΟΝΤΑ Ή ΕΚΠΡΟΣΩΠΟ ΤΟΥ *(Σε περιπτώσεις βιβλιοδετημένων στοιχείων μπορεί να μονογραφηθεί μόνο η πρώτη και η τελευταία σελίδα)*	✓
ΣΥΜΠΛΗΡΩΣΗ ΚΑΙ ΥΠΟΓΡΑΦΗ ΕΝΤΥΠΟΥ ΤΕΧΝΙΚΗΣ ΠΡΟΣΦΟΡΑΣ ΕΝΤΥΠΟ 1	✓
ΣΥΜΠΛΗΡΩΣΗ ΠΙΝΑΚΑ ΠΡΟΣΦΟΡΑΣ ΚΑΙ ΣΥΜΜΟΡΦΩΣΗΣ ΜΕ ΤΙΣ ΤΕΧΝΙΚΕΣ ΠΡΟΔΙΑΓΡΑΦΕΣ (ΕΝΤΥΠΟ 8)	✓ (βλ. σημείο 1)
ΣΥΜΠΛΗΡΩΣΗ ΚΑΙ ΥΠΟΓΡΑΦΗ ΕΝΤΥΠΟΥ ΟΙΚΟΝΟΜΙΚΗΣ ΠΡΟΣΦΟΡΑΣ (ΕΝΤΥΠΟ 11)	✓
ΚΑΤΑΛΟΓΟΙ / ΦΥΛΛΑΔΙΑ ΚΑΤΑΣΚΕΥΑΣΤΩΝ	✓
ΨΗΦΙΑΚΟ ΜΕΣΟ (CD) για την τεχνική προσφορά (εάν εφαρμόζεται)	✓
ΨΗΦΙΑΚΟ ΜΕΣΟ (CD) για την οικονομική προσφορά (εάν εφαρμόζεται)	✓

Οι προσφορές ελέγχθηκαν για την πληρότητα σύμφωνα με τον πιο πάνω πίνακα προκαταρκτικής εξέτασης πληρότητας προσφορών. Διαπιστώθηκαν τα πιο κάτω:

Σημείο 1: Mechatronic Ltd*: Διαπιστώθηκαν τα πιο κάτω:*

- Στο σημείο με Α/Α 2.99 η στήλη «Response – Offer» δεν συμπληρώθηκε, ενώ υπάρχει αναφορά σε Τεχνικό Φυλλάδιο που υποστηρίζει ότι πληρείται η προδιαγραφή.
- Στο σημείο με Α/Α 3.14 η στήλη «Response – Offer» δεν συμπληρώθηκε, ενώ υπάρχει αναφορά σε Τεχνικό Φυλλάδιο που υποστηρίζει ότι πληρείται η προδιαγραφή.
- Στο σημείο με Α/Α 3.16 δεν συμπληρώθηκε η στήλη «Requirement» δεν συμπληρώθηκε, ενώ η στήλη «Response - Offer» και η στήλη «Reference» συμπληρώθηκε και αναφέρεται πως πληροί την προδιαγραφή.
- Στο σημείο με Α/Α 3.17 δεν συμπληρώθηκε η στήλη «Requirement» δεν συμπληρώθηκε, ενώ η στήλη «Response - Offer» και η στήλη «Reference» συμπληρώθηκε και αναφέρεται πως πληροί την προδιαγραφή.
- Στο σημείο με Α/Α 3.29 δεν συμπληρώθηκε η στήλη «Response - Offer» όπως και η στήλη «Reference».

Η Επιτροπή Αξιολόγησης εξακρίβωσε πως όλες οι πιο πάνω προδιαγραφές πληρούνται και αποφάσισε όπως σταλεί διευκρίνιση στον Προσφέροντα σύμφωνα με τον Μέρος Α παράγραφός 9.5 των εγγράφων του Διαγωνισμού. Η διευκρίνιση στάλθηκε στις 26/10/2016 11:59 π.μ. (Παράρτημα Β).

2.3 Έλεγχος τυπικών προϋποθέσεων συμμετοχής

Κατά το στάδιο αυτό έγινε έλεγχος των τυπικών προϋποθέσεων συμμετοχής, όπως αυτές φαίνονται στον πιο κάτω Πίνακα και περιγράφονται στα Έγγραφα του Διαγωνισμού. Δεν διαπιστώθηκαν οποιεσδήποτε αποκλίσεις από τις προϋποθέσεις που ζητούνταν στα έγγραφα του διαγωνισμού.

ΕΛΕΓΧΟΣ ΤΥΠΙΚΩΝ ΠΡΟΫΠΟΘΕΣΕΩΝ ΣΥΜΜΕΤΟΧΗΣ	
ΑΠΑΙΤΗΣΕΙΣ ΕΓΓΡΑΦΩΝ ΔΙΑΓΩΝΙΣΜΟΥ	*ΠΛΗΡΩΣΗ ΑΠΑΙΤΗΣΕΩΝ*
	Mechatronic Ltd
ΕΓΓΥΗΣΗ ΣΥΜΜΕΤΟΧΗΣ / ΕΝΤΥΠΟ «ΔΕΣΜΕΥΣΗ ΜΗ ΑΠΟΣΥΡΣΗΣ ΠΡΟΣΦΟΡΑΣ (ΕΝΤΥΠΟ 2)	✓
ΧΩΡΑ ΕΓΚΑΤΑΣΤΑΣΗΣ	Κύπρος
ΑΠΟΔΕΙΚΤΙΚΑ ΣΤΟΙΧΕΙΑ ΣΥΣΤΑΣΗΣ ΕΤΑΙΡΕΙΑΣ	✓
ΕΝΤΥΠΟ «ΣΤΟΙΧΕΙΑ ΚΑΤΑΣΚΕΥΑΣΤΗ»	✓
ΔΙΚΑΙΩΜΑ ΥΠΟΓΡΑΦΗΣ	✓

2.4 Έλεγχος πλήρωσης κριτηρίων ποιοτικής επιλογής

2.4.1 Έλεγχος προσωπικής κατάστασης

Στο στάδιο αυτό η Επιτροπή Αξιολόγησης προχώρησε στον Έλεγχο της προσωπικής κατάστασης των προσφερόντων σύμφωνα με τα στοιχεία του πιο κάτω Πίνακα:

ΕΛΕΓΧΟΣ ΠΡΟΣΩΠΙΚΗΣ ΚΑΤΑΣΤΑΣΗΣ	
ΑΠΑΙΤΗΣΕΙΣ ΕΓΓΡΑΦΩΝ ΔΙΑΓΩΝΙΣΜΟΥ	*ΠΛΗΡΩΣΗ ΑΠΑΙΤΗΣΕΩΝ*
	Mechatronic Ltd
ΔΗΛΩΣΗ ΠΙΣΤΟΠΟΙΗΣΗΣ ΠΡΟΣΩΠΙΚΗΣ ΚΑΤΑΣΤΑΣΗΣ ΠΡΟΣΦΕΡΟΝΤΑ (ΕΝΤΥΠΟ 3)	✓
ΒΕΒΑΙΩΣΗ ΣΧΕΤΙΚΑ ΜΕ ΤΗΝ ΠΡΟΣΤΑΣΙΑ ΤΩΝ ΕΡΓΑΖΟΜΕΝΩΝ (ΕΝΤΥΠΟ 7)	✓

Κατά τον έλεγχο αυτό δεν διαπιστώθηκαν οποιεσδήποτε αποκλίσεις από τις προϋποθέσεις που ζητούνταν στα έγγραφα του διαγωνισμού.

2.4.2 Έλεγχος Οικονομικής και Χρηματοοικονομικής Επάρκειας

Στο στάδιο αυτό η Επιτροπή Αξιολόγησης προχώρησε στον Έλεγχο της Οικονομικής και Χρηματοοικονομικής Επάρκειας των προσφερόντων σύμφωνα με τα στοιχεία του πιο κάτω Πίνακα:

ΕΛΕΓΧΟΣ ΟΙΚΟΝΟΜΙΚΗΣ ΚΑΙ ΧΡΗΜΑΤΟΟΙΚΟΝΟΜΙΚΗΣ ΕΠΑΡΚΕΙΑΣ	
ΑΠΑΙΤΗΣΕΙΣ ΕΓΓΡΑΦΩΝ ΔΙΑΓΩΝΙΣΜΟΥ	*ΠΛΗΡΩΣΗ ΑΠΑΙΤΗΣΕΩΝ*
	Mechatronic Ltd
ΟΡΘΟΤΗΤΑ ΜΕΤΑΦΟΡΑΣ ΤΩΝ ΣΤΟΙΧΕΙΩΝ ΤΩΝ ΟΙΚΟΝΟΜΙΚΩΝ ΚΑΤΑΣΤΑΣΕΩΝ ΣΤΟΝ ΠΙΝΑΚΑ ΤΕΚΜΗΡΙΩΣΗΣ ΤΗΣ ΟΙΚΟΝΟΜΙΚΗΣ ΚΑΙ ΧΡΗΜΑΤΟΟΙΚΟΝΟΜΙΚΗΣ ΕΠΑΡΚΕΙΑΣ (ΕΝΤΥΠΟ 4)	✓
ΕΚΠΛΗΡΩΣΗ ΤΗΣ ΑΠΑΙΤΗΣΗΣ ΕΛΑΧΙΣΤΟΥ ΜΕΣΟΥ ΚΥΚΛΟΥ ΕΡΓΑΣΙΩΝ ΤΑ ΤΡΙΑ (3) ΤΕΛΕΥΤΑΙΑ ΟΙΚΟΝΟΜΙΚΑ ΕΤΗ ΤΟΥΛΑΧΙΣΤΟΝ €310.500.	✓

ΤΑ ΤΕΛΕΥΤΑΙΑ ΤΡΙΑ (3) ΧΡΟΝΙΑ (2013, 2014, 2015), ΝΑ ΗΤΑΝ ΔΡΩΣΑ ΚΑΙ ΟΙΚΟΝΟΜΙΚΑ ΕΥΡΩΣΤΗ ΕΠΙΧΕΙΡΗΜΑΤΙΚΗ ΜΟΝΑΔΑ	✓
ΥΠΑΡΞΗ ΑΝΤΙΓΡΑΦΩΝ Η ΑΠΟΣΠΑΣΜΑΤΩΝ ΕΛΕΓΜΕΝΩΝ ΟΙΚΟΝΟΜΙΚΩΝ ΚΑΤΑΣΤΑΣΕΩΝ	✓

Κατά τον έλεγχο της Οικονομικής και Χρηματοοικονομικής Επάρκειας δεν διαπιστώθηκαν οποιεσδήποτε αποκλίσεις από τις προϋποθέσεις που ζητούνταν στα έγγραφα του διαγωνισμού από τους Οικονομικούς Φορείς.

2.4.3 Έλεγχος τεχνικών και επαγγελματικών ικανοτήτων

Στο στάδιο αυτό η Επιτροπή Αξιολόγησης προχώρησε στον έλεγχο των τεχνικών και επαγγελματικών ικανοτήτων των προσφερόντων σύμφωνα με τα στοιχεία του πιο κάτω Πίνακα:

ΕΛΕΓΧΟΣ ΤΕΧΝΙΚΩΝ ΚΑΙ ΕΠΑΓΓΕΛΜΑΤΙΚΩΝ ΙΚΑΝΟΤΗΤΩΝ		
ΑΠΑΙΤΗΣΕΙΣ ΕΓΓΡΑΦΩΝ ΔΙΑΓΩΝΙΣΜΟΥ		*ΠΛΗΡΩΣΗ ΑΠΑΙΤΗΣΕΩΝ*
		Mechatronic Ltd
1.	ΥΠΑΡΞΗ ΣΥΜΠΛΗΡΩΜΕΝΟΥ ΤΟΥ ΠΙΝΑΚΑ ΤΕΚΜΗΡΙΩΣΗΣ ΤΩΝ ΤΕΧΝΙΚΩΝ ΚΑΙ ΕΠΑΓΓΕΛΜΑΤΙΚΩΝ ΙΚΑΝΟΤΗΤΩΝ (ΕΝΤΥΠΟ 5)	✓
2.	ΔΗΛΩΣΗ Η ΟΠΟΙΑ ΝΑ ΠΑΡΕΧΕΙ ΓΕΝΙΚΕΣ ΠΛΗΡΟΦΟΡΙΕΣ ΓΙΑ ΤΑ ΑΚΟΛΟΥΘΑ ΧΑΡΑΚΤΗΡΙΣΤΙΚΑ ΤΟΥ ΠΡΟΣΦΕΡΟΝΤΑ: - ΕΠΙΧΕΙΡΗΜΑΤΙΚΗ ΔΟΜΗ - ΤΟΜΕΙΣ ΔΡΑΣΤΗΡΙΟΤΗΤΑΣ, - ΠΑΡΕΧΟΜΕΝΕΣ ΥΠΗΡΕΣΙΕΣ, - ΕΓΚΑΤΑΣΤΑΣΕΙΣ ΚΑΙ ΕΞΟΠΛΙΣΜΟΣ	✓
3.	Ο ΑΡΙΘΜΟΣ ΤΩΝ ΜΟΝΙΜΩΝ ΕΡΓΟΔΟΤΟΥΜΕΝΩΝ ΑΠΟ ΤΟΝ ΕΝΔΙΑΦΕΡΟΜΕΝΟ ΟΙΚΟΝΟΜΙΚΟ ΦΟΡΕΑ ΦΥΣΙΚΩΝ ΠΡΟΣΩΠΩΝ, ΚΑΤΑ ΜΕΣΟ ΟΡΟ ΤΗΝ ΤΕΛΕΥΤΑΙΑ ΤΡΙΕΤΙΑ, ΔΕΝ ΠΡΕΠΕΙ ΝΑ ΕΙΝΑΙ ΜΙΚΡΟΤΕΡΟΣ ΑΠΟ ΠΕΝΤΕ (5)	✓
4.	ΚΑΤΑΛΟΓΟ 10 ΤΟ ΠΟΛΥ ΣΥΜΒΑΣΕΩΝ	✓
5.	ΣΤΟΙΧΕΙΑ ΤΕΚΜΗΡΙΩΣΗΣ ΤΗΣ ΕΠΙΤΥΧΟΥΣ ΥΛΟΠΟΙΗΣΗΣ ΤΩΝ ΣΥΜΒΑΣΕΩΝ Να έχει ολοκληρώσει επιτυχώς κατά τα τελευταία τρία (3) έτη, τουλάχιστον δύο (2) συμβάσεις, προϋπολογισμού δαπάνης που ανέρχεται τουλάχιστον στο 90% του Προϋπολογισμού της Σύμβασης, με αντικείμενο την προμήθεια και συντήρηση κεντρικού συστήματος αποθήκευσης δεδομένων (data storage system) ή την προμήθεια και συντήρηση εξυπηρετητών που να περιλαμβάνει και κεντρικό σύστημα αποθήκευσης δεδομένων (data storage system) και με ποσοστό συμμετοχής τουλάχιστον 70%. Η έννοια του όρου «ολοκληρώσει» σημαίνει κατά ποσοστό	✓

	υλοποίησης της σύμβασης τουλάχιστον 80%.	
6.	Ο Προσφέροντας θα πρέπει να υποβάλει βεβαίωση ότι είναι επίσημος συνεργάτης (Registered Partner) με το κατασκευαστή, ή με τους κατασκευαστές, όλων των προϊόντων που προτείνει και που περιλαμβάνονται στο Έντυπο 8 του Διαγωνισμού ("Primary Site Storage System", "Secondary Site Storage System", "Backup and Recovery Software", "Backup and Recovery Server").	✓
7.	ΚΑΤΑΛΛΗΛΟΤΗΤΑ ΒΑΣΙΚΩΝ ΕΜΠΕΙΡΟΓΝΩΜΟΝΩΝ ΤΗΣ ΟΜΑΔΑΣ ΈΡΓΟΥ ΜΕ ΒΑΣΗ ΤΑ ΒΙΟΓΡΑΦΙΚΑ ΤΟΥΣ ΣΗΜΕΙΩΜΑΤΑ (ΕΝΤΥΠΟ 6, ΕΝΤΥΠΟ 10)	✓

2.5 Κατάσταση οικονομικών φορέων που προχωρούν / δεν προχωρούν στο στάδιο της τεχνικής αξιολόγησης

Η Επιτροπή Αξιολόγησης μετά τους πιο πάνω ελέγχους αποφάσισε όπως:

- **προχωρήσει** στην αξιολόγηση της Τεχνικής Προσφοράς των πιο κάτω οικονομικών φορέων:

Αριθμός Οικονομικού Φορέα	**Επωνυμία Οικονομικού Φορέα**
1.	Mechatronic Ltd

3. ΕΚΘΕΣΗ ΤΕΧΝΙΚΗΣ ΑΞΙΟΛΟΓΗΣΗΣ

3.1 Συναντήσεις

Α/Α	ΗΜΕΡΟΜΗΝΙΑ	ΩΡΑ	ΤΟΠΟΣ	ΗΜΕΡΗΣΙΑ ΔΙΑΤΑΞΗ
1.	31/10/2016	09:00	Γραφεία Υπηρεσίας Συστημάτων Πληροφορικής και Τεχνολογίας, *(2ος Όροφος, Ανεξαρτησίας 187, Λεμεσός,)*	1. Αξιολόγηση τεχνικών προσφορών 2. Σύνταξη έκθεσης τεχνικής αξιολόγησης

Συνημμένα υποβάλλονται τα Πρακτικά των παραπάνω συναντήσεων στο Παράρτημα Β.

3.2 Αξιολόγηση τεχνικής προσφοράς

Μετά από ενδελεχή μελέτη και αξιολόγηση των τεχνικών προσφορών έχουν προκύψει τα ακόλουθα:

Τεχνική Προσφορά Mechatronic Ltd:

- Η προσφορά του οικονομικού φορέα «Mechatronic Ltd» **δεν παρουσιάζει αποκλίσεις** από τις τεχνικές προδιαγραφές του διαγωνισμού.
- Ο οικονομικός φορέας «Mechatronic Ltd» υπέβαλε τεχνική προσφορά σύμφωνα με τα έγγραφα του διαγωνισμού.

Επισυνάπτεται ως **Παράρτημα Δ** ο πίνακας τεχνικών προδιαγραφών της υποβληθείσας προσφοράς όπως υποβλήθηκε από την Εταιρεία Mechatronic Ltd.

4. ΕΚΘΕΣΗ ΟΙΚΟΝΟΜΙΚΗΣ ΑΞΙΟΛΟΓΗΣΗΣ

4.1 Συναντήσεις

Α/Α	ΗΜΕΡΟΜΗΝΙΑ	ΩΡΑ	ΤΟΠΟΣ	ΗΜΕΡΗΣΙΑ ΔΙΑΤΑΞΗ
1.	31/10/2016	09:00	Γραφεία Υπηρεσίας Συστημάτων Πληροφορικής και Τεχνολογίας, *(2ος Όροφος, Ανεξαρτησίας 187, Λεμεσός,)*	1. Αξιολόγηση οικονομικών προσφορών 2. Σύνταξη έκθεσης οικονομικής αξιολόγησης 3. Συμπεράσματα και εισήγηση

Συνημμένα υποβάλλονται τα Πρακτικά των παραπάνω συναντήσεων στο Παράρτημα Β.

4.2 Αξιολόγηση οικονομικής προσφοράς

Η Επιτροπή Αξιολόγησης έχει προχωρήσει στη συνέχεια σε έλεγχο των ακόλουθων οικονομικών φορέων με σκοπό να εντοπιστούν τυχόν αριθμητικά λάθη ή/και λάθη από μεταφορά:

Αριθμός Οικονομικού Φορέα	Επωνυμία Οικονομικού Φορέα	*Προσφερόμενη Τιμή (σε ευρώ)*
1.	Mechatronic Ltd	**140.075,00**

Επισυνάπτεται ως **Παράρτημα Ε** ο πίνακας με τις τιμές της υποβληθείσας έγκυρης προσφοράς.

5. ΑΝΑΘΕΣΗ ΣΥΜΒΑΣΗΣ

Η Επιτροπή Αξιολόγησης εισηγείται την κατακύρωση του αναφερόμενου διαγωνισμού στον Οικονομικό Φορέα με την επωνυμία **Mechatronic Ltd**, που είναι ο μοναδικός Οικονομικός Φορέας που υπέβαλε προσφορά και ο οποίος πληροί τους όρους και προδιαγραφές του διαγωνισμού, για το ποσό των **€140.075, μη συμπεριλαμβανομένου του ΦΠΑ.** Η αναφερόμενη τιμή είναι στα πλαίσια της αναμενόμενης τιμής, κρίνεται υπό τις περιστάσεις, λογική. Η διαδικασία του Ανοιχτού Διαγωνισμού πίεσε τις τιμές προς τα κάτω. Η συνολική αξία προσφοράς είναι κατά 28,16% χαμηλότερη σε σχέση με τον προϋπολογισμό.

Σημειώνουμε πως, στην προτεινόμενη λύση ο Προσφέροντας Mechatronic Ltd χρησιμοποιεί υφιστάμενο εξοπλισμό (σύμφωνα με το Μέρος Α, Άρθρο 1.2.4). Συγκεκριμένα εξοπλισμός που αγοράστηκε το 2014 (Αρ. Διαγωνισμού **ΥΣΠΤ(4)/019/2014** - Διαγωνισμός που αφορά στη συντήρηση συστήματος αποθήκευσης δεδομένων (Consolidated Storage System) του Τεχνολογικού Πανεπιστημίου) αξίας **€42,460 +ΦΠΑ** συμπεριλαμβάνεται ως μέρος της λύσης. Ο εν λόγω εξοπλισμός είχε χρηματοδοτηθεί από τα Διαρθρωτικά Ταμεία της Ευρωπαϊκής Ένωσης.

Υπογραφές μελών Αρμοδίου Οργάνου Αξιολόγησης

ΟΝΟΜΑΤΕΠΩΝΥΜΟ	ΥΠΟΓΡΑΦΗ	ΗΜΕΡΟΜΗΝΙΑ
ΘΕΟΔΟΤΟΣ ΑΝΔΡΕΟΥ, Λειτουργός Πανεπιστημίου (ΥΣΠΤ), Συντονιστής		31/10/2016
ΓΙΟΥΛΑ ΙΩΑΝΝΙΔΟΥ, Βοηθός Μηχανογράφησης (ΥΣΠΤ)		31/10/2016
ΣΩΤΗΡΗΣ ΚΟΥΛΛΑΠΗΣ, Λειτουργός Πανεπιστημίου (ΥΣΠΤ)		31/10/2016
ΔΗΜΗΤΡΗΣ ΠΙΠΕΡΗΣ, Λειτουργός Πανεπιστημίου (ΥΣΠΤ)		31/10/2016

6. ΚΑΤΑΛΟΓΟΣ ΠΑΡΑΡΤΗΜΑΤΩΝ

ΠΑΡΑΡΤΗΜΑ Α – Πρόσκληση σε συνάντηση Επιτροπής Αξιολόγησης

Αρχιεπισκόπου Κυπριανού 31
Ακίνητα Συνεργατικού Ταμιευτηρίου Λεμεσού
3ος όροφος, 3036 Λεμεσός
Τ.Θ. 50329, 3603 Λεμεσός
Τηλ.: +357 25002500, Φαξ: +357 25002750
E-mail: administration@cut.ac.cy
URL: http//www.cut.ac.cy

25 Οκτωβρίου 2016

Γενική Λογίστρια
Γενικό Λογιστήριο της Δημοκρατίας (αρ. τηλεομοιότυπου: 22302433)
Υπόψη: Ανδρέα Γιαβρή
Λευκωσία

Γενικό Ελεγκτή της Δημοκρατίας
Ελεγκτική Υπηρεσία (αρ. τηλεομοιότυπου: 22302071)
Υπόψη: Ανδρέα Χασαπόπουλο

Αξιολόγηση Διαγωνισμού αρ. ΥΣΠΤ(1)/002/2016 που αφορά στην αναβάθμιση ή/και αντικατάσταση του Κεντρικού Συστήματος Αποθήκευσης Δεδομένων (Consolidated Storage System) του Τεχνολογικού Πανεπιστημίου Κύπρου

Επιθυμώ να σας πληροφορήσω ότι η Επιτροπή Αξιολόγησης του πιο πάνω διαγωνισμού θα πραγματοποιήσει συνάντηση στις 26/10/2016 μεταξύ των ωρών 09 : 00 π.μ - 12 : 00 για την αξιολόγηση των προσφορών που έχουν υποβληθεί.

Σημειώνεται ότι ο προϋπολογισμός του αναφερόμενου διαγωνισμού ανέρχεται σε €195.000, μη συμπεριλαμβανομένου του ΦΠΑ.

Σε περίπτωση που επιθυμείτε να παρευρεθείτε στη συνάντηση του πιο πάνω θέματος, παρακαλώ όπως επικοινωνήσετε με τον Θεόδοτο Ανδρέου, στο τηλέφωνο αρ. 25 00 2234 και αφού συμπληρώσετε το κάτω μέρος της παρούσας επιστολής να την αποστείλετε στο τηλεομοιότυπο αρ. 25002765.

Θεόδοτος Ανδρέου
Συντονιστής Επιτροπής Αξιολόγησης

Έχουμε λάβει γνώση του περιεχομένου της επιστολής και σας πληροφορούμε ότι ο/η ..... θα παρευρεθεί, εκ μέρους του ....., στις ../../2016 και ώρα ..... :..

Κοιν.: Εσωτερικό Ελεγκτή Τεχνολ. Πανεπιστημίου Κύπρου (ηλεκτρονική διεύθυνση: akis.kleanthous@cut.ac.cy)

ΓΑ

Αρχιεπισκόπου Κυπριανού 31
Ακίνητα Συνεργατικού Ταμιευτηρίου Λεμεσού
3ος όροφος, 3036 Λεμεσός
Τ.Θ. 50329, 3603 Λεμεσός
Τηλ.: +357 25002500, Φαξ: +357 25002750
E-mail: administration@cut.ac.cy
URL: http//www.cut.ac.cy

27 Οκτωβρίου 2016

Γενική Λογίστρια
Γενικό Λογιστήριο της Δημοκρατίας (αρ. τηλεομοιότυπου: 22302433)
Υπόψη: Ανδρέα Γιαβρή
Λευκωσία

Γενικό Ελεγκτή της Δημοκρατίας
Ελεγκτική Υπηρεσία (αρ. τηλεομοιότυπου: 22302071)
Υπόψη: Ανδρέα Χασαπόπουλο

Αξιολόγηση Διαγωνισμού αρ. ΥΣΠΤ(1)/002/2016 που αφορά στην αναβάθμιση ή/και αντικατάσταση του Κεντρικού Συστήματος Αποθήκευσης Δεδομένων (Consolidated Storage System) του Τεχνολογικού Πανεπιστημίου Κύπρου

Επιθυμώ να σας πληροφορήσω ότι η Επιτροπή Αξιολόγησης του πιο πάνω διαγωνισμού ***θα πραγματοποιήσει δεύτερη (2η) συνάντηση*** *στις 31/10/2016 μεταξύ των ωρών 09 : 00 π.μ - 12 : 00 για την αξιολόγηση των προσφορών που έχουν υποβληθεί.*

Σημειώνεται ότι ο προϋπολογισμός του αναφερόμενου διαγωνισμού ανέρχεται σε €195.000, μη συμπεριλαμβανομένου του ΦΠΑ.

Σε περίπτωση που επιθυμείτε να παρευρεθείτε στη συνάντηση του πιο πάνω θέματος, παρακαλώ όπως επικοινωνήσετε με τον Θεόδοτο Ανδρέου, στο τηλέφωνο αρ. 25 00 2234 και αφού συμπληρώσετε το κάτω μέρος της παρούσας επιστολής να την αποστείλετε στο τηλεομοιότυπο αρ. 25002765.

Θεόδοτος Ανδρέου

Συντονιστής Επιτροπής Αξιολόγησης

Έχουμε λάβει γνώση του περιεχομένου της επιστολής και σας πληροφορούμε ότι ο/η ..... θα παρευρεθεί, εκ μέρους του ....., στις ../../2016 και ώρα ..... : ..

Κοιν.: Εσωτερικό Ελεγκτή Τεχνολ. Πανεπιστημίου Κύπρου (ηλεκτρονική διεύθυνση: akis.kleanthous@cut.ac.cy)

ΓΑ

ΠΑΡΑΡΤΗΜΑ Β – Διευκρινήσεις προς Προσφέροντες

Dimitris Piperis

From:	Theodotos Andreou
Sent:	Τετάρτη, 26 Οκτωβρίου 2016 11:59 πμ
To:	info@mechatronic.com.cy
Cc:	Dimitris Piperis; Sotiris Koullapis; Yioula Ioannidou
Subject:	Διαγωνισμός αρ. ΥΣΠΤ(1)/002/2016 που αφορά στην αναβάθμιση ή/και αντικατάσταση του Κεντρικού Συστήματος Αποθήκευσης δεδομένων (Consolidated Storage System) του Τεχνολογικού Πανεπιστημίου Κύπρου

ΠΡΟΣ: MECHATRONIC LTD,

Υπόψιν: κ. Παναγιώτη Αντωνιάδη,

Σε σχέση με την προσφορά που υποβάλατε για τον Διαγωνισμό με αρ. ΥΣΠΤ(1)/002/2016 διαπιστώθηκαν στο Έντυπο 8 οι πιο κάτω ελλείψεις:

- Στο σημείο με Α/Α 2.99 η στήλη «Response – Offer» δεν συμπληρώθηκε, ενώ υπάρχει αναφορά σε Τεχνικό Φυλλάδιο που υποστηρίζει ότι πληρείται η προδιαγραφή.
- Στο σημείο με Α/Α 3.14 η στήλη «Response – Offer» δεν συμπληρώθηκε, ενώ υπάρχει αναφορά σε Τεχνικό Φυλλάδιο που υποστηρίζει ότι πληρείται η προδιαγραφή.
- Στο σημείο με Α/Α 3.29 δεν συμπληρώθηκε η στήλη «Response - Offer» όπως και η στήλη «Reference».

Παρακαλώ αναφέρεται τους λόγους που δεν συμπληρώθηκαν τα πιο πάνω σημεία και επιβεβαιώστε αν πληρούνται οι σχετικές προδιαγραφές .

Παρακαλώ όπως απαντήσετε σε αυτό το μήνυμα, το αργότερο μέχρι τις 03/11/2016.

Με εκτίμηση

Θεόδοτος Ανδρέου

Λειτουργός Πανεπιστημίου (Θέματα Πληροφορικής)
Υπηρεσία Συστημάτων Πληροφορικής και Τεχνολογίας
Τεχνολογικό Πανεπιστήμιο Κύπρου
Τηλ. 25002234
www.cut.ac.cy

Dimitris Piperis

From: Chloe Votsi <chloev@mechatronic.com.cy>
Sent: Τετάρτη, 26 Οκτωβρίου 2016 1:34 μμ
To: Theodotos Andreou
Cc: Dimitris Piperis; Sotiris Koullapis; Yioula Ioannidou; info
Subject: RE: Διαγωνισμός αρ. ΥΣΠΤ(1)/002/2016 που αφορά στην αναβάθμιση ή/και αντικατάσταση του Κεντρικού Συστήματος Αποθήκευσης δεδομένων (Consolidated Storage System) του Τεχνολογικού Πανεπιστημίου Κύπρου

Dear Mr Andreou

In response to your email, please find below relevant clarifications.
Kindly do note that the products we have offered in all categories, **fully comply with the tender specifications.**

It is a bit weird that information was missing from our ENTYPO 8, and we do apologize for this.

No.	Requirements – Specifications	Requirement	Response - Offer	Reference
2.99	Disk Shredding (Process for deleting data on a specific disk that is intended to make the data unrecoverable)	Yes	Yes. Disk Shredding (Process for deleting data on a specific disk that is intended to make the data unrecoverable) is supported, and it is called **Disk Sanitization.** Exact same answer as point 1.99	Pls see Doc. No. A.42 "*Using disk sanitization to remove data from disks*", Page 1 of 2: *highlighted text.*
3.14	Ability to use snapshot technology	Yes	Yes, the proposed software has the	Pls see Doc. No. C.17 Pages from CommVault's Online Documentation: "*IntelliSnap Guide on NetApp Storage System*", Pages:

B.2.2.1

	provided by hardware Manufacturer of "Primary Site Storage System" and "Second Site Storage System".		ability to use snapshot technology provided by hardware Manufacturer, that is NetApp, of "Primary Site Storage System" and "Second Site Storage System".	· 2 of 18, Middle of Page *highlighted text.*
3.29	BfSAN Backup to disk (SAN and NAS) and to tape. BfSAN Recovery from disk (SAN and NAS) and from tape.	Yes	Yes. Commvault fully supports BfSAN and backup to disk (SAN and NAS) and to tape, as well as Recovery from disk (SAN and NAS) and from tape. It uses the IntelliSnap for UNIX File System and for Windows File System *agents* in order to perform all operations. (Please also see reply on point 2.27 above: BfSAN compatibilities)	Pls see Pages from CommVault's Online Documentation: "*Deployment - IntelliSnap for UNIX File System*", Pages 1: *highlighted text.* http://documentation.commvault.com/commvault/v11/article?p=products/unix/snap/deployment.htm Also, Pls see Pages from CommVault's Online Documentation: "*Deployment - IntelliSnap for Windows File System Agent*", Pages 1: *highlighted text.* http://documentation.commvault.com/commvault/v11/article?p=products/windows/snap/deployment.htm

We remain at your disposal for anything else you may require, and thank you for your attention.

Yours Sincerely,

Chloe Votsi
Manager, Systems Integration Division
MECHATRONICLTD
Tel: +357 2258 2258

NetApp Gold Partner NetApp Authorized Support Partner

From: Chloe Votsi
Sent: Wednesday, October 26, 2016 12:03 PM
To: 'Theodotos Andreou' <theodotos.andreou@cut.ac.cy>; info <info@mechatronic.com.cy>
Cc: Dimitris Piperis <dimitris.piperis@cut.ac.cy>; Sotiris Koullapis <sotiris.koullapis@cut.ac.cy>; Yioula Ioannidou <yioula.ioannidou@cut.ac.cy>
Subject: RE: Διαγωνισμός αρ. ΥΣΠΤ(1)/002/2016 που αφορά στην αναβάθμιση ή/και αντικατάσταση του Κεντρικού Συστήματος Αποθήκευσης δεδομένων (Consolidated Storage System) του Τεχνολογικού Πανεπιστημίου Κύπρου

Dear Mr Andreou

Thank you for your email.

We shall look into your questions below and will get back to you with the required information/answers ASAP, and before your deadline 03.11.2016.

Thank you in advance,
Kind regards

Chloe Votsi
Manager, Systems Integration Division
MECHATRONICLTD
Tel: +357 2258 2258

B.2.2.1

NetApp Gold Partner NetApp Authorized Support Partner

From: Theodotos Andreou [mailto:theodotos.andreou@cut.ac.cy]
Sent: Wednesday, October 26, 2016 11:59 AM
To: info <info@mechatronic.com.cy>
Cc: Dimitris Piperis <dimitris.piperis@cut.ac.cy>; Sotiris Koullapis <sotiris.koullapis@cut.ac.cy>; Yioula Ioannidou <yioula.ioannidou@cut.ac.cy>
Subject: Διαγωνισμός αρ. ΥΣΠΤ(1)/002/2016 που αφορά στην αναβάθμιση ή/και αντικατάσταση του Κεντρικού Συστήματος Αποθήκευσης δεδομένων (Consolidated Storage System) του Τεχνολογικού Πανεπιστημίου Κύπρου

ΠΡΟΣ: MECHATRONIC LTD,

Υπόψιν: κ. Παναγιώτη Αντωνιάδη,

Σε σχέση με την προσφορά που υποβάλατε για τον Διαγωνισμό με αρ. ΥΣΠΤ(1)/002/2016 διαπιστώθηκαν στο Έντυπο 8 οι πιο κάτω ελλείψεις:

- Στο σημείο με Α/Α 2.99 η στήλη «Response – Offer» δεν συμπληρώθηκε, ενώ υπάρχει αναφορά σε Τεχνικό Φυλλάδιο που υποστηρίζει ότι πληρείται η προδιαγραφή.
- Στο σημείο με Α/Α 3.14 η στήλη «Response – Offer» δεν συμπληρώθηκε, ενώ υπάρχει αναφορά σε Τεχνικό Φυλλάδιο που υποστηρίζει ότι πληρείται η προδιαγραφή.
- Στο σημείο με Α/Α 3.29 δεν συμπληρώθηκε η στήλη «Response - Offer» όπως και η στήλη «Reference».

Παρακαλώ αναφέρεται τους λόγους που δεν συμπληρώθηκαν τα πιο πάνω σημεία και επιβεβαιώστε αν πληρούνται οι σχετικές προδιαγραφές .

Παρακαλώ όπως απαντήσετε σε αυτό το μήνυμα, το αργότερο μέχρι τις 03/11/2016.

Με εκτίμηση

Θεόδοτος Ανδρέου

Λειτουργός Πανεπιστημίου (Θέματα Πληροφορικής)
Υπηρεσία Συστημάτων Πληροφορικής και Τεχνολογίας
Τεχνολογικό Πανεπιστήμιο Κύπρου

Τηλ. 25002234
www.cut.ac.cy

Παρακαλώ συμφωνήστε το περιβαλλοντικό κόστος μειώνοντας αυτό.

B.2.2.1

ΠΑΡΑΡΤΗΜΑ Γ – Πρακτικά Συνάντησης Επιτροπής Αξιολόγησης

ΤΕΧΝΟΛΟΓΙΚΟ ΠΑΝΕΠΙΣΤΗΜΙΟ ΚΥΠΡΟΥ

ΠΡΑΚΤΙΚΑ ΣΥΝΑΝΤΗΣΗΣ ΕΠΙΤΡΟΠΗΣ ΑΞΙΟΛΟΓΗΣΗΣ

ΔΙΑΓΩΝΙΣΜΟΣ ΓΙΑ ΤΗΝ ΑΝΑΒΑΘΜΙΣΗ Η/ΚΑΙ ΑΝΤΙΚΑΤΑΣΤΑΣΗ ΤΟΥ ΚΕΝΤΡΙΚΟΥ ΣΥΣΤΗΜΑΤΟΣ ΑΠΟΘΗΚΕΥΣΗΣ ΔΕΔΟΜΕΝΩΝ (CONSOLIDATED STORAGE SYSTEM) ΤΟΥ ΤΕΧΝΟΛΟΓΙΚΟΥ ΠΑΝΕΠΙΣΤΗΜΙΟΥ ΚΥΠΡΟΥ

1η Συνάντηση - 26/10/2016 ώρα 9:00 π.μ.

ΑΡ.ΔΙΑΓΩΝΙΣΜΟΥ:
ΥΣΠΤ(1)/002/2016

ΕΠΙΤΡΟΠΗ ΑΞΙΟΛΟΓΗΣΗΣ

Στα πλαίσια αξιολόγησης του αναφερόμενου διαγωνισμού εγκρίθηκε από την Επιτροπή Προσφορών ad-hoc Επιτροπή Αξιολόγησης αποτελούμενης από τους:

Θεόδοτος Ανδρέου	Λειτουργός Πανεπιστημίου, ΥΣΠΤ (Συντονιστής Επιτροπής Αξιολόγησης)
Γιούλα Ιωαννίδου	Βοηθός Μηχανογράφησης, ΥΣΠΤ (Μέλος Επιτροπής Αξιολόγησης)
Σωτήρης Κουλλαπής	Λειτουργός Πανεπιστημίου, ΥΣΠΤ (Μέλος Επιτροπής Αξιολόγησης)
Δημήτρης Πιπερής	Λειτουργός Πανεπιστημίου, ΥΣΠΤ (Μέλος Επιτροπής Αξιολόγησης)

Όλα τα μέλη της επιτροπής αξιολόγησης κλήθηκαν έγκαιρα και νομότυπα όπως παραστούν στη συνεδρίαση. Στη συνεδρία εκτός από τα μέλη της Επιτροπής Αξιολόγησης προσκλήθηκαν και εκπρόσωποι του Γενικού Λογιστηρίου και της Ελεγκτικής Υπηρεσίας της Κυπριακής Δημοκρατίας καθώς και ο Εσωτερικός Ελεγκτής του ΤΕΠΑΚ.

ΠΑΡΟΝΤΕΣ

Θεόδοτος Ανδρέου	Λειτουργός Πανεπιστημίου, ΥΣΠΤ (Συντονιστής Επιτροπής Αξιολόγησης)
Σωτήρης Κουλλαπής	Λειτουργός Πανεπιστημίου, ΥΣΠΤ (Μέλος Επιτροπής Αξιολόγησης)
Δημήτρης Πιπερής	Λειτουργός Πανεπιστημίου, ΥΣΠΤ (Μέλος Επιτροπής Αξιολόγησης)

ΑΠΟΝΤΕΣ

Γιούλα Ιωαννίδου *(Άδεια Ασθενείας)*	Βοηθός Μηχανογράφησης, ΥΣΠΤ (Μέλος Επιτροπής Αξιολόγησης)

ΗΜΕΡΗΣΙΑ ΔΙΑΤΑΞΗ

1. Ενημέρωση για την παραλαβή όλων των απαραίτητων πληροφοριών.
2. Προκαταρκτική εξέταση πληρότητας προσφορών
3. Έλεγχος τυπικών προϋποθέσεων συμμετοχής
4. Έλεγχος πλήρωσης κριτηρίων ποιοτικής επιλογής
   4.1. Έλεγχος προσωπικής κατάστασης
   4.2. Έλεγχος οικονομικής και χρηματοοικονομικής επάρκειας
   4.3. Έλεγχος τεχνικών και επαγγελματικών ικανοτήτων
5. Σύνταξη έκθεσης ποιοτικής επιλογής

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1. Ενημέρωση για την παραλαβή όλων των απαραίτητων πληροφοριών

Συγκεντρωθήκαν όλες οι απαραίτητες πληροφορίες και στοιχεία για την εκτέλεση των καθηκόντων της Επιτροπής.

2. Προκαταρκτική εξέταση πληρότητας προσφορών

Υποβλήθηκε συνολικά 1 (μία) προσφορά από τον ακόλουθο Οικονομικό Φορέα:

Αριθμός Οικονομικού Φορέα	ΕΠΩΝΥΜΙΑ ΟΙΚΟΝΟΜΙΚΟΥ ΦΟΡΕΑ
1.	***Mechatronic Ltd***

Οι προσφορές ελέγχθηκαν για την πληρότητα σύμφωνα με τον πίνακα «ΠΡΟΚΑΤΑΡΚΤΙΚΗ ΕΞΕΤΑΣΗ ΠΛΗΡΟΤΗΤΑΣ ΠΡΟΣΦΟΡΩΝ» στην παρ. 2.2 της Έκθεσης Αξιολόγησης. Κατά την προκαταρκτική εξέταση της πληρότητας της προσφοράς των οικονομικών φορέων διαπιστώθηκε απόκλιση η οποία καταγράφτηκε στην Έκθεση Αξιολόγησης στην ίδια παράγραφο.

Σημείο 2: Mechatronic Ltd: Διαπιστώθηκαν τα πιο κάτω:

- Στο σημείο με Α/Α 2.99 η στήλη «Response – Offer» δεν συμπληρώθηκε, ενώ υπάρχει αναφορά σε Τεχνικό Φυλλάδιο που υποστηρίζει ότι πληρείται η προδιαγραφή.
- Στο σημείο με Α/Α 3.14 η στήλη «Response – Offer» δεν συμπληρώθηκε, ενώ υπάρχει αναφορά σε Τεχνικό Φυλλάδιο που υποστηρίζει ότι πληρείται η προδιαγραφή.
- Στο σημείο με Α/Α 3.16 δεν συμπληρώθηκε η στήλη «Requirement» δεν συμπληρώθηκε, ενώ η στήλη «Response - Offer» και η στήλη «Reference» συμπληρώθηκε και αναφέρεται πως πληροί την προδιαγραφή.
- Στο σημείο με Α/Α 3.17 δεν συμπληρώθηκε η στήλη «Requirement» δεν συμπληρώθηκε, ενώ η στήλη «Response - Offer» και η στήλη «Reference» συμπληρώθηκε και αναφέρεται πως πληροί την προδιαγραφή.
- Στο σημείο με Α/Α 3.29 δεν συμπληρώθηκε η στήλη «Response - Offer» όπως και η στήλη «Reference».

Η Επιτροπή Αξιολόγησης εξακρίβωσε πως όλες οι πιο πάνω προδιαγραφές πληρούνται και αποφάσισε όπως σταλεί διευκρίνιση στον Προσφέροντα σύμφωνα με τον Μέρος Α παράγραφός 9.5 των εγγράφων του Διαγωνισμού. Η διευκρίνιση στάλθηκε στις 26/10/2016 11:59 π.μ. (Παράρτημα Β).

Σημειώνεται πως επικοινωνήσαμε ως Επιτροπή Αξιολόγησης, τηλεφωνικώς με το Γενικό Λογιστήριο σε σχέση με το θέμα αποστολής διευκρίνησης και λάβαμε γνωμάτευση πως αυτή είναι σωστή πρακτική.

3. Έλεγχος τυπικών προϋποθέσεων συμμετοχής

Στο στάδιο αυτό η Επιτροπή Αξιολόγησης ολοκλήρωσε τον έλεγχο των τυπικών προϋποθέσεων συμμετοχής των προσφερόντων σύμφωνα με τα στοιχεία του Πίνακα όπως παρουσιάζονται στην έκθεση αξιολόγησης παρ.2.3.

4. Έλεγχος πλήρωσης κριτηρίων ποιοτικής επιλογής

4.1. Έλεγχος προσωπικής κατάστασης

Στο στάδιο αυτό η Επιτροπή Αξιολόγησης ολοκλήρωσε τον έλεγχο προσωπικής κατάστασης των προσφερόντων σύμφωνα με τα στοιχεία του Πίνακα όπως παρουσιάζονται στην έκθεση αξιολόγησης παρ.2.4.1.

4.2. Έλεγχος οικονομικής και χρηματοοικονομικής επάρκειας

Στο στάδιο αυτό η Επιτροπή Αξιολόγησης ολοκλήρωσε τον έλεγχο της οικονομικής και χρηματοοικονομικής επάρκειας των προσφερόντων σύμφωνα με τα στοιχεία του Πίνακα όπως παρουσιάζονται στην έκθεση αξιολόγησης παρ.2.4.2.

4.3. Έλεγχος τεχνικών και επαγγελματικών ικανοτήτων

Στο στάδιο αυτό η Επιτροπή Αξιολόγησης ολοκλήρωσε τον έλεγχο τεχνικών και επαγγελματικών ικανοτήτων των προσφερόντων σύμφωνα με τα στοιχεία του Πίνακα όπως παρουσιάζονται στην έκθεση αξιολόγησης παρ.2.4.3.

5. Σύνταξη έκθεσης ποιοτικής επιλογής

Η σύνταξη της έκθεσης ποιοτικής επιλογής ολοκληρώθηκε (παρ. 2 της έκθεσης αξιολόγησης).

Η Επιτροπή Αξιολόγησης μετά τους πιο πάνω ελέγχους αποφάσισε ομόφωνα όπως προχωρήσει στην αξιολόγηση της Τεχνικής Προσφοράς του οικονομικού φορέα Mechatronic Ltd, όπως καταγράφηκε στην παρ. 2.5 της έκθεσης αξιολόγησης

Αριθμός Οικονομικού Φορέα	*ΕΠΩΝΥΜΙΑ ΟΙΚΟΝΟΜΙΚΟΥ ΦΟΡΕΑ*
1.	*Mechatronic Ltd*

Τα παρόντα πρακτικά εγκρίθηκαν με τη λήξη της συνεδρίας.

Ο Συντονιστής κήρυξε την λήξη της Συνεδρίας στις 12:00 μ.

ΘΕΟΔΟΤΟΣ ΑΝΔΡΕΟΥ, Λειτουργός Πανεπιστημίου (ΥΣΠΤ), Συντονιστής	
ΔΗΜΗΤΡΗΣ ΠΙΠΕΡΗΣ, Λειτουργός Πανεπιστημίου (ΥΣΠΤ)	
ΣΩΤΗΡΗΣ ΚΟΥΛΛΑΠΗΣ, Λειτουργός Πανεπιστημίου (ΥΣΠΤ)	

ΤΕΧΝΟΛΟΓΙΚΟ ΠΑΝΕΠΙΣΤΗΜΙΟ ΚΥΠΡΟΥ

ΠΡΑΚΤΙΚΑ ΣΥΝΑΝΤΗΣΗΣ ΕΠΙΤΡΟΠΗΣ ΑΞΙΟΛΟΓΗΣΗΣ

ΔΙΑΓΩΝΙΣΜΟΣ ΓΙΑ ΤΗΝ ΑΝΑΒΑΘΜΙΣΗ Η/ΚΑΙ ΑΝΤΙΚΑΤΑΣΤΑΣΗ ΤΟΥ ΚΕΝΤΡΙΚΟΥ ΣΥΣΤΗΜΑΤΟΣ ΑΠΟΘΗΚΕΥΣΗΣ ΔΕΔΟΜΕΝΩΝ (CONSOLIDATED STORAGE SYSTEM) ΤΟΥ ΤΕΧΝΟΛΟΓΙΚΟΥ ΠΑΝΕΠΙΣΤΗΜΙΟΥ ΚΥΠΡΟΥ

2η Συνάντηση - 31/10/2016 ώρα 9:00 π.μ.

ΑΡ.ΔΙΑΓΩΝΙΣΜΟΥ:
ΥΣΠΤ(1)/002/2016

ΕΠΙΤΡΟΠΗ ΑΞΙΟΛΟΓΗΣΗΣ

Στα πλαίσια αξιολόγησης του αναφερόμενου διαγωνισμού εγκρίθηκε από την Επιτροπή Προσφορών ad-hoc Επιτροπή Αξιολόγησης αποτελούμενης από τους:

Θεόδοτος Ανδρέου	Λειτουργός Πανεπιστημίου, ΥΣΠΤ (Συντονιστής Επιτροπής Αξιολόγησης)
Γιούλα Ιωαννίδου	Βοηθός Μηχανογράφησης, ΥΣΠΤ (Μέλος Επιτροπής Αξιολόγησης)
Σωτήρης Κουλλαπής	Λειτουργός Πανεπιστημίου, ΥΣΠΤ (Μέλος Επιτροπής Αξιολόγησης)
Δημήτρης Πιπερής	Λειτουργός Πανεπιστημίου, ΥΣΠΤ (Μέλος Επιτροπής Αξιολόγησης)

Όλα τα μέλη της επιτροπής αξιολόγησης κλήθηκαν έγκαιρα και νομότυπα όπως παραστούν στη συνεδρίαση. Στη συνεδρία εκτός από τα μέλη της Επιτροπής Αξιολόγησης προσκλήθηκαν και εκπρόσωποι του Γενικού Λογιστηρίου και της Ελεγκτικής Υπηρεσίας της Κυπριακής Δημοκρατίας καθώς και ο Εσωτερικός Ελεγκτής του ΤΕΠΑΚ.

ΠΑΡΟΝΤΕΣ

Θεόδοτος Ανδρέου	Λειτουργός Πανεπιστημίου, ΥΣΠΤ (Συντονιστής Επιτροπής Αξιολόγησης)
Γιούλα Ιωαννίδου	Βοηθός Μηχανογράφησης, ΥΣΠΤ (Μέλος Επιτροπής Αξιολόγησης)
Σωτήρης Κουλλαπής	Λειτουργός Πανεπιστημίου, ΥΣΠΤ (Μέλος Επιτροπής Αξιολόγησης)
Δημήτρης Πιπερής	Λειτουργός Πανεπιστημίου, ΥΣΠΤ (Μέλος Επιτροπής Αξιολόγησης)

ΑΠΟΝΤΕΣ

Κανένας

ΗΜΕΡΗΣΙΑ ΔΙΑΤΑΞΗ

1. Αξιολόγηση τεχνικών προσφορών
2. Σύνταξη έκθεσης τεχνικής αξιολόγησης
3. Αξιολόγηση οικονομικών προσφορών
4. Σύνταξη έκθεσης οικονομικής αξιολόγησης
5. Συμπεράσματα και εισήγηση

Ενημερώθηκε η κ Γιούλα Ιωαννίδου για την εξέλιξη της διαδικασίας μέχρι στιγμής και συμφώνησε.

1. Αξιολόγηση τεχνικών προσφορών

Στις 26/10/2016 (13:34 μ.μ.) η Επιτροπή έλαβε διευκρινιστική απάντηση από τον Προσφέροντα Mechatronic Ltd για τις διευκρινήσεις τις οποίες ζήτησε η Επιτροπή (26/10/2016 11:59 π.μ). Στην απάντηση επιβεβαιώνεται ότι πληρούνται οι προδιαγραφές. Αυτό προκύπτει από τα τεχνικά φυλλάδια που υποβλήθηκαν με την προσφορά του Προσφέροντα.

Στο στάδιο αυτό η Επιτροπή Αξιολόγησης ολοκλήρωσε την τεχνική αξιολόγηση των προσφορών σύμφωνα με τα στοιχεία του Πίνακα όπως παρουσιάζονται στην έκθεση αξιολόγησης παρ. 3.2.

2. Σύνταξη έκθεσης τεχνικής αξιολόγησης

Η σύνταξη της τεχνικής αξιολόγησης ολοκληρώθηκε (παρ. 3 της έκθεσης αξιολόγησης).

3. Αξιολόγηση οικονομικών προσφορών

Στο στάδιο αυτό η Επιτροπή Αξιολόγησης ολοκλήρωσε την οικονομική αξιολόγηση των προσφορών σύμφωνα με τα στοιχεία του Πίνακα όπως παρουσιάζονται στην έκθεση αξιολόγησης παρ.4.2.

4. Σύνταξη έκθεσης οικονομικής αξιολόγησης

Η σύνταξη της οικονομικής αξιολόγησης ολοκληρώθηκε (παρ. 4 της έκθεσης αξιολόγησης).

5. Συμπεράσματα και εισήγηση

Η Επιτροπή Αξιολόγησης εισηγείται την κατακύρωση του αναφερόμενου διαγωνισμού στον Οικονομικό Φορέα με την επωνυμία **Mechatronic Ltd**, που είναι ο μοναδικός Οικονομικός Φορέας που υπέβαλε προσφορά και ο οποίος πληροί τους όρους και προδιαγραφές του διαγωνισμού, για το ποσό των **€140.075, μη συμπεριλαμβανομένου του ΦΠΑ.** Η αναφερόμενη τιμή είναι στα πλαίσια της αναμενόμενης τιμής, κρίνεται υπό τις περιστάσεις λογική.

Σημειώνουμε πως, στην προτεινόμενη λύση ο Προσφέροντας Mechatronic Ltd χρησιμοποιεί υφιστάμενο εξοπλισμό (σύμφωνα με το Μέρος Α, Άρθρο 1.2.4). Συγκεκριμένα εξοπλισμός που αγοράστηκε το 2014 (Αρ. Διαγωνισμού **ΥΣΠΤ(4)/019/2014** - Διαγωνισμός που αφορά στη συντήρηση συστήματος αποθήκευσης δεδομένων (Consolidated Storage System) του Τεχνολογικού Πανεπιστημίου) αξίας **€42,460 +ΦΠΑ**

συμπεριλαμβάνεται ως μέρος της λύσης. Ο εν λόγω εξοπλισμός είχε χρηματοδοτηθεί από τα Διαρθρωτικά Ταμεία της Ευρωπαϊκής Ένωσης.

Η διαδικασία του Ανοιχτού Διαγωνισμού πίεσε τις τιμές προς τα κάτω. Η συνολική αξία προσφοράς είναι κατά 28,16% χαμηλότερη σε σχέση με τον προϋπολογισμό.

Τα παρόντα πρακτικά εγκρίθηκαν με τη λήξη της συνεδρίας και η Επιτροπή Αξιολόγησης προχώρησε με την ολοκλήρωση της έκθεσης αξιολόγησης.

Ο Συντονιστής κήρυξε την λήξη της Συνεδρίας στις 12:00 μ.

ΘΕΟΔΟΤΟΣ ΛΝΔΡΕΟΥ, Λειτουργός Πανεπιστημίου (ΥΣΠΤ), Συντονιστής	
ΓΙΟΥΛΑ ΙΩΑΝΝΙΔΟΥ, Βοηθός Μηχανογράφησης (ΥΣΠΤ)	
ΔΗΜΗΤΡΗΣ ΠΙΠΕΡΗΣ, Λειτουργός Πανεπιστημίου (ΥΣΠΤ)	
ΣΩΤΗΡΗΣ ΚΟΥΛΛΑΠΗΣ, Λειτουργός Πανεπιστημίου (ΥΣΠΤ)	

ΠΑΡΑΡΤΗΜΑ Δ –Πίνακας Τεχνικών Προδιαγραφών

ΑΝΑΘΕΩΡΗΜΕΝΟ ΕΝΤΥΠΟ 8

ΠΙΝΑΚΑΣ ΠΡΟΣΦΟΡΑΣ ΚΑΙ ΣΥΜΜΟΡΦΩΣΗΣ ΜΕ ΤΙΣ ΤΕΧΝΙΚΕΣ ΠΡΟΔΙΑΓΡΑΦΕΣ

Αρ. Διαγωνισμού ΥΣΠΤ(1)/002/2016

(TENDERER'S TECHNICAL RESPONSE AND COMPLIANCE TABLE)

Περιεχόμενα:

1 Ζητούμενο προϊόν – Requested Product (1): Primary Site Storage System

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled A
	General Information			
1.1.	Manufacturer	Information	**NetApp, Inc.**	Pls see **Doc. No. A.1** "*Dedicated to Your Success Now and Into the Future*", Company Snapshot.
1.2.	Model	Information	**NetApp FAS8020A** (Dual Controller)   Front View Rear View	Pls see Actual Configuration for proposed Products document "*CUT Tender Configuration*" (as configured from NetApp's Quotes Tool) **No. A. 2**, Page 1 of 3: Middle of Page, highlighted text.
1.3.	Part Number	Information	**FAS8020A-001-R6**	Pls see Actual Configuration for proposed Products document "*CUT Tender Configuration*" (as configured from NetApp's Quotes Tool) **No. A. 2**, Page 1 of 3: Middle of Page, highlighted text.
1.4.	Storage OS version	Information	Storage OS version for Clustered ONTAP (NetApp's newest OS) is **version 9**. (latest 9.1x) NetApp® ONTAP® 9, the next generation of NetApp's industry-leading data management software created to unify storage infrastructures. ONTAP 9 bridges new and traditional data center architectures. It builds the foundation for a Data Fabric, making it easy to move data where it's needed across flash, disk, and cloud resources!	Pls see **Doc. No. B.1** OS Datasheet, "*ONTAP 9 Data Management Software*", Page 1, Heading, *highlighted text*.
1.5.	Condition of the equipment must be new and unused. Also, refurbished equipment is not acceptable.	Yes	Yes, equipment will be NEW and UNUSED.	

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled A
	Physical and Environmental Specifications			
1.6.	Rack mounted kits are required.19" IEC rack-compliant	Yes	Yes, all NetApp Filers are 19" IEC Rack-compliant, and are provided with the necessary Rack-mounting kits.	Pls see product **Doc. No. A.3** , "*NetApp FAS8000 Series Technical Specifications*" Page 6, under System Environmental Specifications, 4th Row - "Width", *highlighted text*.
1.7.	Define Form Factor – Height in Rack Units (U e.g. 5U)	Information	**3U**	Pls see product **Doc. No. A.3**, "*NetApp FAS8000 Series Technical Specifications*" Page 6, under System Environmental Specifications, 3rd Row - "Height", *highlighted text*.
1.8.	Define Weight fully loaded (kg)	Information	Weight, for Chassis with Two Controllers Module: 33.6 kg	Pls see product **Doc. No. A.3**, "*NetApp FAS8000 Series Technical Specifications*" Page 6, under System Environmental Specifications, 2nd Row - "Weight", *highlighted text*.
1.9.	The system depth should permit installation in a 120cm deep cabinet. Define Depth with cable management bracket (cm)	≤120cm	Yes, 73.4cm	Pls see product **Doc. No. A.3**, "*NetApp FAS8000 Series Technical Specifications*" Page 6, under System Environmental Specifications, 5th Row - "Depth".

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled A
1.10.	Maximum power consumption (watts)	Information	FAS8020A Chassis: 432Watts + 2 New FULLY LOADED DS2246 Shelves (24x900GB SAS): 330Watts (per Shelf) x 2 = 660 Watts + 2 Existing FULLY LOADED DS2246 Shelves (24x900GB SAS): 330Watts (per Shelf) x 2 = 660 Watts TOTAL OF = 1752 Watts	Pls see product **Doc. No. A.4**, *"Electrical Requirements for FAS8020"* Page 1, Under 'FAS8020 Dual Controllers', 2nd Row. Also, Pls see **Doc. No. A.11**, *"Electrical Requirements for DS2246"* Page 3, 1st Row.
1.11.	For all power cables, Power Plug AC 250V 10A, IEC C14 Male and C13 Female are required	Yes	Yes, the proposed system comes with all power cables, Power Plug AC 250V 10A, IEC C14 Male and C13 Female.	Pls see Actual Configuration for proposed Products document *"CUT Tender Configuration"* (as configured from NetApp's Quotes Tool) **No. A. 2**, Page 1 of 3: 14th line, *highlighted text.*
1.12.	Define Operating temperature (Celsius e.g. 10 °C to 35 °C)	10 °C to 30 °C	10°C to 40°C	Pls see product **Doc. No. A.3**, *"NetApp FAS8000 Series Technical Specifications"* Page 6, under System Environmental Specifications, 6th Row - "Operating temp, altitude and relative humidity".
1.13.	Define Maximum thermal output (BTU/hour)	Information	1.450 BTU	Pls see product **Doc. No. A.3**, *"NetApp FAS8000 Series Technical Specifications"* Page 6, under System Environmental

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled A
				Specifications, 2nd Row - "Thermal Rating".
1.14.	Define Operating relative humidity range (e.g. 10% to 95%)	20% to 80%	20% to 80%	Pls see product **Doc. No. A.3**, "*NetApp FAS8000 Series Technical Specifications*" Page 6, under System Environmental Specifications, 6th Row - "Operating temp, altitude and relative humidity".
1.15.	Recommended operating relative humidity range (e.g. 30% to 70%)	Information	20% to 80%	Pls see product **Doc. No. A.3**, "*NetApp FAS8000 Series Technical Specifications*" Page 6, under System Environmental Specifications, 6th Row - "Operating temp, altitude and relative humidity".
1.16.	Define operating acoustic noise at normal operating conditions (dBA e.g. 67.2 dBA)	Information	62.6 dB	Pls see product **Doc. No. A.3**, "*NetApp FAS8000 Series Technical Specifications*" Page 6, under System Environmental Specifications, 8th Row - "Operating acoustic noise".
1.17.	All products and services must meet international standards, environmental certifications and comply with all applicable laws and regulations. Including: • Comply with Waste Electrical and Electronic Equipment Directive (WEEE) 2002/95/EC	Yes	Yes, all products and services meet international standards, environmental certifications and comply with all applicable laws and regulations. Including: • Comply with Waste Electrical and Electronic Equipment Directive (**WEEE**) 2002/95/EC	Pls see documents/certifications: **Doc. Nos.**; **A.5**, **A.6**, **A.7**, **A.8**, and **ISO Certifications A.9**, & **A.10**.

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled A
	• Comply with Restriction of Hazardous Substances Directive (RoHS) • Comply with REACH (Regulation for Registration, Evaluation, Authorization and Restriction of Chemicals) Directive		• Comply with Restriction of Hazardous Substances Directive (**RoHS**) • Comply with **REACH** (Regulation for Registration, Evaluation, Authorization and Restriction of Chemicals) Directive	
	Availability Specifications			
1.18.	Cluster Dual Storage Controller	Yes	Yes, the proposed NetApp FAS8020A Filer will be a Cluster Dual Storage Controller. (Filer is a **High Available Filer**, which means it comes with **2 Controllers**)	Pls see Actual Configuration for proposed Products document "*CUT Tender Configuration*" (as configured from NetApp's Quotes Tool) **No. A. 2**, Page 1 of 3: 1st Row of Page, *highlighted text*.
1.19.	No single point(s) of failure	Yes	Yes, the proposed system comes with a Dual Controller (High Available System, HA) and has no dingle point of failure. It has redundant hot-swappable controllers, cooling fans, and power supplies. In fact, in a HA Pair, everything is in double, exactly for this reason: Controller, NVRAM, CPU Fans, Multiple NICS, FC-AL adapter or SAS HBA, FC-AL adapter or SAS HBA, Disk Shelf Modules, Disks, Power Supplies, Fans, HA Interconnect Adapters and Cables, etc. See the enclosed document explaining how storage failover eliminates single point of failure in a HA Pair configuration.	Pls see **Doc. No. B.5**, "*Single Point of Failure analysis for HA Pairs*", ALL 3 Pages: *highlighted text*.
1.20.	Non-disruptive hardware repairs (hot-pluggable FRUs)	Yes	Yes, all hardware repairs will be done Non-Disruptively, since we have Haigh Availability features: Alternate Control Path (ACP); Ethernet-based service processor and ONTAP management interface; redundant hot-swappable controllers, cooling fans, and power supplies.	Pls see **Doc. No. A.3** "*NetApp FAS8000 Series Technical Specifications*", Page 2 of 9: Under High Availability Features, 1st 2 Rows of Page, *highlighted text*.

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled A
1.21.	Non-disruptive microcode updates	Yes	Yes, microcode updates can be done non-disruptively, due to the Hardware HA Pair proposed, as well as NetApp's Data ONTAP OS v.9. With DataOntap 9.0, you can: • Can perform updates during regular work hours without disrupting applications or users. • Are able to service your infrastructure without disrupting access to user data and applications, even during regular business hours. • And in general.... ONTAP allows you to perform critical tasks without interrupting your business. You can dynamically assign, promote, and retire storage resources without downtime over the lifecycle of an application. Data can be moved between controllers without application interruption. Plus, storage controllers and disk shelves can be replaced without disruption.	Pls see **Doc. No. B.1** OS Datasheet, "ONTAP 9 Data Management Software", Page 2 of 4, 2nd Column, 7th Paragraph, under Nondisruptive operations, *highlighted text.*
1.22.	Non-disruptive reconfiguration	Yes	Yes, non-disruptive reconfiguration. As explained above in point 1.21, this can be done! In general, the NetApp OS is the one that offers NDO: Nondisruptive Operations Nondisruptive operations (NDO) allows the storage infrastructure to remain up and serving data during maintenance and IT lifecycle operations. The goal of NDO is to eliminate downtime, and to allow changes to the system to occur at any time. Clustered Data ONTAP is highly available by design and can transparently migrate data and client connections throughout the storage cluster. Data migration may be performed to rebalance capacity usage, to optimize for changing performance requirements, to isolate one or more controllers, to promote data to an all-flash array, to archive data to a capacity configuration, or to execute maintenance or lifecycle operations.	Pls see **Doc. No. B.1** OS Datasheet, "ONTAP 9 Data Management Software", Page 2 of 4, 2nd Column, 7th Paragraph, under Nondisruptive operations, *highlighted text.*

B.2.2.1

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled A
			Software updates and configuration changes occur throughout any system's lifecycle. Additionally, the hardware infrastructure must be added to and replaced, potentially many times. Years after a system was originally commissioned, the data has outlived the hardware, so that little or none of the original hardware may remain. **Through NDO capabilities, all of these changes can occur without outages to the applications or attached clients and hosts.**	
1.23.	Non-disruptive hardware upgrades (host connections, cache, disk, disk shelves / enclosures)	Yes	Yes, non-disruptive hardware upgrades (host connections, cache, disk, disk shelves / enclosures). As explained above in point 1.21 & 1.22, this can be done! *(storage controllers and disk shelves can be replaced without disruption.)*	Pls see **Doc. No. B.1** OS Datasheet, "*ONTAP 9 Data Management Software*", Page 2 of 4, 2nd Column, 7th Paragraph, under Nondisruptive operations, *highlighted text.*
1.24.	Non-disruptive feature upgrades	Yes	Yes, Non-Disruptive feature upgrades. With latest NetApp's OS, clustered ONTAP (cDOT), **everything is done non-disruptively!!** **One of the most important features of cDOT OS is the enablement of non-disruptive operations!!** **Clustered ONTAP delivers nondisruptive operations, efficiency, and scalability.** Nondisruptive operations eliminate planned downtime. They enable you to continue serving data throughout your entire tech refresh lifecycle and to move workloads between all-flash, high-capacity, and hybrid tiers without reconfiguring your applications or impacting your users. Efficiency allows you to make the most of both data storage and your organization. Storage efficiency translates to a reduction in capacity requirements and more efficient use of flash.	Pls see **Doc. No. B.1** OS Datasheet, "*ONTAP 9 Data Management Software*", Pages: - 1 of 4: 1st Column, last paragraph & 2nd Column 5th paragraph. - 2 of 4: 1st column, 1st paragraph, 2nd Column 4th Paragraph, and 7th paragraph *highlighted text.* Also, Pls see **Doc. No. A.12**, "*NetApp FAS8000 Series*", Page 1 of 4, 1st Column, under Key Benefits, 3rd

B.2.2.1

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled A
			Cloning technologies also help you optimize your most important resource: the people who depend on infrastructure. Scalability allows organizations to reduce risk by knowing that the same tools and processes will be available as needs grow, and provides the flexibility to expand what is needed, when it is needed. Flash capacity can be increased for performance, and high-density drive capacity can be increased for archive data. Clustered ONTAP allows you can scale up when you need a higher-end storage array or scale out horizontally when you need to distribute a workload. You can scale compute in the cloud while maintaining control of your data. **Clustered ONTAP provides all this functionality in a single platform.**	Paragraph, 'Maximize Uptime' *highlighted text.* In addition, Pls see technical report TR-3982, **Doc. No. A.13**, *"NetApp Clustered Data ONTAP 8.3.x and 8.2.x: An Introduction"* Page 18 of 19, under 'Nondisruptive Operations' and Page 19 of 19, under 'Summary', *highlighted text.*
1.25.	Non-disruptive expansion & shrinking of volumes (Storage System functionality, assuming related LUN or NAS file system supports functionality) [Volume refers to logical container of file systems (LUNs, NAS file systems).]	Yes (Specify)	Yes, NetApp supports non-disruptive expansion & shrinking of volumes (Storage System functionality, assuming related file system supports functionality), with NetApp OS feature called Thin Provisioning. Thin provisioning is the most efficient way to provision storage, because although the clients see the total storage space assigned to them, the storage is not preallocated up front. When a volume or LUN is created by using thin provisioning, space on the storage system is not used until it is consumed. The space remains unused until data is written to the LUN or the volume, at which time only enough space to store the data is used. Unused storage is shared across all volumes, and the volumes can grow and shrink on demand!	Pls see technical report TR-3982, **Doc. No. A.13**, *"NetApp Clustered Data ONTAP 8.3.x and 8.2.x: An Introduction"* Page 16&17, under 'Storage Efficiency' and 'Thin provisioning', *highlighted text.*
1.26.	Redundant Hot-Swap Controllers	Yes	Yes.	Pls see **Doc. No. A.3**, *"NetApp FAS8000 Series Technical Specifications"* Page 2, under System Environmental

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled A
				Specifications, 17th Row - "High-availability features".
1.27.	Redundant Hot-Swap Disks	Yes	Yes.	Pls see **Doc. No. A.14**, *"Field replaceable units in a DS2246 disk shelf"* Page 1, 2nd Paragraph.
1.28.	Redundant Hot-Swap Fans	Yes	Yes.	Pls see **Doc. No. A.3**, *"NetApp FAS8000 Series Technical Specifications"* Page 2, under System Environmental Specifications, 17th Row - "High-availability features".
1.29.	Redundant Hot-Swap Power Supplies	Yes	Yes.	Pls see **Doc. No. A.3**, *"NetApp FAS8000 Series Technical Specifications"* Page 2, under System Environmental Specifications, 17th Row - "High-availability features".
1.30.	Battery Backed-Up Memory / Cache	Yes	Yes, NetApp has invented this technology, so yes, it supports battery-protected cache memory (Read/Write) in the event of a power failure. The proposed FAS8020A Filer as well all NetApp FAS Filers have battery-backed **NVRAM** which allows them to commit writes to stable storage quickly, without waiting on disks!	Pls see technical FAQ **Doc. No. A.15**. *"FAS8000 Series Technical FAQ"* Page 13, under 'How does NVRAM uses its battery'.
1.31.	Hot Standby Spare disks	Yes (Specify)	Yes, NetApp and the proposed FAS2554HA Filer support Hot Standby Spare disks.	Pls see **Doc. No. B.7**, *"SUPPORT: Hot spare drives"*, Page 1 of 2, 1st Paragraph, *highlighted text.*
1.32.	Automatic Failover in case of a controller failure	Yes (Specify)	Yes, Automatic Failover in case of a Controller Failure. You can set options to control whether automatic takeovers occur due to different system errors. In some cases, automatic	Pls see **Doc. No. B.8** *"Reasons for automatic takeover"*,

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled A
			takeover occurs by default unless you disable the option, and in some cases automatic takeover cannot be prevented. Takeovers can happen for several reasons. Some system errors must cause a takeover; for example, when a system in an HA pair loses power, it automatically fails over to the other node. However, for some system errors, a takeover is optional, depending on how you set up your HA pair. The enclosed documentation outlines which system errors can cause a takeover to occur, and whether/how you can configure the HA pair for that error, etc.	Page1 of 4: 3 first Paragraphs, and Table *Highlighted text.* For more details, please refer to page 3, under title "More Information". Also, for more information on this: **Doc. No. B.9** Pls see pages 18-24 from a documentation, called "*High-Availability Configuration Guide, under ONTAP® 9*" Whole document (106 Pages) can be found on https://library.netapp.com/ecm/ecm_download_file/ECMLP2492713.
1.33.	In case of automatic failover due to controller failure, the impact on performance must not affect normal operation of the storage system while working with a single controller.	Yes (Specify)	Yes, in case of an automatic failover due to controller failure, the impact on performance will not affect normal operation of the storage system while working with a single controller. This is a characteristic available from NetApp for more than 10 years now! ☺ **Faster take over and give back performance**. Planned and unplanned failovers are much faster in ONTAP 9 vs. previous releases. NetApp states that ONTAP 9 should have these events *down to 2-15 seconds*!!!	Pls see **Doc. No. B.9** Pages from a documentation called "*High-Availability Configuration Guide, under ONTAP® 9*" Page 8: 4th Column of Table, 5th Row under heading (*highlighted text*) Page 9: 4th Column of Table, 1st Row under heading (*highlighted text*)
1.34.	RAID level protection is required against double disk failure (two disks failure in the same RAID group)	Yes (Specify)	Yes, NetApp does provide a RAID Protection against double disk failure (two disks failure in the same RAID Group) which is called **RAID-DP®**. Also called Double Parity or Diagonal Parity.	Pls see **Doc. No. B.1** OS Datasheet, "*ONTAP 9 Data Management Software*",

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled A
			With OS Data-ONTAP-9, now NetApp offers also **RAID-TEC™**, which **triple-parity RAID 6 implementation that prevents data loss when three drives fail!** NetApp Special RAID Levels (RAID DP® and RAID-TEC™) **protects your data:** · without the performance impact of other RAID 6 implementations; · reduces risks during long rebuilds of large-capacity HDDs	Page 4 of 4, Table 1, 13th Row, *highlighted text.*
1.35.	Additional standard and nested RAID levels	No (Specify)	NetApp FAS Filers also support: **RAID-TEC™ (triple parity, ONTAP 9)** · SSDs and Performance HDDs: 29 (26 data disks plus 3 parity disks) · Capacity HDDs: 21 (18 data disks plus 3 parity disks) **RAID 6 (RAID-DP®)** · SSDs and Performance HDDs: 28 (26 data disks plus 2 parity disks) · Capacity HDDs: 20 (18 data disks plus 2 parity disks) **RAID 4** · SSDs and Performance HDDs: 14 (13 data disks plus 1 parity disk) · Capacity HDDs: 7 (6 data disks plus 1 parity disk) **RAID 6 + RAID 1 or RAID 4 + RAID 1 (SyncMirror®)**	Pls see **Doc. No. B.3** "*NetApp FAS2500 Series Technical Specifications*", Page 4 of 8: Under High Availability Features, 4th Row of Page (last lines), and also 1st Line of Page 5 of 8, *highlighted text.*
1.36.	Global – at least two (2) hot spares disks, for each RAID within the same Controller	Yes (Specify)	Yes, it is recommended by NetApp to have at least 2 hot spare disks for each RAID within the same Controller, for the following 2 reasons: · When you have two or more hot spares for a data disk, Data ONTAP can put that disk into the maintenance center if needed. Data ONTAP uses the maintenance center to test suspect disks and take offline any disk that shows problems.	Pls see **Doc. No. B.10** , "*SUPPORT: How many hot spares you should have*", Page 1, 3rd Paragraph, *highlighted text.*

B.2.2.1

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled A
			• Having two hot spares means that when a disk fails, you still have a spare available if another disk fails before you replace the first failed disk.	
1.37.	Automatic disk recovery in the event of a single disk failure and in the event of double disk failure without downtime.	Yes (Specify)	Yes, automatic disk recovery in the event of a single or double disk failure without downtime is possible due to NetApp's RAID-DP®.	Pls see **Doc. No. B.11** documentation, called "*RAID-DP: NetApp Implementation of DoubleParity RAID for Data Protection*" Page 12 of 13, 1st Paragraph under heading RAID-DP Operation Summary, *highlighted text.*
1.38.	Multipathing support for "Fibre Channel SAN"	Yes	Yes, NetApp supports Multipathing support for "Fiber Channel SAN". In fact, NetApp delivers full support of Fibre Channel (FC) host connections with leading operating systems-Windows®, ESX Server, Solaris™, Oracle® Enterprise Linux®, Red Hat Linux, SUSE Linux, AIX, HP/UX, NetWare, and OpenVMS. NetApp enables robust options for high-availability configurations via Multipathing and Clustering-supporting native and server- and storage-independent host software, as shown in the enclosed document/table.	Pls see **Doc. No. B.12** , "FC Host Platforms", Page 1 of 2, Table, *highlighted text.*
	Performance, Throughput and Scalability Specifications			
1.39.	Total number of Processors on Storage System (all controllers)	≥ 2 (Specify)	**2 Processors.** In detail: 2 x 64-bit 6-core 2.00 Ghz ((Per HA Pair)	Pls see **Doc. No. A.16**, "*FAS8020 specifications per controller*" Page 1, row 29 next to 'Processor'.
1.40.	Total Storage System RAM / Cache (non SSD - total System-Memory / Cache on both Storage Controllers)	≥ 48GB	**48GB Memory**	Pls see **Doc. No. A.3**, "*NetApp FAS8000 Series Technical Specifications*" Page 2, under

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled A
				'Per HA pair specifications', 5th Row - "Memory".
1.41.	Battery-protected cache memory (Read/Write) for the event of power failure.	Yes	Yes, NetApp has invented this technology, so yes, it supports battery-protected cache memory (Read/Write) in the event of a power failure.	Pls see **Doc. No. B.13** *"Controller Cache Memory"*, Page1: 1st, 3rd & 4th Paragraphs, *highlighted text.*
1.42.	Required usable "SSD (Solid State Drives) Caching" capacity on Storage System. ("SSD (Solid State Drives) Caching" for accelerating overall Storage System performance.)	≥ 1,5TB	**4.8TB**	Pls see **Doc. No. A.17** *"Technical Proposal"* done especially for the proposed Filer and configuration, for the purpose of this tender, using a NetApp special sizing tool (for NetApp internal Employees and NetApp Partners) called Synergy Page 6 of 11, Table under heading '4. Provisioning: FAS Categories: cutprimary: cutprimary-01/cutprimary-02', and Line ***'Flash pool SSD'*** *highlighted text.*
1.43.	Total IOPS capacity for the Storage System (on both controllers) with the following characteristics: • 70/30 Read/Write Ratio • Random access, (Workload type includes RDBMs [Oracle, MS SQL], MS Exchange 2013, NAS, VMware Infrastructure) • Data transfer size of 8KB • Total Storage System usable capacity 60TB • All required specs in this table Tenderer for his System Storage technical proposal must use the manufacturers sizing tools and submit the report.	≥ 30.000 (Specify)	**54,945 IOPS** (27472.53 IOPS per CPU, a total of 54,945 for the 2 CPUs.)	Pls see **Doc. No. A. 18** *"NetApp SPM Sizing Report: FAS8020A 8KB RANDOM 70/30 30K IOPS"* done especially for the proposed Filer and configuration (FAS8020A 96x900SAS – 12X400SSD – 30K IOPS – 8KB – 70READ - 30WRITE), for the purpose of this tender. Page 2 of 7, Table under heading 'SPM

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled A
				Recommended Configurations', 2 last columns, *highlighted text.*
1.44.	Average Read Latency for Random Workloads (ms - millisecond)	≤ 15 ms	**5 – 7 ms**	Pls see **Doc. No. A.18** *"NetApp SPM Sizing Report: FAS8020A 8KB RANDOM 70/30 30K IOPS"* done especially for the proposed Filer and configuration (FAS8020A 96x900SAS – 12X400SSD – 30K IOPS – 8KB – 70READ - 30WRITE), for the purpose of this tender. Page 2 of 7, Table under heading 'SPM Recommended Configurations', 2 last columns, *highlighted text.*
1.45.	Ability to apply QoS (Quality of Service) on different workloads. (eg RDBMS LUNs, CIFS file systems).	Yes (Specify)	Yes, NetApp (OS) supports the ability to apply QoS (Quality of Service) on different workloads. Storage QoS (Quality of Service) can help you manage risks around meeting your performance objectives. You use Storage QoS to limit the throughput to workloads and to monitor workload performance. You can reactively limit workloads to address performance problems and you can proactively limit workloads to prevent performance problems. Storage QoS is supported on clusters that have up to eight nodes. A workload represents the input/output (I/O) operations to one of the following storage objects: • A Vserver with FlexVol volumes • A FlexVol volume • A LUN	Pls see **Doc. No. B.14** , *"Managing workload performance by using Storage QoS"*, Page 1 of 3, 1st Page & Graphics on the end of page, *highlighted text.* Also, additional information can be found on: **Doc. No. B.15** *"FAQ: Storage Quality of Service (QoS)"*, All pages 1 to 3, *highlighted text.*

B.2.2.1

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled A
			· A file (typically represents a virtual machine) You assign a storage object to a policy group to control and monitor a workload. You can monitor workloads without controlling them.	
1.46.	Total Number of HDD (Hard Disk Drives) and SSD (Solid State Drives) support	≥ 450	**480** maximum drives (HHD & SSD) Per HA Pair Specifications (Active-Active Dual Controller)	Pls see **Doc. No. A.12**, "*NetApp FAS8000 Series Datasheet*" Page 4, under 'Per HA pair specifications', 1st Row - "Maximum Drives HDD/SSD".
1.47.	Support mixture of HDDs and SSDs in a single disk drive shelve/enclosure	Yes (Specify)	Yes, NetApp Shelves (disk containers/enclosures), support mixture of HDDs and SSDs. For example: · SSDs with SATA Disks · SSDs with SAS disks NetApp calls this mixture of SSDs with HDDs (SAS or SATA) **Flash Pool®**. The benefit of using Flash Pools: increases the performance and efficiency of HDD pools with flash acceleration!	**Doc. No. B.1** OS Datasheet, "*ONTAP 9 Data Mgt Software*", Page 4 of 4, 5th Row of Table, *highlighted text*. In addition, **Doc. No. B.16** "*NetApp Disk Shelves and Storage Media Technical Specifications*". Page 1 of 5: *highlighted text*. Page 2 of 5: 2nd Row of Table, Page 4 of 5: *highlighted text*.
1.48.	SAS Interconnect required for all Disk Drive Shelve(s) / Enclosure(s)	≥ 6Gbs (Specify)	Yes, SAS Interconnect is provided for all Disk Drive Shelves, and the speed is **6Gbs**. (optical SAS connectivity)	Pls see **Doc. No. B.2** "*FAS2554 Specifications*", Page1 of 2: Under Technical Specifications per HA pair, 8th Row, *highlighted text*. Also, Pls see product **Doc. No. A.20**, "*Disk Shelves, storage media, and cabling for Netapp FAS*

<table>
<tr><th>No.</th><th>Requirements – Specifications</th><th>Requirement</th><th>Response - Offer</th><th>Reference
Documentation labeled A</th></tr>
<tr><td></td><td></td><td></td><td></td><td>Systems" Page 2, Under "Optical SAS connectivity" 1st and 3rd Paragraph.</td></tr>
<tr><td>1.49.</td><td>Support data capacity expansion (addition of disks and disk shelves / enclosures)</td><td>Yes
(Specify)</td><td>Yes, there is support for data capacity expansion (addition of disks and disk shelves/enclosures), and without any disruption to the operations!
You may add any shelf/disks supported by the proposed FAS8020A at any time, until you reach the Filer's maximums:
<table><tr><th>Specifications</th><th>FAS8020
 
9.1RC1 ONTAP</th></tr><tr><th colspan="2">System Maximums and Limits</th></tr><tr><td>Max DS212C Shelves (HA)</td><td>20</td></tr><tr><td>Max DS224C Shelves (HA)</td><td>20</td></tr><tr><td>Max DS2246 Shelves (HA)</td><td>20</td></tr><tr><td>Max DS4243 Shelves (HA)</td><td>20</td></tr><tr><td>Max DS4246 Shelves (HA)</td><td>20</td></tr><tr><td>Max DS4486 Shelves (HA)</td><td>10</td></tr></table></td><td>Pls see Doc. No. A.16, "FAS8020 specifications per controller" Page 1, row 3-4 next to 'Max Storage Devices and Max DS2246 shelves'.</td></tr>
<tr><td>1.50.</td><td>Support Data Compression (in-line or post-process/offline) for all types of data (for NAS and SAN) on volume level
[Volume refers to logical container of file systems (LUNs, NAS file systems).]</td><td>Yes</td><td>Yes, Data Compression (in-line or post-process/offline) for all types of data (for NAS and SAN) on volume level is supported. (Feature of the NetApp's OS).
NetApp data compression reduces the physical capacity required to store data on storage systems by compressing data within a flexible volume on primary, secondary, and archive storage. It compresses regular files, virtual local disks, and LUNs.
NetApp data compression works by compressing a small group of consecutive blocks at one time, which is more</td><td>Pls see Doc. No. A.12 "NetApp FAS8000 Series" Page 4 of 4: Table 2) NetApp FAS8000 Series Software, 1st Row: Efficiency, highlighted text.
Also,
Doc. No. B.18 "FAQ: Data Compression in Data ONTAP": Page1 of 6: 1st & 2nd Paragraphs, highlighted text</td></tr>
</table>

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled A
			efficient. This approach optimizes both small reads and overwrites and allows greater scalability in the size of files being compressed. The NetApp compression algorithm divides a file into chunks of data called 'compression groups'. Compression groups are a maximum of 32 KB in size. Each compression group contains data from one file only. **What are the advantages of data compression?** NetApp data compression offers significant advantages, which include the following: · Works in conjunction with other industry - leading NetApp storage efficiency technologies. Compression, coupled with other efficiency technologies such as thin provisioning and deduplication, significantly reduces the total amount of storage required, lowering both capital and operating expenses. **Total space savings can range up to 87% for compression, depending on the application.** · It has minimal performance impact - while all compression technologies come with some performance penalty, NetApp has taken great care to minimize the impact while maximizing space savings. · Requires no software licensing fees - The NetApp data compression capability is standard in Data ONTAP 8.1. No license is required; hence, no additional hardware or software costs are incurred when enabling compression. · Works for both primary and secondary storage - You can enable compression on primary storage volumes, secondary storage volumes, or both.	Page 3 of 6: 3rd Paragraph etc, *highlighted text* Also, Doc. No. B.19 "*Storage Efficiency in Clustered Data ONTAP*", Page 4 of 8, last Paragraph that continues to Page 5 of 8: 1st paragraphs of Page, as well as last paragraphs of same page, *highlighted text.*

B.2.2.1

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled A
			· Requires no application changes - Compression is application-transparent, it can be used with a variety of applications with no code changes required. · Space savings inherited during replication and with use of DataMotion - When you replicate a compressed volume using volume SnapMirror or move a volume with DataMotion™, blocks are copied in their compressed state. **This saves bandwidth and time during data transfer and space on target storage while avoiding the need to use additional CPU cycles to compress the same blocks again.** The key with NetApp compression is that NetApp has developed a way to provide both transparent inline and postprocess data compression in software while mitigating the impact on storage system resources. The benefits of deduplication and compression technologies are similar: · They work on both primary and secondary storage. · They are transparent to running applications. · Both can be applied to new data or previously written data. · Both can run during off-peak hours.	
1.51.	Support Data Deduplication (in-line or post-process/offline) for all types of data (for NAS and SAN) on volume level *[Volume refers to logical container of file systems (LUNs, NAS file systems).]*	Yes	Yes, Data Deduplication (in-line or post-process/offline) for all types of data (for NAS and SAN) on volume level is supported. (Feature of the NetApp's OS). The benefits of deduplication and compression technologies are similar: · They work on both primary and secondary storage. · They are transparent to running applications.	Pls see Doc. No. A.12 "NetApp *FAS8000 Series*" Page 4 of 4: Table 2) NetApp FAS8000 Series Software, 1st Row: Efficiency, *highlighted text.* Also.

B.2.2.1

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled A
			• Both can be applied to new data or previously written data. • Both can run during off-peak hours.	Pls see Doc. No. B.1 OS. Datasheet, "ONTAP 9 Data Management Software", Page 4 of 4, 4th Row of Table, *highlighted text.* Also, Doc. No. B.19 "Storage Efficiency in Clustered Data ONTAP", Page 4 of 8, last Paragraph that continues to Page 5 of 8: 1st paragraphs of Page, as well as last paragraphs of same page, *highlighted text.*
1.52.	Support Thin Provisioning for all types of data (for NAS and SAN) on volume level *[Volume refers to logical container of file systems (LUNs, NAS file systems).]*	Yes	Yes. Thin Provisioning for all types of data (for NAS and SAN) on volume level is supported. (Feature of the NetApp's OS). NetApp thin provisioning lets you present more logical storage to hosts or users than you actually have in your physical storage pool. Instead of allocating space upfront, storage space is dynamically allocated to each volume or LUN as data is written. In most configurations, free space is also released back to your common storage pool when data in the volume or LUN is deleted. Benefits include: • You are saved from having large amounts of allocated but unused storage. • Utilization is increased, reducing the amount of storage you need. • Planning is simplified. Multiple volumes share the same pool of free storage, so there are fewer storage pools to manage.	Doc. No. B.19 "Storage Efficiency in Clustered Data ONTAP", Page 4 of 8, middle of page, under Heading Other Storage Efficiency Technologies, *highlighted text.*

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled A
			Thin provisioning in clustered Data ONTAP is identical to it in 7-Mode operation. When you relocate a volume using **vol move**, the thin provisioning settings on the volume move with it!	
1.53.	Support Encryption for all types of data (for NAS and SAN) on volume level. (Specify if special equipment, software and license is needed) *[Volume refers to logical container of file systems (LUNs, NAS file systems).]*	No (Specify)	Encryption for all types of data (for NAS and SAN) on volume level is supported. Storage Encryption is an optional feature that you can enable for additional data protection. It is available on certain supported storage controllers and disk shelves that contain disks with built-in encryption functionality.	Pls see **Doc. No. B.1** OS Datasheet, "*ONTAP 9 Data Management Software*", Page 4 of 4, Last Row of Table, *highlighted text*. Also, for more information on the various options of deploying encryption: Pls see Pages of **Doc. No. B.20**
1.54.	Total Number of dual personality ports (10GbE/FCoE Ports or 4/8/16Gbit FC) on Storage System for existing infrastructure compatibility with FC SFPs.	≥ 4 (≥ 2 per controller)	Yes, **4** dual personality ports (2 per Controller) are provided. In detail: Onboard I/O: UTA 2 (16Gb FC/FCoE/10GbE) = 4	Pls see **Doc. No. A.12**, "*NetApp FAS8000 Series Datasheet*" Page 4, under 'Per HA pair specifications', 9th Row - "Onboard I/O UTA 2".
1.55.	Total Number of 1GbE Ethernet Ports on Storage System for NAS (CIFS / NFS) and iSCSI purposes.	≥ 4 (≥ 2 per controller)	Yes, **4** 1GbE Ethernet Ports on the proposed FAS8020A (2 per Controller) are provided. In detail: Onboard I/O: GbE = 4	Pls see **Doc. No. A.12**, "*NetApp FAS8000 Series Datasheet*" Page 4, under 'Per HA pair specifications', 10th Row - "Onboard I/O Gbe".
1.56.	Support optional future dual personality ports (10GbE/FCoE Ports or 4/8/16Gbit FC), or 10GbE or 4/8/16Gbit FC Expansion Cards	Yes	Yes, there are optional future dual personality ports (10GbE/FCoE Ports or 4/8/16Gbit FC), or 10GbE or 4/8/16Gbit FC Expansion Cards.	Pls see **Doc. No. A.12**, "*NetApp FAS8000 Series Datasheet*" Page 4, under 'Per HA pair specifications', 9th & 11th Rows.

<table>
<tr><th>No.</th><th>Requirements – Specifications</th><th>Requirement</th><th>Response - Offer</th><th>Reference
Documentation labeled A</th></tr>
<tr><td></td><td></td><td></td><td>
<table>
<tr><th colspan="2">Technical Specifications per HA pair</th></tr>
<tr><td>Ethernet Ports</td><td>4 x RJ45 (1Gb)
4 x SFP+ (10Gb)</td></tr>
<tr><td>Fibre Channel Ports</td><td>-</td></tr>
<tr><td>UTA2 Ports</td><td>4 x SFP+ (10Gb/16Gb) [6]</td></tr>
<tr><td>Expansion Slots</td><td>4 x PCIe3</td></tr>
<tr><td>SAS Ports</td><td>4 x QSFP (6Gb)</td></tr>
</table>
</td><td>highlighted text</td></tr>
<tr><td>1.57.</td><td>Number of free expansion Slots (e.g. PCIe) after adding connectivity ports above.</td><td>≥ 2</td><td>Yes. 2. (1 per Controller)</td><td>Pls see Doc. No. A.12, "NetApp FAS8000 Series Datasheet" Page 4, under 'Per HA pair specifications', 9th Row - "Onboard I/O UTA 2".</td></tr>
<tr><td>1.58.</td><td>Ability to expand SSD capacity by adding shelves and SSD disks</td><td>Yes
(Specify)</td><td>Yes, the ability to expand SSD capacity by adding shelves and SSD disks is supported.
You may add any shelf/SSD disks supported by the proposed FAS8020A at any time, until you reach the Filer's maximums:
<table>
<tr><th>Specifications</th><th>FAS8020
 
9.1RC1 ONTAP</th></tr>
<tr><th colspan="2">System Maximums and Limits</th></tr>
<tr><td>Max Raw capacity (HA)</td><td>4800 TB</td></tr>
<tr><td>Max Storage Devices (HA)</td><td>480 (Array LUNs)</td></tr>
<tr><td>Max DS212C Shelves (HA)</td><td>20</td></tr>
<tr><td>Max DS224C Shelves (HA)</td><td>20</td></tr>
<tr><td>Max DS2246 Shelves (HA)</td><td>20</td></tr>
<tr><td>Max DS4243 Shelves (HA)</td><td>20</td></tr>
<tr><td>Max DS4246 Shelves (HA)</td><td>20</td></tr>
<tr><td>Max DS4486 Shelves (HA)</td><td>10</td></tr>
</table>
</td><td>Pls see Doc. No. A. 21 "Supported Shelves Drives – FAS8020 (Single/HA) 9.0 ONTAP" Page 1, 2 & 3, of 3: highlighted text.</td></tr>
</table>

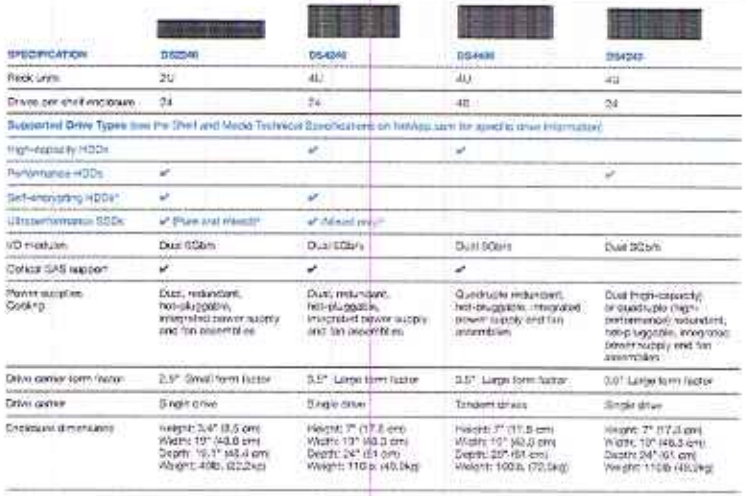
<table>
<tr><th>No.</th><th>Requirements – Specifications</th><th>Requirement</th><th>Response - Offer</th><th>Reference
Documentation labeled A</th></tr>
<tr><td></td><td></td><td></td><td>There are numerous sizes of SSD available to add currently [Different shelves can accommodate different sizes of SSD disks. See enclosed "Supported Shelves Drives - FAS8020 (Single/HA) 9.1RC1 ONTAP" document for exact details on this]:
400GB, 800GB, 960GB, 1600GB, 3840GB, 15300GB!!

(Some of these SSD disks are special encrypted disks. 🔒)</td><td></td></tr>
<tr><td>1.59.</td><td>Ability to expand HDD capacity by adding shelves and HDD disks</td><td>Yes
(Specify)</td><td>Yes, there is support for data capacity expansion (addition of disks and disk shelves/enclosures), and without any disruption to the operations!
You may add any shelf/disks supported by the proposed FAS8020A at any time, until you reach the Filer's maximums:

<table><tr><th>Specifications</th><th>FAS8020
 
9.1RC1 ONTAP</th></tr><tr><td colspan="2">System Maximums and Limits</td></tr><tr><td>Max Raw capacity (HA)</td><td>4800 TB</td></tr><tr><td>Max Storage Devices (HA)</td><td>480 (Array LUNs)</td></tr><tr><td>Max DS212C Shelves (HA)</td><td>20</td></tr><tr><td>Max DS224C Shelves (HA)</td><td>20</td></tr><tr><td>Max DS2246 Shelves (HA)</td><td>20</td></tr><tr><td>Max DS4243 Shelves (HA)</td><td>20</td></tr><tr><td>Max DS4246 Shelves (HA)</td><td>20</td></tr><tr><td>Max DS4486 Shelves (HA)</td><td>10</td></tr></table>
As you can see, there are numerous types of shelves, and types/sizes of HDDs available to add currently [Different shelves can accommodate different sizes of disks. See</td><td>Pls see Doc. No. A. 21
"Supported Shelves Drives – FAS8020 (Single/HA) 9.0 ONTAP" Page 1, 2 & 3 of 3: highlighted text.</td></tr>
</table>

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled A
			enclosed "*Supported Shelves Drives - FAS8020 (Single/HA) 9.1RC1 ONTAP*" document for exact details on this]. (Some of these HDD disks are special encrypted disks. 🔒)	
1.60.	Define other performance characteristics	Information	• With clustered ONTAP, you can **expand flash capacity when you need performance**, high-density drives when you need raw capacity, or both. You can scale up when you need a higher end storage array, or scale out horizontally when you need to distribute a workload. All of these operations can be performed while clients and hosts continue accessing their data.	Pls see technical report TR-3982, **Doc. No. A.13**, "*NetApp Clustered Data ONTAP 8.3.x and 8.2.x: An Introduction*" Page 5 of 19, last 2 paragraphs of page, *highlighted text*.
	Disk Drives (HDD & SSD)			
1.61.	Specify all supported SATA or NL-SAS (Near-line SAS) HDD disk drives. Form Factor (e.g. 2.5", 3.5"), Nominal Capacity (e.g. 1 TB), Rotational Speed (e.g. 7,5k rpm), Gbps etc.	Yes (Specify)	Yes, our proposed system FAS8020A currently supports a number of different shelves, types and sizes of disks, including: SATA & NL-SAS disk drives In detail: SATA 7.2K & NL-SATA 7.2K: 2TB, 3TB, 4TB, 6TB, 8TB, 10TB (Some of them are of 2.5" and some 3.5", according to the shelf they will be placed in)  SELECTION CRITERIA / STORAGE MEDIA / DISK SHELF • Performance density — Performance (10K RPM) density HDDs — DS2246 • Best performance with hard disk drives — Performance (15K RPM) HDDs — DS4243 • Maximum capacity — High-capacity (7.2K RPM) HDDs — DS4246 • Lowest cost per gigabyte — DS4246 • Maximum storage density — DS4486 • Highest IOPS for random I/O — Ultraperformance SSDs — DS2246 • Lowest latency • Data security — Self-encrypting disk drives (AES-128 and AES-256) — DS2246, DS4246 • NetApp Storage Encryption • Flash Pool support — Pure SSD shelf — DS2246 Mixed shelf — DS2246, DS4246 SSDs + HDDs	Pls see **Doc. No. A. 21** "*Supported Shelves Drives – FAS8020 (Single/HA) 9.0 ONTAP*" Page 1 & 2, of 3: *highlighted text*. Also, Pls see **Doc. No. A. 20** "*Disk Shelves, Storage Media, and Cabling for FAS and V-Series Systems*" Pages 3 & 4, and 4 of 4: *highlighted text*.

B.2.2.1

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled A
			 (Some of these disks are encrypted as well. Encrypted disks cannot get mixed with Non-Encrypted disks in the same shelf)	
1.62.	Specify all supported SAS HDD disk drives. Form Factor (e.g. 2.5", 3.5"), Nominal Capacity (e.g. 600 GB), Rotational Speed (e.g. 10k rpm), Gbps etc.	Yes (Specify)	Yes, our proposed system FAS8020A currently supports a number of different shelves, types and sizes of disks, including: SAS disk drives: In detail: SAS 10K: 900GB, 1.2TB, 1.8TB (Some of these disks are encrypted as well. Encrypted disks cannot get mixed with Non-Encrypted disks in the same shelf)	Pls see **Doc. No. A. 21** *"Supported Shelves Drives – FAS8020 (Single/HA) 9.0 ONTAP"* Page 1 & 2 of 3, *highlighted text.*
1.63.	Specify all supported SSD drives. Specify all options, Form Factor (e.g. 2.5", 3.5"), Nominal Capacity (e.g. 600 GB), Gbps etc.	Yes (Specify)	Yes, our proposed system FAS8020A currently supports a number of different shelves, types and sizes of disks, including: SSD disk drives In detail: There are numerous sizes of SSD available to add currently [Different shelves can accommodate different sizes of SSD disks. See enclosed *"Supported Shelves Drives – FAS8020 9.0*	Pls see **Doc. No. A. 21** *"Supported Shelves Drives – FAS8020 (Single/HA) 9.0 ONTAP"* Page 1, 2 & 3, of 3: *highlighted text.* Also,

B.2.2.1

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled A
			ONTAP (External Drives (Single/HA)) document for exact details on this]: SSD Disks: 400GB, 800GB, 960GB, 1.6TB, 3.840TB, 15.3TB !! (according to the shelf they will be incorporated, some of them are 2.5" and some 3.5")	Doc. No. B.22 "Supported SSD Drives" Page 1: highlighted text.
1.64.	Define other disk drives supported (not mentioned above).	Information	As mentioned in previous points above, NetApp also supports encrypted disks. 🔒	Pls see Doc. No. A. 21 "Supported Shelves Drives – FAS8020 (Single/HA) 9.0 ONTAP" Page 1, 2 & 3, of 3: highlighted text. Also, Doc. No. B.22 "Supported SSD Drives" Page 1: highlighted text. (🔒 Indicates that the drive is encrypted)
	Features and Functions			
1.65.	Provide point-in-time copy (snapshots and delta-snapshots) of volumes in an efficient way in terms of performance and storage usage. *[Volume refers to logical container of file systems (LUNs, NAS file systems).]*	Yes (Specify)	Yes. NetApp has a patent for their point-in-time copies, called Snapshots®. Several data storage vendors implement snapshot copies, but not all snapshot technology is created equal. NetApp, the first company to ship high volume open systems and "point-in-time" snapshot capability, offers unique and important advantages. NetApp® Snapshot technology delivers more stability, scalability, recoverability, and performance than competing snapshot technologies. NetApp has leveraged its superior Snapshot technology as the foundation for a family of data protection solutions. These products incorporate and extend the advantages of NetApp	Pls see Doc. No. B.24 "NetApp Snapshot Technology" Page 1 of 2: highlighted text.

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled A
			Snapshot copies to deliver advanced enterprise data protection. **What is a NetApp Snapshot Copy?** A Snapshot copy is a point-in-time file system image. Low-overhead Snapshot copies are made possible by the unique features of the WAFL® (Write Anywhere File Layout) storage virtualization technology that is part of Data ONTAP®. Like a database, WAFL uses pointers to the actual data blocks on disk, but, unlike a database, WAFL does not rewrite existing blocks; it writes updated data to a new block and changes the pointer. A NetApp Snapshot copy simply manipulates block pointers, creating a "frozen" read-only view of a WAFL volume that lets applications access older versions of files, directory hierarchies, and/or LUNs (logical unit numbers) without special programming. Because actual data blocks aren't copied, Snapshot copies are extremely efficient both in the time needed to create them and in storage space. A NetApp Snapshot copy takes only a few seconds to create—typically **less than one second, regardless of the size of the volume** or the level of activity on the NetApp storage system. After a Snapshot copy has been created, changes to data objects are reflected in updates to the current version of the objects, as if Snapshot copies did not exist. Meanwhile, the Snapshot copy of the data remains completely stable. A NetApp Snapshot copy incurs no performance overhead; users can **comfortably store up to 255 Snapshot copies per WAFL volume**, all of which are accessible as read-only and online versions of the data.	

B.2.2.1

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled A
			Snapshot technology forms the basis of a unique ecosystem of high-availability, disaster-tolerant, and data protection solutions.	
1.66.	Read and write access to point in time copies (snapshots and delta-snapshots) of volumes *[Volume refers to logical container of file systems (LUNs, NAS file systems).]*	Yes (Specify)	Yes, NetApp read and write to Snapshots (and delta-snapshots) of volumes is allowed, with the use of a Software called FlexClone®, which is included in our proposal. *(The administrators of CUT's NetApp Filers, have been successfully using FlexClone software for many years now, so they are aware of the benefits that can offer, including the tremendous savings of time, space, and thus money!!!!)*	Pls see **Doc. No. A.22** *"FlexClone Datasheet"*, Page 1 of 2, 3rd Column, 2nd paragraph, *highlighted text.*
1.67.	Number of retained point in time copies (snapshots and delta-snapshots) per volume *[Volume refers to logical container of file systems (LUNs, NAS file systems).]*	≥ 200 (Specify)	Yes, NetApp storage volumes support **255 Snapshot copies.** The ability to store a large number of low impact, frequently created Snapshot copies increases the likelihood that the desired version of data can be successfully recovered!	Pls see **Doc. No. B.24** *"NetApp Snapshot Technology"* Page 2 of 2, 2nd Column, last paragraph, under point Scalability, *highlighted text.*
1.68.	Internal cloning of volumes in the same Storage System (any restrictions must be specified) *[Volume refers to logical container of file systems (LUNs, NAS file systems).]*	Yes (Specify)	Yes, NetApp supports internal cloning of volumes in the same Storage System. FlexClone software provides instant replicas of data **volumes**, **files**, and **LUNs** to increase productivity in several Data ONTAP® environments. FlexClone replicas are virtual copies that do not require any storage space to create. Because they do not require any data copying, FlexClone volumes can be created instantly, thus eliminating the performance-related time delays associated with traditional data cloning.	Pls see **Doc. No. A.23**, *"Technical FAQ FlexClone Clustered Data ONTAP 8.3"* Page 4 of 15, 1st Paragraph under heading Overview. Also, Pls see **Doc. No. A.22** *"FlexClone Datasheet"*, Page 1 of 2, 3rd Column, 2nd paragraph, *highlighted text.*

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled A
1.69.	Replication and incremental replications of volumes between storage arrays of disks (any restrictions must be specified) *[Volume refers to logical container of file systems (LUNs, NAS file systems).]*	Yes (Specify)	Yes, NetApp supports replication and incremental replications of volumes between storage arrays of disks, with a Software called **SnapMirror®.** This is a licensed software, which we have included in the cost of our proposal, in the "bundle of software" called Premium Bundle for FAS8020A. *(The administrators of CUT's NetApp Filers, have been successfully using SnapMirror software for many years now, so they are aware of the benefits that can offer, including the tremendous savings of bandwidth, space, and thus money!!!!)*	Pls see **Doc. No. A.24**, *"How Snapmirror works"* Page 1, 1st and 3rd Paragraph. Also, Pls see Actual Configuration for proposed Products document *"CUT Tender Configuration"* (as configured from NetApp's Quotes Tool) **No. A. 2**, Pages: 2 of 3: End of Page, under heading Software, *highlighted text*
1.70.	Ability to create copies of data (cloning) for testing and development (provide efficient way in terms of performance and storage usage) without disruptive the normal operation of the original (source) data.	Yes (Specify)	Yes, NetApp supports internal cloning of volumes in the same Storage System, with a Software called **FlexClone®.** This is a licensed software, which we have included in the cost of our proposal, in the "bundle of software" called Premium Bundle for FAS8020A. *(The administrators of CUT's NetApp Filers, have been successfully using FlexClone software for many years now, so they are aware of the benefits that can offer, including the tremendous savings of time, space, and thus money!!!!)*	Pls see **Doc. No. A.22** *"FlexClone Datasheet"*, Page 1 of 2, 1st Column, under heading 'Key Points', *highlighted text.* Also, Pls see Actual Configuration for proposed Products document *"CUT Tender Configuration"* (as configured from NetApp's Quotes Tool) **No. A. 2**, Pages: 2 of 3: Middle of Page, under heading Software, *highlighted text*
1.71.	Automated Storage Reclamation (provide efficient way in terms of performance and storage usage)	Yes (Specify)	Yes, NetApp storage supports Automated Storage Reclamation. This is achieved by using the space reclamation	Pls see **Doc. No. A.25**, *"NetApp SnapDrive Data Management Software*

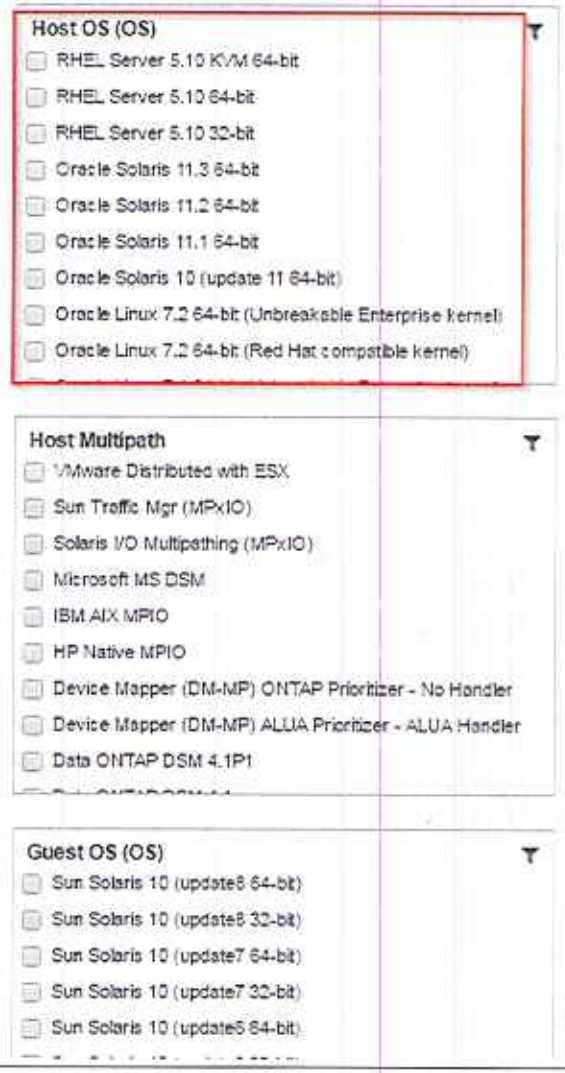
No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled A
			capabilities of SnapDrive to increase storage efficiency by conserving and reusing disk space.	Datasheet" Page 2 of 4, 1st Column, 3rd Paragraph under 'Boost storage efficiency'
1.72.	All cost for the migration tolls from existing (NetApp FAS3140HA) must be provided by the tenderer	Yes (Specify)	Yes, if we are awarded with this tender, we shall use our own "migration tools", to migrate all your data from NetApp 7-Mode OS, to new cDOT ONTAP-9 OS and in specific, we shall use a tool provided freely to us (Gold Partners) by NetApp called 7MTT. This tool can significantly streamline the process of migrating data!	Pls see **Doc. No. A. 26** a part of a 150 Pages Guide called, *"7-Mode Transition Tool 2.3 Copy-Based Transition Guide For Transitioning to Clustered Data ONTAP®"* Pages 1-6, of 150 Index/Contents to get an idea of the processes involved.
	Protocols			
1.73.	Unified Storage that provides via a double controller storage System NAS (file services) and SAN (block I/O storage services) without the need of an external device.	Yes	Yes, NetApp is the **first Company that has managed to provide via the same appliance, NAS (file services) and SAN (block I/O storage services) without the need of an external device!! And this was accomplished more than a decade ago!** Simplify Your Storage Environment Run SAN and NAS workloads with unified scale-out storage, and efficiently protect your at-rest data!	Pls see **Doc. No. B.1** OS Datasheet, *"ONTAP 9 Data Management Software"*, Page 1, Left Column of Datasheet, under heading KEY BENEFITS & Flexibly Support Changing Business Needs, 3rd Point *highlighted text.* Also, Pls see **Doc. No. A.27**, *"NetApp ONTAP: Unified Storage Architecture"*, Page 1, *highlighted text.* Also,

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled A
				Pls see **Doc. No. A.12**, "*NetApp FAS8000 Series Datasheet*" Page 1, 1st & 2nd paragraphs. *highlighted text*
1.74.	NAS (Network Attached Storage) for file access services that provide NFS (support NFS v3, NFS v4) and CIFS by connecting to TCP/IP network.	Yes	Yes, NetApp supports NAS (Network Attached Storage) for file access services that provide NFS (support NFS v3, NFS v4) and CIFS by connecting to TCP/IP network. (SBM connectivity)	Pls see technical report **Doc. No. A.13**, "*NetApp Clustered Data ONTAP 8.3.x and 8.2.x An Introduction*" Page 16, under 'Multiprotocol Unified Architecture'.
1.75.	Support of pNFS (Parallel NFS)	No	Yes, NetApp supports pNFS.	Pls see technical report **Doc. No. A.13**, "*NetApp Clustered Data ONTAP 8.3.x and 8.2.x An Introduction*" Page 16, under 'Multiprotocol Unified Architecture', 1st bullet point. *highlighted text*
1.76.	CIFS integration with "Cyprus University of Technology" Microsoft Active Directory infrastructure	Yes	Yes, you can consolidate your Windows® file servers on NetApp NAS with native SMB/CIFS support. Integrate NetApp NAS systems into your Windows environment with minimal-to-no disruption, and connect them to existing authentication services such as Active Directory. Use SMB/CIFS shares for applications such as SharePoint and SQL, as well as for your custom and traditional workloads. Going further, you can take advantage of SMB 3.0 support to improve scalability and manageability for Microsoft® Hyper-V® environments.	Pls see **Doc. No. A.28**, "*Network Attached Storage*" (http://www.netapp.com/us/products/protocols/nas/index.aspx) Page 1, 4th paragraph, *highlighted text.*
1.77.	Ability to set Quota limits on disk space usage per Microsoft Active Directory (MS AD) user and MS AD group	Yes	Yes, you can set quotas when using **qtrees**. Either per user or group. Since the SVM is joined to the active directory then the above information is from the Active Directory.	Pls see **Doc. No. A.55**, "*How quotas work with qtrees*", Page 1, 1st paragraph, *highlighted text.*

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled A
				Also, Pls see **Doc. No. A.56**, "Quotas", 2nd Page, 2nd & 6th paragraphs, *highlighted text.* Also, Pls see **Doc. No. A.57** OS Datasheet, "*What quota rules, quota policies, and quotas are*", Page 1, 1st paragraph, *highlighted text.*
1.78.	Ability to set Quota limits on number of files per Microsoft Active Directory (MS AD) user and MS AD group	Yes	Yes, you can set quotas on number of files per MS AD user and MS AS group, when using **qtrees**. Either per user or group. Since the SVM is joined to the active directory then the above information is from the Active Directory.	Pls see **Doc. No. A.55**, "*How quotas work with qtrees*", Page 1, 1st paragraph, *highlighted text.* Also, Pls see **Doc. No. A.56**, "Quotas", 2nd Page, 2nd & 6th paragraphs, *highlighted text.*
1.79.	Ability to use Microsoft Previous Versions to file systems that enable point in time copies (delta-snapshot copies with support of MS VSS). So users can recover files and folders from Snapshot copies from their Windows client.	Yes	Yes.	Pls see technical report **Doc. No. A.30**, "*User access to Snapshot copies*" Page 1, 1st and 2nd Paragraph.
1.80.	Ability for NFS users to access point in time copies (delta-snapshot copies with support of MS VSS). So users can recover files and folders from Snapshot copies from their NFS client.	Yes	Yes.	Pls see technical report **Doc. No. A.30**, "*User access to Snapshot copies*" Page 1, 1st and 2nd Paragraph.
1.81.	SAN (Storage Area Network) for block I/O services that provide "Fibre Channel SAN" and iSCSI	Yes	Yes. NetApp storage solutions are protocol agnostic, so you can get the benefits of Data ONTAP across all NetApp SAN and NAS solutions, whether FC, FCoE, iSCSI, NFS, or CIFS!	Pls see **Doc. No. A.31**, "*Storage Area Network (SAN)*" Page 1,

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled A
				highlighted text
1.82.	SAN: Number of Supported LUNs, per Storage System	≥ 1000	8,192	Pls see Doc. No. A.3, "NetApp FAS8000 Series Technical Specifications" Page 4, row 3, next to 'Max. Number of LUNs.
1.83.	SAN: Supported LUN Size (TB)	≥ 10TB	15625GiB = 16.77 TB	Pls see Doc. No. A.16, "FAS8020 specifications per controller" Page 1, row 20 next to 'Max Array LUN Size'.
1.84.	Boot from SAN (including Microsoft Windows 2008 and all later, Linux, AIX, VMware Infrastructure suite ESXi 5 and later)	Yes	Yes, Boot from SAN is supported in all the mentioned OS, however to check one specific OS version you need to check our Interoperability Matrix Tool (IMT) on: (http://mysupport.netapp.com/matrix/)	Pls see Doc. No. A.50, Actual "Screenshot from NetApp's Interoperability Matrix Tool (IMT)" showing how you can check specific OS version compatibility with Boot from SAN etc Also, Pls see Doc. No. A.49 "(iSCSI) SAN boot configuration for iSCSI hardware, software initiators", Information and links in Page 1, highlighted text.

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled A

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled A
				

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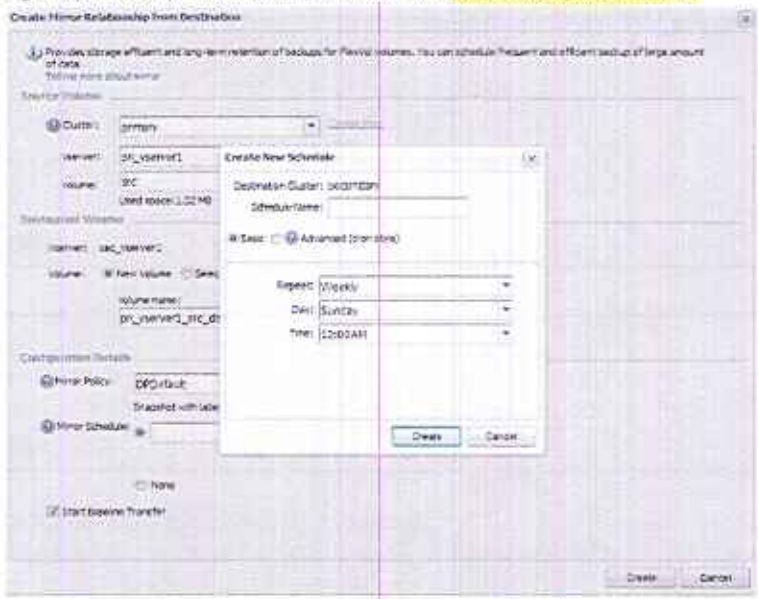
No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled A
1.85.	CIFS and NFS logging capabilities for Auditing purposes (eg user activity on files)	Yes	Yes, native auditing is supported by NetApp's OS (cDOT) and it provides a file auditing framework that supports both CIFS and NFS protocols. How the Data ONTAP auditing process works? The Data ONTAP auditing process is different than the Microsoft auditing process. Before you configure auditing, you should understand how the Data ONTAP auditing process works. Audit records are initially stored in binary staging files on individual nodes. If auditing is enabled on an SVM, every member node maintains staging files for that SVM. Periodically, they are consolidated and converted to user-readable event logs, which are stored in the audit event log directory for the SVM.	Pls see part of **Doc. No. A.32**, "*CIFS and NFS Auditing Guide*" Page 9-93, Middle of page under heading 'How Data ONTAP auditing process works', *highlighted text* https://library.netapp.com/ecm/ecm_download_file/ECMLP2426796
	Operating System and Application Aware Point in Time Copies and Restore functionality			
1.86.	Operating System support (all open systems including Windows Server 2008, Windows Server 2012, Linux, AIX, VMware Infrastructure ESXi)	Yes	Yes, NetApp and of course the proposed Filer, supports all the mentioned Operating Systems, plus more. In detail: Windows 2000, Windows Server 2003, Windows Server 2008, Windows Server 2012, Windows Server 2016, Windows XP, Linux, Sun Solaris, AIX, HP-UX, Mac OS, VMware, ESX.	Pls see **Doc. No. A.12**., "*NetApp FAS8000 Series Datasheet*" Page 4, Row 33, next to 'Host/Client operating systems supported'.
1.87.	Application Aware Snapshot for MS Exchange	Yes	Yes! SnapManager for Exchange is included in our proposal, as part of Premium Bundle.	Pls see **Doc. No. A.33**, "*SnapManager for Microsoft Exchange Server*" Page 1, 2nd Paragraph. Also, Pls see Actual Configuration for proposed Products document "*CUT Tender Configuration*" (as configured

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled A
				from NetApp's Quotes Tool) **No. A. 2**, Pages: 2 of 3: Middle of Page, under heading Software, *highlighted text*
1.88.	Application Aware Snapshot for MS SQL	Yes	Yes! SnapManager for SQL is included in our proposal, as part of Premium Bundle.	Pls see **Doc. No. A.34**, "*SnapManager for Microsoft SQL Server*" Page 1, 2nd Paragraph. Also, Pls see Actual Configuration for proposed Products document "*CUT Tender Configuration*" (as configured from NetApp's Quotes Tool) **No. A. 2**, Pages: 2 of 3: Middle of Page, under heading Software, *highlighted text*
1.89.	Application Aware Snapshot for Oracle RDBMS (including RAC)	Yes	Yes! SnapManager for Oracle is included in our proposal, as part of Premium Bundle.	Pls see **Doc. No. A.35**, "NetApp *SnapManager for Oracle Datasheet*" Page 1, 3rd column under 'The solution'. Also, Pls see Actual Configuration for proposed Products document "*CUT Tender Configuration*" (as configured from NetApp's Quotes Tool) **No. A. 2**, Pages:

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled A
				2 of 3: Middle of Page, under heading Software. *highlighted text*
1.90.	VMware vSphere Integration (vCenter Plugin)	Yes (Specify)	Yes. SnapManager for Virtual Infrastructure is included in our proposal, as part of Premium Bundle.  FAS/V32XX / FAS/V62XX / FAS80XX Premium Bundle*: CIFS, NFS, FCP, iSCSI, FlexClone®, SnapMirror®, SnapRestore®, SnapManager Suite, SnapVault®, Single Mailbox Recovery (SMBR) FAS22XX / FAS20XX Premium Bundle: FlexClone, SnapMirror, SnapRestore, SnapManager Suite, SnapVault, Single Mailbox Recovery (SMBR) SnapManager Suite™ All Platforms: SnapManager for Oracle®, SnapManager for SAP®, SnapManager for VI, SnapDrive® for UNIX®, SnapDrive® for Windows®, SnapManager for Exchange®, SnapManager for SharePoint®, SnapManager for SQL®, SnapManager for Hyper-V SnapManager for Virtual Infrastructure (SMVI) has recently changed name to: **'NetApp Virtual Storage Console for VMware vSphere'** NetApp® Virtual Storage Console (VSC) for VMware® vSphere™ provides integrated, end-to-end virtual storage management for your VMware infrastructure. VSC leverages NetApp technologies to deliver centralized management of NetApp storage operations—in both SAN- and NAS-based VMware virtual server and desktop infrastructures—right from the VMware vCenter™. Key Points · Simplify storage and data management for VMware environments. · Boost responsiveness with real-time discovery and reporting. · Increase availability with nearly instant backups and granular restores. · Reduce storage costs with thin provisioning, block-level deduplication. · Control storage operations on a per-VM basis.	Pls see **Doc. No. A.36**, *"NetApp Virtual Storage Console for VMware vSphere"* Page 1, 1st Paragraph. Http://www.netapp.com/us/products/management-software/vsc/index.aspx Also, Pls see **Doc. No. A.37**, *"NetApp Management Solutions suite for VMware VSphere"* Page 1, 2nd Paragraph, *highlighted text*

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled A
			{ The NetApp Management Solutions Suite for VMware vSphere defines a set of plug-in solutions for VMware vCenter. It provides management capabilities for virtual machines in VMware environments using NetApp storage systems. Mainly it is about the Virtual Storage Console, which is free of charge and can be downloaded from the NetApp MySupport page.} If we are awarded the tender, we shall be using CommVault IntelliSnap for NetApp (described in the next section) for the backup and recovery of VMWare.	
1.91.	Multi-tenant storage capabilities. "Tenants" act as virtual controllers, in order to facilitate higher standards in security, management and performance of the Storage System.	Yes (Specify)	Yes.	Pls see **Doc. No. A.98**, *"Secure Multi-Tenancy for Cloud Architecture"*, Page 1, 4th Paragraph.
	Disaster Recovery and data security Features			
1.92.	Enabling storage replications based on schedule (eg at 13:00 and 23:00 daily) to *"Requested Product (2): Secondary Site Storage System"* on volume level. *[Volume refers to logical container of file systems (LUNs, NAS file systems).]*	Yes (Specify)	Yes!	Pls see part of a 70-Pages Technical Report TR-4015 **Doc. No. A.39**, *"SnapMirror Configuration and Best Practices. Guide for Clustered Data ONTAP*, Page 37, Table, *highlighted text* Also, Pls see **Doc. No. A.40**, *"Storage Efficiency in Clustered Data ONTAP"* Page 2 of 5, under 'SnapVault:

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled A
			Figure 23) Create SnapMirror relationship from destination: create new SnapMirror schedule.  Also, SnapVault (*The most important new storage efficiency capability in clustered Data ONTAP is the addition of SnapVault technology with thin replication. SnapVault is the NetApp solution for space-efficient disk-to-disk backup. It performs asynchronous replication using NetApp Snapshot copies of a primary volume. Once a baseline copy is created, incremental backups are all that are required; these are very efficient since only blocks that have changed since the last Snapshot copy was taken are copied.* *You can convert a SnapMirror to a SnapVault relationship if needed.*) allows you to have different retention schedules for Snapshot copies on the primary and secondary volume. (Snapshot copies serve as incremental backups.) You can	New in Clustered Data ONTAP 8.2, Middle of Page, *highlighted text*

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No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled A
			retain Snapshot copies that have been released from primary storage on secondary storage. You can keep up to 251 Snapshot copies per volume.	
1.93.	Support cross replication (primary site - secondary site and vice versa)	Yes	Yes, cross replication is supported with SnapMirror, NetApp's replication software, from Primary Site to Secondary and Vice-versa. In fact, when you mirror data to one or more NetApp storage systems and continually update the mirrored data, your data is kept current and is available whenever you need it. No external replication servers are required. In addition, the industry-leading ability of NetApp to fail over to a specific point in time in the DR copy enables you to quickly recover from mirrored data corruption. Furthermore, NetApp uses a single solution across all of their ONTAP® supported NetApp storage arrays, regardless of protocol. SnapMirror technology works with any application, in both virtual and traditional environments, and in multiple configurations—including hybrid cloud. *The administrators of CUT's NetApp Filers, have been successfully using SnapMirror software for many years now, so they are aware of the benefits that can offer, including the tremendous savings of time, space, and thus money!)*	Pls see **Doc. No. A.41**, "*NetApp SnapMirror*" Page 1, 2nd Paragraph under 'The Solution', *highlighted text* And Page 2 of 2, 2nd Column, 1st Paragraph under heading 'Reduce Management Overhead', *highlighted text*
1.94.	Support replication to different size storage systems or disk types.	Yes	Yes. Replication (with SnapMirror) is supported between different size of NetApp FAS systems, and with different number and type of shelves/disks. In fact, NetApp uses a single solution **across all of their ONTAP® supported NetApp storage arrays**, regardless of size, model, or of protocol. SnapMirror technology works with any application, in both virtual and traditional environments, and in multiple configurations—including hybrid cloud.	Pls see **Doc. No. A.41**, "*NetApp SnapMirror*" Page 2, 3rd Paragraph (left column) under 'Data Distribution, *highlighted text*

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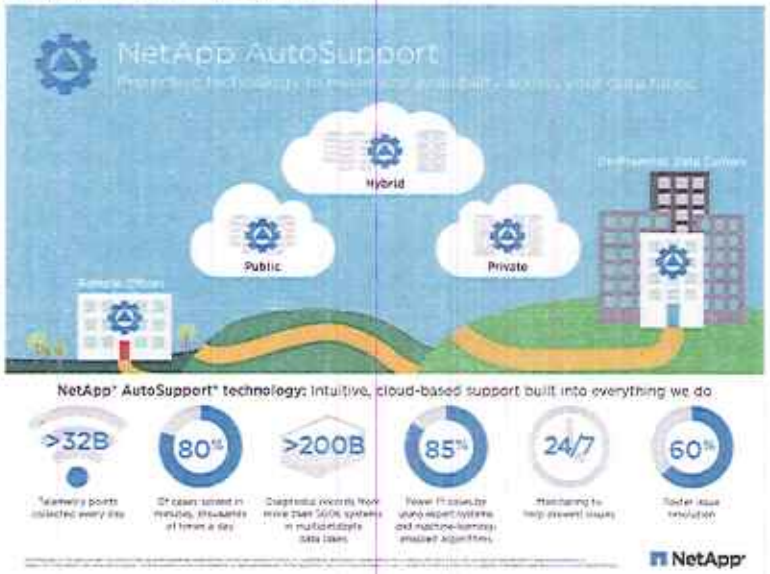
No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled A
1.95.	A mechanism must be available to move Point in time copies (snapshots and delta-snapshots) done at Primary Site to Secondary Site.	Yes (Specify)	Yes. SnapMirror uses a mechanism to move Point in time copies (Snapshots and delta snapshots) done at the Primary Site to Secondary Site. Integrated NetApp® SnapMirror® software technology provides fast, efficient data replication and disaster-recovery (DR) for your critical data. Cost-effective SnapMirror capabilities include: • Network compression to reduce bandwidth utilization • Accelerated data transfers to lower recovery-point objective (RPO) • A single repository for both the active mirror and prior backup copies to enable selective failover points	Pls see Doc. No. A.41, "NetApp SnapMirror" Page 2, Left Column, Last couple of Paragraph under 'Reduce Network Bandwidth Utilization and Storage Footprint, *highlighted text*
1.96.	The connection between sites (primary and secondary) should be based on TCP/IP protocols for data transfer, with the minimum bandwidth usage utilizing compression and/or deduplication.	Yes (Specify)	Yes, the connection between Primary & Secondary sites is based on TCP/IP protocols for data transfer (SnapMirror is a TCP\IP based technology, thus transmission is ensured based up the IP stack.), with the minimum bandwidth usage utilizing compression and deduplication. SnapMirror and NetApp Storage Efficiency: SnapMirror maintains storage efficiency benefits in replicated volumes. If the source volume is deduplicated, the destination volume is in a deduplicated state as well. SnapMirror does not inflate deduplicated data during a transfer. If the source volume is compressed, the destination volume is in a compressed state as well. Replication of compressed volumes does not uncompress the source volume to read data for a transfer; data is replicated in a compressed state to the destination volume. It is not possible to have different configurations of storage efficiency enabled between the source and destination volumes. For example, it is not possible to compress or deduplicate the SnapMirror destination volume alone without enabling compression or deduplication on the SnapMirror source volume. SnapMirror creates a Snapshot copy before performing an update transfer. Any blocks in the Snapshot copy are locked and cannot be deduplicated. Therefore, if	Pls see Doc. No. A.41, "NetApp SnapMirror" Page 1, Left Columns, 2nd Paragraph under 'Reduce Bandwidth Utilization and Storage Footprint', *highlighted text*

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled A
			maximum space savings from deduplication are required, run the dedupe process before performing SnapMirror updates. *The administrators of CUT's NetApp Filers, have been successfully using SnapMirror software for many years now, so they are aware of the benefits that can offer, including the tremendous savings of time, space, and thus money!!!!)*	
1.97.	In case of disruption(s) on a data transfer between sites, a recovery point must be automatically available (checkpoint), so the transfer will be able to resume from that point and not restarting the transfer from the beginning.	Yes	Yes, in case of a disruption on a data transfer between sites, a recovery point is automatically available, so the transfer is able to resume from that point and not restarting the transfer from the beginning.	Pls see part of a 70-Pages Technical Report TR-4015 **Doc. No. A.39**, *"SnapMirror Configuration and Best Practices. Guide for Clustered Data ONTAP*, Page 7, *highlighted text*
1.98.	Recovery mechanism in case of a file system corruption or error. The entire file system should be able to be restore to an instance, prior to the corruption.	Yes (Specify)	Yes, in case of a file system corruption or error on a data transfer between sites, the same automated actions will take place as point above. A recovery point will be automatically available, so the transfer will be able to resume from that point and not restarting the transfer from the beginning.	Pls see part of a 70-Pages Technical Report TR-4015 **Doc. No. A.39**, *"SnapMirror Configuration and Best Practices. Guide for Clustered Data ONTAP*, Page 7, *highlighted text*
1.99.	Disk Shredding (Process for deleting data on a specific disk that is intended to make the data unrecoverable)	Yes	Yes. Disk Shredding (Process for deleting data on a specific disk that is intended to make the data unrecoverable) is supported, and it is called **Disk Sanitization**.	Pls see **Doc. No. A.42** *"Using disk sanitization to remove data from disks"* Page 1 of 3: *highlighted text.*
	Management & Monitoring Tools and Support			
1.100.	On board management port	≥ 1	Yes, 1 Per Controller = **2 in total**	Pls see **Doc. No. A.43** diagram, *"Rear view – FAS8020"* Page 1.

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled A
1.101.	Ability to administer, configure and operate all functionality without any additional external device such as management server.	Yes	Yes. NetApp has its own tools for administering, configuring and operating all its functionality without any additional external device/hardware such as a management server.	Pls see **Doc. No. A.44**, datasheet "*OnCommand System Manager*" Page 1, under 'Unlocked ONTAP Power'
1.102.	Ease of use GUI and role-based access to Management Console	Yes	Yes. OnCommand System Manager include an easy to use GUI and role-based access to Management Console. NetApp OnCommand® System Manager is a simple graphical user interface designed for administering a clustered ONTAP system. It provides the ability to provision storage virtual machines, volumes, LUNs, network connectivity, and replication relationships. It can be used to manage local users and groups, and administrative roles. It is available as an on-box user interface in clustered Data ONTAP 8.3 onwards.	Pls see **Doc. No. A.44** datasheet, "*OnCommand System Manager*" Page 1, under 'Key benefits and simplified Management' Also, Pls see technical report **Doc. No. A.13**, "*NetApp Clustered Data ONTAP 8.3 and 8.2.x*" Page 15, under 'Key Features', 1st Bullet point.
1.103.	Single management console for managing multiple systems (Primary and Secondary Storage) from one Management Console.	Yes	Yes, with OnCommand System Manager. NetApp OnCommand® System Manager is a simple, versatile GUI-based manageability product that enables administrators to easily configure and manage clustered NetApp storage systems. System Manager is designed with wizards and workflows to simplify common storage tasks such as creating volumes, LUNs, qtrees, shares, and exports, which saves time and helps prevent errors. System Manager is one product that can **manage the entire NetApp FAS line**, including systems running NetApp FlexArray® storage virtualization software.	Pls see **Doc. No. A.44** datasheet, "*OnCommand System Manager*" Page 1, 3rd & 4th paragraphs, under heading 'The Solution'
1.104.	Monitoring tools for environmental problems and resource utilization (disk, throughput, quota limits etc)	Yes	Yes, monitoring tools for environmental problems and resource utilization (disk, bandwidth, quota limits etc), with **NetApp's OnCommand Unified Manager and Performance Manager**	Pls see **Doc. No. A.53** datasheet, "*OnCommand Unified Manager and*

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled A
			Key Features Streamline Management Tasks A single dashboard increases user productivity with a complete view of the health of your NetApp® storage—availability, capacity, performance, and data protection relationships. You can: • Simplify management with a single URL and a unified login for NetApp OnCommand® Unified Manager and Performance Manager. • Access a single location to configure clusters, users, and authentication attributes. • Gain faster access through the Favorites dashboard to storage objects that are frequently referenced. Included in our proposal.	*Performance Manager"* Pages: 3 of 4, 1st Column, 2nd paragraph, under heading 'Integrated Performance', *highlighted text.* 1 of 4, 1st Column, last paragraph (bullet points), *highlighted text.* Also, Pls see **Doc. No. A.54** datasheet, "*OnCommand Performance Manager*" Page 2 of 4, 1st Column, 2nd paragraph, under heading 'Troubleshoot and correct Quickly', *highlighted text.*
1.105.	Ability to set thresholds that trigger alerts and notifications via email.	Yes	Yes, ability to set thresholds that trigger alerts and notifications via email, and much more, with NetApp's **OnCommand Performance Manager.** Key Benefits : Get a comprehensive view of performance through a single dashboard for proactive storage management. • Monitor and receive event notifications and alerts automatically. • Have dynamic, user-defined, and system-defined thresholds for alerts. • Identify whether storage is the source of a reported response time incident. • Troubleshoot and perform root cause analysis. • Get guidance on corrective actions and verify changes.	Pls see **Doc. No. A.54** datasheet, "*OnCommand Performance Manager*" Page 1 of 4, 1st Column, 1st paragraph, under heading 'Key Benefits', *highlighted text.* Also, Pls see **Doc. No. A.53** datasheet, "*OnCommand Unified Manager and Performance Manager*" Pages 3 of 4, 2nd Column, 2nd paragraph, bullet points, *highlighted text.*

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled A
			Armed with a wealth of performance data and leveraging advanced analytics, storage administrators can bring storage performance in line with the fluctuating demands of their business. Included in our proposal.	
1.106.	Alerts for errors and trend analysis for proactive planning and troubleshooting (configuration) problems.	Yes	Yes, monitoring tools for environmental problems and resource utilization (disk, bandwidth, quota limits etc), with **NetApp's OnCommand Unified Manager and Performance Manager.** Included in our proposal.	Pls see **Doc. No. A.53** datasheet, "*OnCommand Unified Manager and Performance Manager*" Page 3 of 4, 1st Column, 4th paragraph, *highlighted text.*
1.107.	Secure Remote Service from the Vendor (Manufacturer) for diagnostics and notifications, in order to improve response time in case of failure and error.	Yes	Yes, with **NetApp AutoSupport.** A service you have been using for your existing NetApp Filers for more than 7+ years now. 	Pls see **Doc. No. A.45** datasheet, "*AutoSupport*" Page 1, 3rd and 4th paragraphs.

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No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled A

1.108.	Logging configuration features (eg logs retention period)	Yes	Yes, with Event Management System, for short **EMS**, which is part of NetApp's OS, Data ONTAP.
			EMS collects event data from various parts of the Data ONTAP kernel and provides a set of filtering and event forwarding mechanisms. An event producer recognizes the existence of an event and generates an event indication. The EMS definitions typically include text formatting for syslog messages and optional formatting for SNMP traps.
			EMS supports a built-in logging facility that logs all EMS events.
			
			Sample EMS logged message:
			`Tue Jun 3 09:11:32 BST [myntapfiler:`
			`cf.disk.shelfCountMismatchOk :CRITICAL]: cfdisk:`
			`previous shelf count mismatch resolved`
			
			In clustered Data ONTAP, the event log can be viewed by running the `event log show`command.
			
			Example, **To search for a phrase:**
			Note: The search string is case sensitive
			`cm6080-rtp2::> event log show -event *"Completed block"*`
				Pls see **Doc. No. A.46**, *"What is EMS and what is the difference between the messages in /etc/messages and /etc/log/ems files?"* Page 1 of 7, under 'ANSWER' and 'EMS Log Data'
				https://kb.netapp.com/support/s/article/what-is-ems-and-what-is-the-difference-between-the-messages-in-etc-messages-and-etc-log-ems-files?language=en_US

	Compatibility with existing infrastructure			
1.109.	Support 4 Gbit/sec FC connectivity with existing "HP StorageWorks 4/32B SAN Switch Power Pack" (P\N: AG758A)	Yes	Yes, support for HP StorageWorks 4/32B San is the equivalent Brocade Switch 5000.	Pls see **Doc. No. A.47**, *"NetApp Interoperability Matrix"* Page 3, 1st Row.

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No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled A
1.110.	Support 4 Gbit/sec and 8 Gbit/sec FC connectivity with existing "HP StorageWorks 8/40 Power Pack+ SAN Switch" (P\N: AM870A)	Yes	Yes, support for HP StorageWorks 8/40 is the equivalent Brocade Switch 5100	Pls see **Doc. No. A.48**, "*NetApp Interoperability Matrix*" Page 3, 1st Row.
	Manuals and Documentation			
1.111.	Documentation and manuals for all delivered equipment in electronic form (PDF open standard). Includes Administrators guide for installation, setup, configuration, performance tuning and maintenance.	Yes	Yes, if we win the tender, we shall provide documentation and manuals for all delivered equipment in electronic form (PDF open standard). Includes Administrators guide for installation, setup, configuration, performance tuning and maintenance etc.	
1.112.	The configuration and the final set-up of the system must be document, as part of the acceptance process by the Tenderer's team.	Yes	Yes, if we win the tender, we shall undertake to document the configuration and the final set-up of the system, as part of the acceptance process by the Tenderer's team.	
	Licenses, Warranty and Support Services			
1.113.	Full Software and Hardware Warranty from Manufacturer for at least 60 months period. Includes: • Next business day parts delivery service for all hardware equipment that needs replacement due to failure or malfunctioning. • Software Updates and Fixes • On line support service via web (ability to open a ticket/case related to technical issues). • On line access to resources via web (access to documentation eg manuals, guides etc). • All software tools needed for migration from the existing Storage System to this Storage System (Primary Storage System)	Yes	Yes, our proposed system is fully covered with *Software and Hardware Warranty from Manufacturer for the period of 60 months*, including: - **4-hours Parts delivery service** for all hardware* equipment that needs replacement due to failure or malfunctioning. - Software Updates and Fixes - On line support service via web (ability to open a ticket/case related to technical issues). - On line access to resources via web (access to documentation eg manuals, guides etc). - All software tools needed for migration from the existing Storage System to this Storage System (Primary Storage System) * All failed/malfunctioned hardware will be replaced on a 4-hours delivery service, with the exception of disks, which will be replaced on a Next Business Day service, as per NetApp's New Announcement in August 2016.	Pls see Actual Configuration for proposed Products document "*CUT Tender Configuration*" (as configured from NetApp's Quotes Tool) **No. A. 2**, Pages: 2 of 3: End of Page, under heading Services, *highlighted text* 3 of 3: 1st Table, under heading: Services, *highlighted text* Also, Pls see **Doc. A51.** NetApp's announcement called "*Disk Drive Preferences*", and

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled A
			Because drives are a noncritical part, all system serial numbers and future shipments will have the default set to Next Business Day (NBD) delivery, regardless of the target response of the service contract. This preference was created to allow customers to reduce their operational costs by simplifying management of drive replacements that might occur during multiple times on any given day. This new preference will not affect other parts and can be changed during the incident at the customer's request or if deemed necessary by the support team. Also, the default preference can be changed just as any other preference for critical systems for which failure is a concern. So, if your NetApp contract service level is to get your parts the same day-as a target response to an incident, this preference will move only your disk drives to NBD during Normal Business Hours (NBH). This preference also applies for cases that are generated automatically for AutoSupport (ASUP) enabled systems and for cases opened by the customer or partner directly. The target response for all other parts will remain the same. Logistics companies usually have defined delivery schedules based on geography and location and the drives will be delivered, as required, during that window during NBH.	especially Pages 4 of 7, under paragraph headings: 3. Disk Drive Delivery Preference & 4. Common Questions *highlighted text*
1.114.	The solution includes all hardware and software, licenses (for at least 60 months period) and the required accessories and cables for full operation. The successful tenderer will assemble and configure the solution to be operational with the existing infrastructure. CUT personnel will provide the necessary physical / logical access and information to the University's infrastructure when is needed.	Yes	Yes, our proposed solution includes all hardware and software, licenses (for 60 months period) and the required accessories and cables for full operation. If we win this tender, we will assemble and configure the solution to be operational with the existing infrastructure. CUT personnel will provide the necessary physical / logical access and information to the University's infrastructure when is needed.	Pls see Actual Configuration for proposed Products document "*CUT Tender Configuration*" (as configured from NetApp's Quotes Tool) **Doc No. A. 2**, Pages of 3: 2: Page end, under heading Services, *highlighted text*

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled A
				3: 1st Table, under heading: Services, *highlighted text*
	Disk Drives Capacity			
1.115.	Total Storage System SAS Usable Capacity (excluding SSD raw capacity) minimum 10k RPM Specify the following: • Number of disk shelves (Specify Part Numbers) • Number of disks (Specify Part Numbers) Tenderer can add usable capacity more than the minimum require to accommodate any losses (caused by low Deduplication and Compression savings) during data migration from the existing system (ref "Παράρτημα ΙΙ, Όροι Εντολής – Τεχνικές Προδιαγραφές").	≥ 60TB (Specify)	Having thoroughly examined your tender document specifications, we hereby are proposing to you the following as regards to Disk Drives Capacity: **Raw Capacity**, for a total of 60x900GB Disks: **54 TB** **+ 36x900GB existing disks we shall be re-using: 32.4TB** **TOTALS: 86.4TB** With 2 NetApp Shelves, we are offering: Qty: Part #: Description: 2 DS2246-21.6TB-0P-R6-C DSK SHLF,24x900GB,6G,0P,-C 12 X423A-R5* DSK DRV,900GB,10K,2.5",DS2246,R5 *: these 12 disks will be incorporated in the existing half-full DS2246 shelf that you have, and which we shall be re-using. All SAS disks are of 10K RPM speed. **Usable Capacity**, ≈ **64.7TB*** * This is an approximate figure, as provided by NetApp's sizing tool. User Allocations: Allocated Capacity Aggregate Snapshot Reserve — Space reserved for aggregate Snapshot copies which are point-in-time, read-only images of an aggregate. Aggregate Snapshots provide the ability to perform low-level file system repair and provide synchronous mirroring of data for greater redundancy and protection — 0 TB / 0 TiB Root Aggregate (Qty: 2) — Required to store the Data ONTAP operating system. — 1.62 TB / 1.47 TiB Data Aggregates (Qty: 2) — User created Aggregates for directly storing user data — 63.08 TB / 57.37 TiB Total — 64.7 TB / 58.84 TiB Calculations as provided by NetApp sizing tools.	Pls see Actual Configuration for proposed Products document "*CUT Tender Configuration*" (as configured from NetApp's Quotes Tool) **Doc. No. A. 2**, Page1 of 3: Lines 28. under heading Hardware, and Page 3 of 3, last Line under heading Additional Parts And Components/Hardware *highlighted text* Also, Pls see **Doc. No. A.17** "*Technical Proposal*" done especially for the proposed Filer and configuration, for the purpose of this tender, using a NetApp special sizing tool (for NetApp internal Employees and NetApp Partners) called Synergy Page 6 of 11, Table under heading '4. Provisioning: FAS Categories: cutprimary: cutprimary-01/cutprimary-02', and Line ***'User***

B.2.2.1

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled A
			With our proposed solution, it is guaranteed that you shall have at least 50% savings by using deduplication, thin provisioning, compression, and other unique technologies by NetApp, etc, therefore we are quoting what our NetApp Sizing tools recommend! Another live proof of that our solution **does SAVE**, is the fact that your current NetApp Solution (Hardware & Software) even though is already 7+ years old, it does provide you with **storage efficiencies of 378%!!!!** **Real numbers, taken from your live systems.**	***Allocations: Allocated Capacity'*** *highlighted text.* In addition, Pls see Actual NetApp *AutoSupport Dashboard from your existing NetApp Filers,* showing your Filers' Health & Storage Efficiencies (as taken from NetApp's AutoSupport Website) **Doc. No. A.52**, 2 Pages!
	Existing Storage System equipment (NetApp FAS3140HA and NetApp FAS3140) that will be used as part of Tenderers solution			
1.116.	Specify all CUT's existing equipment that will be used, as part of this storage system solution (Primary Storage Solution).	Information	We plan to use the following CUT's existing equipment as part of this storage system solution. (PRIMARY Storage Solution) **36 existing SAS disks, in 2 NEW technology Shelves:** In detail: 2 Shelves · DS2246 SHELF, 10.8TB (**12** x SAS 900GB 10Krpm HDD) DS2246-10.8TB-QS, R5 which is installed at your DR at this moment. · DS2246 SHELF, 21.6TB (**24** x SAS 900GB 10Krpm HDD) DS2246-21.6TB-QS, R5 which is installed at your PRIMARY at this moment.	
1.117.	Any preparation procedure or activities that needs to be done on the existing equipment will by the Tenderer.	Yes (Specify)	Yes, if we win the tender, we shall undertake to take all the necessary steps to migrate data, free up existing shelves and move the shelves to their new destination to become part of the new solution.	

2 Ζητούμενο προϊόν – Requested Product (2): Secondary Site Storage System

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled B
	General Information			
2.1.	Manufacturer must be the same with the Manufacturer of the "Primary Site Storage System"	Yes	**NetApp, Inc.**	Pls see **Doc. No. A.1** *"Dedicated to Your Success Now and Into the Future"*, Company Snapshot.
2.2.	Model	Information	**NetApp FAS2554HA** (Dual Controller)  Front View  Rear View	Pls see Actual Configuration for proposed Products document *"CUT Tender Configuration"* (as configured from NetApp's Quotes Tool) **No. A. 2**, Page 1 of 3: Middle of Page, highlighted text.
2.3.	Part Number	Information	**FAS2554A-001-R6**	Pls see Actual Configuration for proposed Products document *"CUT Tender Configuration"* (as configured from NetApp's Quotes Tool) **No. A. 2**, Page 1 of 3: Middle of Page, highlighted text.
2.4.	Storage OS version	Information	Storage OS version for Clustered ONTAP (NetApp's newest OS) is **version 9**. (latest 9.1x) NetApp® ONTAP® 9, the next generation of NetApp's industry-leading data management software created to unify storage infrastructures. ONTAP 9 bridges new and traditional data center architectures. It builds the foundation for a Data Fabric, making it easy to move data where it's needed across flash, disk, and cloud resources!	Pls see **Doc. No. B.1**, OS Datasheet, *"ONTAP 9 Data Management Software"*, Page 1, Heading, *highlighted text.*
2.5.	Condition of the equipment must be new and unused.	Yes	Yes, equipment will be NEW and UNUSED.	

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled B
	Also, refurbished equipment is not acceptable.			
	Physical and Environmental Specifications			
2.6.	Rack mounted kits are required.19" IEC rack-compliant.	Yes	Yes, Rack mounted kits will be provided, and will be 19" IEC rack-compliant.	Pls see Actual Configuration for proposed Products document "*CUT Tender Configuration*" (as configured from NetApp's Quotes Tool) No. A.2, Page 1 of 3: Middle of Page (22nd line), *highlighted text*.
2.7.	Define Form Factor – Height in Rack Units (U e.g. 5U)	Information	**4U**	Pls see Doc. No. B.2 "*FAS2554 Specifications*", Page1 of 2: Under Physical Characteristics, 28th Row, *highlighted text*.
2.8.	Define Weight fully loaded (kg)	Information	Weight, for Chassis with Two Controllers Module: 26.9 kg	Pls see Doc. No. B.2 "*FAS2554 Specifications*", Page1 of 2: Under Physical Characteristics, 35th Row, *highlighted text*.
2.9.	The system depth should permit installation in a 120cm deep cabinet. Define Depth with cable management bracket (cm)	≤120cm	Chassis Depth with Cable Management: 60.73cm	Pls see Doc. No. B.2 "*FAS2554 Specifications*", Page1 of 2: Under Physical Characteristics, 32th Row, *highlighted text*.
2.10.	Maximum power consumption (watts)	Information	Maximum Power Consumption (Watts) for a FAS2554HA (Dual Controller) Filer, loaded with: 20 x 4TB 7.2K NL-SAS 4 x 400GB SSD disks:	Pls see Doc. No. B. 4 "*Electrical Requirements for FAS2554 9.1RC1 ONTAP*",

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled B
			100 to 120V (100V actual) / 200 to 240V (200V actual) Worst-Case, Single PSU: 596 / 585 Typical System, Two PSU: 518 / 508	Page 3 of 5: 6th Row, *highlighted text.*
2.11.	For all power cables, Power Plug AC 250V 10A, IEC C14 Male and C13 Female are required	Yes	Yes, the proposed system comes with all power cables, Power Plug AC 250V 10A, IEC C14 Male and C13 Female.	Pls see Actual Configuration for proposed Products document "*CUT Tender Configuration*" (as configured from NetApp's Quotes Tool) No. A. 2, Page 1 of 3: 23rd line, highlighted text.
2.12.	Define Operating temperature (Celsius e.g. 10 °C to 35 °C)	10 °C to 30 °C	Yes, Operating Temperature Range: **10 to 40** degrees Celsius	Pls see Doc. No. B.2 "*FAS2554 Specifications*", Page1 of 2: Under Environmental Requirements, 43rd Row, *highlighted text.*
2.13.	Define Maximum thermal output (BTU/hour)	Information	1,948 BTU (typical) 2,044 BTU (worst case)	Pls see Doc. No. B.3 "NetApp *FAS2500 Series Technical Specifications*", Page 5 of 8: Under System Environmental Specifications, 1st Row, *highlighted text.*
2.14.	Define Operating relative humidity range (e.g. 10% to 95%)	20% to 80%	Yes, **20 to 80 %**	Pls see Doc. No. B.2 "*FAS2554 Specifications*", Page1 of 2: Under Environmental Requirements, 46th Row, *highlighted text.*

B.2.2.1

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled B
2.15.	Recommended operating relative humidity range (e.g. 30% to 70%)	Information	Recommended operating relative humidity range, is the operating relative humidity range, ie, 20 to 80%.	Pls see **Doc. No. B.2** "*FAS2554 Specifications*", Page1 of 2: Under Environmental Requirements, 46th Row, *highlighted text.*
2.16.	Define operating acoustic noise at normal operating conditions (dBA e.g. 67.2 dBA)	Information	Declared sound power (LwAd) per ISO 9296: 6.1 Bel Sound pressure (LpAm) (bystander positions): 49.6 dB	Pls see **Doc. No. B.2** "*FAS2554 Specifications*", Page1 of 2: Under Environmental Requirements, 52 & 53 Rows, *highlighted text.*
2.17.	All products and services must meet international standards, environmental certifications and comply with all applicable laws and regulations. Including: • Comply with Waste Electrical and Electronic Equipment Directive (WEEE) 2002/95/EC • Comply with Restriction of Hazardous Substances Directive (RoHS) • Comply with REACH (Regulation for Registration, Evaluation, Authorization and Restriction of Chemicals) Directive	Yes	Yes, all products and services meet international standards, environmental certifications and comply with all applicable laws and regulations. Including: · Comply with Waste Electrical and Electronic Equipment Directive (**WEEE**) 2002/95/EC · Comply with Restriction of Hazardous Substances Directive (**RoHS**) · Comply with **REACH** (Regulation for Registration, Evaluation, Authorization and Restriction of Chemicals) Directive	Pls see documents/certifications: **Doc. Nos.:** **A.5**, **A.6**, **A.7**, **A.8**, and **ISO Certifications A.9**, & **A.10**.
	Availability Specifications			
2.18.	Cluster Dual Storage Controller	Yes	Yes, the proposed NetApp FAS2554HA Filer will be a Cluster Dual Storage Controller. (Filer is a **High Available Filer**, which means it comes with **2 Controllers**)	Pls see Actual Configuration for proposed Products document "*CUT Tender Configuration*" (as configured from NetApp's Quotes Tool) **No. A. 2**, Page 1 of 3: Middle of Page, highlighted text.
2.19.	No single point(s) of failure	Yes	Yes, the proposed system comes with a Dual Controller (High Available System, HA) and has no dingle point of	Pls see **Doc. No. B.5** "*Single Point of Failure analysis for HA*

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled B
			failure. It has redundant hot-swappable controllers, cooling fans, and power supplies. In fact, in a HA Pair, everything is in double, exactly for this reason: Controller, NVRAM, CPU Fans, Multiple NICS, FC-AL adapter or SAS HBA, FC-AL adapter or SAS HBA, Disk Shelf Modules, Disks, Power Supplies, Fans, HA Interconnect Adapters and Cables, etc. See the enclosed document explaining how storage failover eliminates single point of failure in a HA Pair configuration.	*Pairs*", ALL 3 Pages: *highlighted text.*
2.20.	Non-disruptive hardware repairs (hot-pluggable FRUs)	Yes	Yes, all hardware repairs will be done Non-Disruptively, since we have Haigh Availability features: Alternate Control Path (ACP): Ethernet-based service processor and ONTAP management interface; redundant hot-swappable controllers, cooling fans, and power supplies.	Pls see **Doc. No. B.3** "NetApp *FAS2500 Series Technical Specifications*", Page 4 of 8: Under High Availability Features, 1st 2 Rows of Page, *highlighted text.*
2.21.	Non-disruptive microcode updates	Yes	Yes, microcode updates can be done non-disruptively, due to the Hardware HA Pair proposed, as well as NetApp's Data ONTAP OS v.9. With DataOntap 9.0, you can: · Can perform updates during regular work hours without disrupting applications or users. · Are able to service your infrastructure without disrupting access to user data and applications, even during regular business hours. · And in general.... ONTAP allows you to perform critical tasks without interrupting your business. You can dynamically *assign, promote,* and *retire storage resources* without downtime over the lifecycle of an application. *Data can be moved* between controllers without application interruption. Plus, storage controllers and *disk shelves can be replaced without disruption.*	Pls see **Doc. No. B.1** OS Datasheet, "*ONTAP 9 Data Management Software*", Page 2 of 4, 2nd Column, 7th Paragraph, under Nondisruptive operations, *highlighted text.*

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled B
2.22.	Non-disruptive reconfiguration	Yes	Yes, non-disruptive reconfiguration. As explained above in point 2.21, this can be done!	Pls see **Doc. No. B.1** OS Datasheet, "*ONTAP 9 Data Management Software*", Page 2 of 4, 2nd Column, 7th Paragraph, under Nondisruptive operations, *highlighted text.*
2.23.	Non-disruptive hardware upgrades (host connections, cache, disk, disk shelves / enclosures)	Yes	Yes, non-disruptive hardware upgrades (host connections, cache, disk, disk shelves / enclosures). As explained above in point 2.21 & 2.22, this can be done! *(storage controllers and disk shelves can be replaced without disruption.)*	Pls see **Doc. No. B.1** OS Datasheet, "*ONTAP 9 Data Management Software*", Page 2 of 4, 2nd Column, 7th Paragraph, under Nondisruptive operations, *highlighted text.*
2.24.	Non-disruptive feature upgrades	Yes	Yes, Non-Disruptive feature upgrades. With latest NetApp's OS, clustered ONTAP (cDOT), **everything is done non-disruptively!!** **One of the most important features of cDOT OS is the enablement of non-disruptive operations!!**	Pls see **Doc. No. B.1**, OS Datasheet, "*ONTAP 9 Data Management Software*", Pages: · 1 of 4: 1st Column, last paragraph & 2nd Column 5th paragraph. · 2 of 4: 1st column, 1st paragraph, 2nd Column 4th Paragraph, and 7th paragraph *highlighted text.* Also, Pls see **Doc. No. B.17**, "*NetApp FAS2500 Series*", Page 1 of 4:

B.2.2.1

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled B
				• 1st Column, under Grows with Your Changing Needs, 1st bullet • 2nd Column, last paragraph, under 'Simplifies storage operations' *highlighted text.* In addition, Pls see technical report TR-3982, **Doc. No. A.13**, "*NetApp Clustered Data ONTAP 8.3.x and 8.2.x: An Introduction*" Page 18 of 19, under 'Nondisruptive Operations' and Page 19 of 19, under 'Summary', *highlighted text.*
2.25.	Non-disruptive expansion & shrinking of volumes (Storage System functionality, assuming related file system supports functionality) *[Volume refers to logical container of file systems (LUNs, NAS file systems).]*	Yes (Specify)	Yes, NetApp supports non-disruptive expansion & shrinking of volumes (Storage System functionality, assuming related file system supports functionality), with NetApp OS feature called Thin Provisioning. Thin provisioning is the most efficient way to provision storage, because although the clients see the total storage space assigned to them, the storage is not pre-allocated up front. When a volume or LUN is created by using thin provisioning, space on the storage system is not used until it is consumed. The space remains unused until data is written to the LUN or the volume, at which time only enough space to store the data is used. Unused storage is shared across all volumes, and the volumes can grow and shrink on demand!	Pls see technical report TR-3982, **Doc. No. A.13**, "*NetApp Clustered Data ONTAP 8.3.x and 8.2.x: An Introduction*" Page 16&17, under 'Storage Efficiency' and 'Thin provisioning', *highlighted text.*

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled B
2.26.	Redundant Hot-Swap Controllers	Yes	Yes, redundant Hot-Swap Controllers.	Pls see **Doc. No. B.3** "*NetApp FAS2500 Series Technical Specifications*", Page 4 of 8: Under High Availability Features, 1st 2 Rows of Page, *highlighted text*.
2.27.	Redundant Hot-Swap Disks	Yes	Yes, redundant Hot-Swap Disks. You can hot-swap an internal disk drive (internal because it is in either inside a Filer or inside a Shelf), while the system is powered on.	Pls see **Doc. No. B.6** "*Hot-swapping an internal disk drive*", Page 1 of 2: 1st Paragraph, *highlighted text*.
2.28.	Redundant Hot-Swap Fans	Yes	Yes, redundant Hot-Swap Fans.	Pls see **Doc. No. B.3** "*NetApp FAS2500 Series Technical Specifications*", Page 4 of 8: Under High Availability Features, 1st 2 Rows of Page, *highlighted text*.
2.29.	Redundant Hot-Swap Power Supplies	Yes	Yes, redundant Hot-Swap Power Supplies.	Pls see **Doc. No. B.3** "*NetApp FAS2500 Series Technical Specifications*", Page 4 of 8: Under High Availability Features, 1st 2 Rows of Page, *highlighted text*.
2.30.	Battery Backed-Up Memory / Cache	Yes	Yes, the proposed Filer, as well all NetApp FAS Filers have battery-backed **NVRAM** which allows them to commit writes to stable storage quickly, without waiting on disks!	Pls see **Doc. No. B.2** "*FAS2554 Specifications*", Page1 of 2: Under Technical Specifications per HA pair, 21st Row, *highlighted text*.

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled B
2.31.	Hot Standby Spare disks	Yes (Specify)	Yes, NetApp and the proposed FAS2554HA Filer support Hot Standby Spare disks.	Pls see **Doc. No. B.7**, "SUPPORT: *Hot spare drives*", Page 1 of 2, 1st Paragraph, *highlighted text.*
2.32.	Automatic Failover in case of a controller failure	Yes (Specify)	Yes, Automatic Failover in case of a Controller Failure. You can set options to control whether automatic takeovers occur due to different system errors. In some cases, automatic takeover occurs by default unless you disable the option, and in some cases automatic takeover cannot be prevented. Takeovers can happen for several reasons. Some system errors must cause a takeover; for example, when a system in an HA pair loses power, it automatically fails over to the other node. However, for some system errors, a takeover is optional, depending on how you set up your HA pair. The enclosed documentation outlines which system errors can cause a takeover to occur, and whether/how you can configure the HA pair for that error, etc.	Pls see **Doc. No. B.8** "*Reasons for automatic takeover*", Page1 of 4: 3 first Paragraphs, and Table *Highlighted text.* For more details, please refer to page 3, under title "More Information". Also, for more information on this: **Doc. No. B.9** Pls see pages 18-24 from a documentation, called "*High-Availability Configuration Guide, under ONTAP® 9*" Whole document (106 Pages) can be found on https://library.netapp.com/ecm/ecm_download_file/ECMLP2492713.
2.33.	In case of automatic failover due to controller failure, the impact on performance must not affect normal operation of the storage system while working with a single controller.	Yes (Specify)	Yes, In case of an automatic failover due to controller failure, the impact on performance will not affect normal operation of the storage system while working with a single controller. This is a characteristic available from NetApp for more than 10 years now! ☺ **Faster take over and give back performance**. Planned and unplanned failovers are much faster in ONTAP 9 vs. previous releases. NetApp states that ONTAP 9 should have these events *down to 2-15 seconds!!!*	Pls see **Doc. No. B.9** Pages from a documentation called "*High-Availability Configuration Guide, under ONTAP® 9*" Page 8: 4th Column of Table, 5th Row under heading (*highlighted text*)

No.	Requirements – Specifications	Requirement	Response - Offer	Reference *Documentation labeled B*
				Page 9: 4th Column of Table, 1st Row under heading (*highlighted text*)
2.34.	RAID level protection is required against double disk failure (two disks failure in the same RAID group)	Yes (Specify)	Yes, NetApp does provide a RAID Protection against double disk failure (two disks failure in the same RAID Group) which is called **RAID-DP®**. Also called Double Parity or Diagonal Parity. With OS Data-ONTAP-9, now NetApp offers also **RAID-TEC™**, which **triple-parity RAID 6 implementation that prevents data loss when three drives fail!** NetApp Special RAID Levels (RAID DP® and RAID-TEC™) **protects your data:** · without the performance impact of other RAID 6 implementations; · reduces risks during long rebuilds of large-capacity HDDs	Pls see **Doc. No. B.1** OS Datasheet, "*ONTAP 9 Data Management Software*", Page 4 of 4, Table 1, 13th Row, *highlighted text*.
2.35.	Additional standard and nested RAID levels	No (Specify)	NetApp FAS Filers also support: **RAID-TEC™ (triple parity, ONTAP 9)** · SSDs and Performance HDDs: 29 (26 data disks plus 3 parity disks) · Capacity HDDs: 21 (18 data disks plus 3 parity disks) **RAID 6 (RAID-DP®)** · SSDs and Performance HDDs: 28 (26 data disks plus 2 parity disks) · Capacity HDDs: 20 (18 data disks plus 2 parity disks) **RAID 4** · SSDs and Performance HDDs: 14 (13 data disks plus 1 parity disk) · Capacity HDDs: 7 (6 data disks plus 1 parity disk) **RAID 6 + RAID 1 or RAID 4 + RAID 1 (SyncMirror®)**	Pls see **Doc. No. B.3** "*NetApp FAS2500 Series Technical Specifications*", Page 4 of 8: Under High Availability Features, 4th Row of Page (last lines), and also 1st Line of Page 5 of 8, *highlighted text*.

B.2.2.1

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled B
2.36.	Global – at least two (2) hot spares disks, for each RAID within the same Controller	Yes (Specify)	Yes, it is recommended by NetApp to have at least 2 hot spare disks for each RAID within the same Controller, for the following 2 reasons: - When you have two or more hot spares for a data disk, Data ONTAP can put that disk into the maintenance center if needed. Data ONTAP uses the maintenance center to test suspect disks and take offline any disk that shows problems. - Having two hot spares means that when a disk fails, you still have a spare available if another disk fails before you replace the first failed disk.	Pls see **Doc. No. B.10**, "*SUPPORT: How many hot spares you should have*", Page 1, 3rd Paragraph, *highlighted text.*
2.37.	Automatic disk recovery in the event of a single disk failure and in the event of double disk failure without downtime.	Yes (Specify)	Yes, automatic disk recovery in the event of a single or double disk failure without downtime is possible due to NetApp's RAID-DP®.	Pls see **Doc. No. B.11** documentation, called "*RAID-DP: NetApp Implementation of DoubleParity RAID for Data Protection*" Page 12 of 13, 1st Paragraph under heading RAID-DP Operation Summary, *highlighted text.*
2.38.	Multipathing support for "Fibre Channel SAN"	Yes	Yes, NetApp supports Multipathing support for "Fiber Channel SAN". In fact, NetApp delivers full support of Fibre Channel (FC) host connections with leading operating systems-Windows®, ESX Server, Solaris™, Oracle® Enterprise Linux®, Red Hat Linux, SUSE Linux, AIX, HP/UX, NetWare, and OpenVMS. NetApp enables robust options for high-availability configurations via Multipathing and Clustering-supporting native and server- and storage-independent host software, as shown in the enclosed document/table.	Pls see **Doc. No. B.12**, "FC Host Platforms", Page 1 of 2. Table, *highlighted text.*

B.2.2.1

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled B
	Performance, Throughput and Scalability Specifications			
2.39.	Total number of Processors on Storage System (all controllers)	≥ 2 (Specify)	**2 Processors.** In detail: 2 x 64-bit 2-core with HT 1.73 Ghz (Per HA Pair)	Pls see **Doc. No. B.2** "*FAS2554 Specifications*", Page1 of 2: Under Technical Specifications per HA pair, 19th Row, *highlighted text.*
2.40.	Total Storage System RAM / Cache (non SSD - total System-Memory / Cache on both Storage Controllers)	≥ 32GB	36 GB Memory (Per HA Pair)	Pls see **Doc. No. B.2** "*FAS2554 Specifications*", Page1 of 2: Under Technical Specifications per HA pair, 20th Row, *highlighted text.*
2.41.	Battery-protected cache memory (Read/Write) for the event of power failure.	Yes	Yes, NetApp has invented this technology, so yes, it supports battery-protected cache memory (Read/Write) in the event of a power failure.	Pls see **Doc. No. B.13** "*Controller Cache Memory*", Page1: 1st, 3rd & 4th Paragraphs, *highlighted text.*
2.42.	Required usable "SSD (Solid State Drives) Caching" capacity on Storage System. ("SSD (Solid State Drives) Caching" for accelerating overall Storage System performance.)	≥ 700GB	1.6TB	Pls see **Doc. No. B.25** "*Technical Proposal*" done especially for the proposed Filer and configuration, for the purpose of this tender, using a NetApp special sizing tool (for NetApp internal Employees and NetApp Partners) called Synergy Page 6 of 11, Table under heading '4. Provisioning: FAS Categories: cutdr: cutdr-01/cutdr-02', and Line ***'Base Disk Counts'*** *highlighted text.*

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled B
2.43.	Total IOPS capacity for the Storage System (on both controllers) with the following characteristics: • 70/30 Read/Write Ratio • Random access, (Workload type include RDBMs [Oracle, MS SQL], MS Exchange 2013, NAS, VMware Infrastructure) • Data transfer size of 8KB • Total Storage System usable capacity 60TB • All required specs in this table Tenderer for his System Storage technical proposal must use the manufacturers sizing tools and submit the report.	≥ 5.000 (Specify)	5482.46	Pls see **Doc. No. B.26** *"NetApp SPM Sizing Report: FAS2554HA 8KB RANDOM 70/30 5K IOPS"* done especially for the proposed Filer and configuration, for the purpose of this tender. Page 2 of 6, Table under heading 'SPM Recommended Configurations', *highlighted text.*
2.44.	Average Read Latency for Random Workloads (ms - millisecond)	≤ 25 ms	**13 – 17 ms**	Pls see **Doc. No. B.26** *"NetApp SPM Sizing Report: FAS2554HA 8KB RANDOM 70/30 5K IOPS"* done especially for the proposed Filer and configuration, for the purpose of this tender. Page 2 of 6, Table under heading 'SPM Recommended Configurations', *highlighted text.*
2.45.	Ability to apply QoS (Quality of Service) on different workloads. (eg RDBMS LUNs, CIFS file sustems).	Yes (Specify)	Yes. NetApp (OS) supports the ability to apply QoS (Quality of Service) on different workloads. Storage QoS (Quality of Service) can help you manage risks around meeting your performance objectives. You use Storage QoS to limit the throughput to workloads and to monitor workload performance. You can reactively limit	Pls see **Doc. No. B.14**. *"Managing workload performance by using Storage QoS"*, Page 1 of 3, 1st Page & Graphics on the end of page, *highlighted text.*

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled B
			workloads to address performance problems and you can proactively limit workloads to prevent performance problems. Storage QoS is supported on clusters that have up to eight nodes. A workload represents the input/output (I/O) operations to one of the following storage objects: - A Vserver with FlexVol volumes - A FlexVol volume - A LUN - A file (typically represents a virtual machine) You assign a storage object to a policy group to control and monitor a workload. You can monitor workloads without controlling them.	Also, additional information can be found on: **Doc. No. B.15** "FAQ: Storage Quality of Service (QoS)". All pages 1 to 3, *highlighted text*.
2.46.	Total Number of HDD (Hard Disk Drives) and SSD (Solid State Drives) support	≥ 140	Yes, the total Number of HHD and SSD supported by the proposed NetApp FAS2554HA system is **144 disks.**	Pls see **Doc. No. B.2** "*FAS2554 Specifications*", Page1 of 2: Under Technical Specifications per HA pair, 2nd Row, *highlighted text.*
2.47.	Support mixture of HDDs and SSDs in a single disk drive shelve/enclosure	Yes (Specify)	Yes, the proposed NetApp FAS2554HA Filer, supports a mixture of HDDs and SSDs in its container. In fact, it has place for 24 internal disks. Through this tender we are offering the following disks within the Filer: 4 x 400GB SSD and 20 x 4TB SATA drives. In addition, NetApp Shelves (disk containers/enclosures), also support mixture of HDDs and SSDs. For example: - SSDs with SATA Disks - SSDs with SAS disks NetApp calls this mixture of SSDs with HDDs (SAS or SATA) **Flash Pool®**. The benefit of using Flash Pools: increases the	Pls see Actual Configuration for proposed Products document "*CUT Tender Configuration*" (as configured from NetApp's Quotes Tool) **No. A. 2**, Page 1 of 3: Middle of Page, highlighted text. Also, **Doc. No. B.1** OS Datasheet, "*ONTAP 9 Data Mgt Software*", Page 4 of 4, 5th Row of Table, *highlighted text.*

<table>
<tr><th>No.</th><th>Requirements – Specifications</th><th>Requirement</th><th>Response - Offer</th><th>Reference
Documentation labeled B</th></tr>
<tr><td></td><td></td><td></td><td>performance and efficiency of HDD pools with flash acceleration!</td><td>In addition,
Doc. No. B.16 "NetApp Disk Shelves and Storage Media Technical Specifications",
Page 1 of 5: highlighted text.
Page 2 of 5: 2nd Row of Table,
Page 4 of 5: highlighted text.</td></tr>
<tr><td>2.48.</td><td>SAS Interconnect required for all Disk Drive Shelve(s) / Enclosure(s)</td><td>≥ 6Gbs
(Specify)</td><td>Yes, SAS Interconnect is provided for all Disk Drive Shelves, and the speed is 6Gbs.</td><td>Pls see Doc. No. B.2 "FAS2554 Specifications", Page1 of 2:
Under Technical Specifications per HA pair,
8th Row, highlighted text.</td></tr>
<tr><td>2.49.</td><td>Support data capacity expansion (addition of disks and disk shelves/enclosures)</td><td>Yes
(Specify)</td><td>Yes, there is support for data capacity expansion (addition of disks and disk shelves/enclosures), and without any disruption to the operations!
You may add any shelf/disks supported by the proposed FAS2554HA at any time, until you reach the Filer's maximums:
 
<table><tr><th>Specifications</th><th>FAS2554
9.1RC1 ONTAP</th></tr><tr><td>System Maximums and Limits</td><td></td></tr><tr><td>Max Raw capacity (HA)</td><td>1468.8 TB</td></tr><tr><td>Max Storage Devices (HA)</td><td>144 (disks)[1]</td></tr><tr><td>Max DS212C Shelves (HA)</td><td>6</td></tr><tr><td>Max DS224C Shelves (HA)</td><td>5</td></tr><tr><td>Max DS2246 Shelves (HA)</td><td>5</td></tr><tr><td>Max DS4243 Shelves (HA)</td><td>5</td></tr><tr><td>Max DS4246 Shelves (HA)</td><td>5</td></tr></table></td><td>Pls see Doc. No. B.2 "FAS2554 Specifications", Page1 of 2:
Under System Maximums and Limits, Following 7 Rows,
highlighted text.</td></tr>
<tr><td>2.50.</td><td>Support Data Compression (in-line or post-process/offline) for all types of data (for NAS and SAN) on volume level
[Volume refers to logical container of file systems (LUNs, NAS file systems).]</td><td>Yes</td><td>Yes, Data Compression (in-line or post-process/offline) for all types of data (for NAS and SAN) on volume level is supported. (Feature of the NetApp's OS).
NetApp data compression reduces the physical capacity required to store data on storage systems by compressing</td><td>Pls see Doc. No. B.17 "NetApp FAS2500 Series", Page 4 of 4:
3rd Table, Under Included</td></tr>
</table>

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled B
			data within a flexible volume on primary, secondary, and archive storage. It compresses regular files, virtual local disks, and LUNs. NetApp data compression works by compressing a small group of consecutive blocks at one time, which is more efficient. This approach optimizes both small reads and overwrites and allows greater scalability in the size of files being compressed. The NetApp compression algorithm divides a file into chunks of data called 'compression groups'. Compression groups are a maximum of 32 KB in size. Each compression group contains data from one file only. **What are the advantages of data compression?** NetApp data compression offers significant advantages, which include the following: · Works in conjunction with other industry - leading NetApp storage efficiency technologies. Compression, coupled with other efficiency technologies such as thin provisioning and deduplication, significantly reduces the total amount of storage required, lowering both capital and operating expenses. **Total space savings can range up to 87% for compression, depending on the application.** · It has minimal performance impact - while all compression technologies come with some performance penalty, NetApp has taken great care to minimize the impact while maximizing space savings. · Requires no software licensing fees - The NetApp data compression capability is standard in Data ONTAP 8.1.	Software, 1st Row: Efficiency, *highlighted text.* Also, Doc. No. B.18 "*FAQ: Data Compression in Data ONTAP*": Page1 of 6: 1st & 2nd Paragraphs, *highlighted text* Page 3 of 6: 3rd Paragraph etc, *highlighted text* Also, Doc. No. B.19 "*Storage Efficiency in Clustered Data ONTAP*", Page 4 of 8, last Paragraph that continues to Page 5 of 8: 1st paragraphs of Page, as well as last paragraphs of same page, *highlighted text.*

B.2.2.1

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled B
			No license is required; hence, no additional hardware or software costs are incurred when enabling compression. · Works for both primary and secondary storage - You can enable compression on primary storage volumes, secondary storage volumes, or both. · Requires no application changes - Compression is application-transparent. it can be used with a variety of applications with no code changes required. · Space savings inherited during replication and with use of DataMotion - When you replicate a compressed volume using volume SnapMirror or move a volume with DataMotion™, blocks are copied in their compressed state. **This saves bandwidth and time during data transfer and space on target storage while avoiding the need to use additional CPU cycles to compress the same blocks again.** The key with NetApp compression is that NetApp has developed a way to provide both transparent inline and postprocess data compression in software while mitigating the impact on storage system resources. The benefits of deduplication and compression technologies are similar: · They work on both primary and secondary storage. · They are transparent to running applications. · Both can be applied to new data or previously written data. · Both can run during off-peak hours.	
2.51.	Support Data Deduplication (in-line or post-process/offline) for all types of data (for NAS and SAN) on volume level	Yes	Yes, Data Deduplication (in-line or post-process/offline) for all types of data (for NAS and SAN) on volume level is supported. (Feature of the NetApp's OS).	Pls see **Doc. No. B.17** "NetApp FAS2500 Series" Page 4 of 4: 3rd

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled B
	[Volume refers to logical container of file systems (LUNs, NAS file systems).]		The benefits of deduplication and compression technologies are similar: · They work on both primary and secondary storage. · They are transparent to running applications. · Both can be applied to new data or previously written data. · Both can run during off-peak hours.	Table, Under Included Software, 1st Row: Efficiency, *highlighted text.* Also, Doc. No. B.1 OS Datasheet, "*ONTAP 9 Data Management Software*", Page 4 of 4, 4th Row of Table, *highlighted text.* Also, Doc. No. B.19 "*Storage Efficiency in Clustered Data ONTAP*", Page 4 of 8, last Paragraph that continues to Page 5 of 8: 1st paragraphs of Page, as well as last paragraphs of same page, *highlighted text.*
2.52.	Support Thin Provisioning for all types of data (for NAS and SAN) on volume level *[Volume refers to logical container of file systems (LUNs, NAS file systems).]*	Yes	Yes, Thin Provisioning for all types of data (for NAS and SAN) on volume level is supported. (Feature of the NetApp's OS). NetApp thin provisioning lets you present more logical storage to hosts or users than you actually have in your physical storage pool. Instead of allocating space upfront, storage space is dynamically allocated to each volume or LUN as data is written. In most configurations, free space is also released back to your common storage pool when data in the volume or LUN is deleted. Benefits include: · You are saved from having large amounts of allocated but unused storage.	Doc. No. B.19 "*Storage Efficiency in Clustered Data ONTAP*", Page 4 of 8, middle of page, under Heading Other Storage Efficiency Technologies, *highlighted text.*

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled B
			• Utilization is increased, reducing the amount of storage you need. • Planning is simplified. Multiple volumes share the same pool of free storage, so there are fewer storage pools to manage. Thin provisioning in clustered Data ONTAP is identical to it in 7-Mode operation. When you relocate a volume using **vol move**, the thin provisioning settings on the volume move with it!	
2.53.	Support Encryption for all types of data (for NAS and SAN) on volume level *[Volume refers to logical container of file systems (LUNs, NAS file systems).]*	No (Specify)	Encryption for all types of data (for NAS and SAN) on volume level is supported. Storage Encryption is an optional feature that you can enable for additional data protection. It is available on certain supported storage controllers and disk shelves that contain disks with built-in encryption functionality.	Pls see **Doc. No. B.1** OS Datasheet, "*ONTAP 9 Data Management Software*", Page 4 of 4, Last Row of Table, *highlighted text.* Also, for more information on the various options of deploying encryption: Pls see Pages of **Doc. No. B.20**
2.54.	Total Number of 8 Gbits/sec FC Ports on Storage System with support 4 Gbits/sec for existing infrastructure compatibility.	≥ 4 (≥ 2 per controller)	Yes, the proposed NetApp system FAS2554HA has a **total Number of 8 Gbits/sec FC Ports** (2 per Controller), with support 4 Gbits/sec for existing infrastructure compatibility. NetApp FAS2554 and FAS2552 on-board ports can be configured as either a 8Gb/16Gb FC port pair or a 10GbE port pair and mixed combinations.	Pls see **Doc. No. B.17** "*NetApp FAS2500 Series*" Page 4 of 4: 1st Table, 7th Raw, Under Onboard I/O: UTA2 (8Gb FC/16Gb FC/ FCoE/10GbE/1GbE5), *highlighted text.*
2.55.	Total Number of 1GbE Ethernet Ports on Storage System for NAS (CIFS / NFS) and iSCSI purposes.	≥ 4 (≥ 2 per controller)	Yes, the proposed NetApp system FAS2554HA **has a total Number of 4** (2 per Controller) 1GbE Ethernet Ports for NAS (CIFS / NFS) and iSCSI purposes.	Pls see **Doc. No. B.17** "*NetApp FAS2500 Series*" Page 4 of 4: 1st Table, 9th Raw, Under Onboard I/O: GbE, *highlighted text.*

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled B
2.56.	Ability to expand SSD capacity by adding shelves and SSD disks	Yes (Specify)	Yes, the ability to expand SSD capacity by adding shelves and SSD disks is supported. You may add any shelf/SSD disks supported by the proposed FAS2554HA at any time, until you reach the Filer's maximums. **Specifications** — **FAS2554** — **9.1RC1 ONTAP** **System Maximums and Limits** Max Raw capacity (HA): 1466.8 TB Max Storage Devices (HA): 144 (disks)[1] Max DS212C Shelves (HA): 6 Max DS224C Shelves (HA): 5 Max DS2246 Shelves (HA): 5 Max DS4243 Shelves (HA): 5 Max DS4246 Shelves (HA): 5 There are numerous sizes of SSD available to add currently [Different shelves can accommodate different sizes of SSD disks. See enclosed "*Supported Shelves Drives - FAS2554 9.1RC1 ONTAP (External Drives (Single/HA)*] document for exact details on this]: 400GB, 800GB, 960GB, 1600GB, 3840GB, 15300GB!!	Pls see **Doc. No. B.21** "*Supported Shelves Drives - FAS2554 9.1RC1 ONTAP (External Drives (Single/HA)*" Page 1 & 2 of 2: *highlighted text.*
2.57.	Ability to expand HDD capacity by adding shelves and HDD disks	Yes (Specify)	Yes, there is support for data capacity expansion (addition of disks and disk shelves/enclosures), and without any disruption to the operations! You may add any shelf/disks supported by the proposed FAS2554HA at any time, until you reach the Filer's maximums:	Pls see **Doc. No. B.2** "*FAS2554 Specifications*", Page1 of 2: Under System Maximums and Limits, Following 7 Rows, *highlighted text.*

B.2.2.1

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled B
			Specifications FAS2554  9.1RC1 ONTAP **System Maximums and Limits** Max Raw capacity (HA): 1468.8 TB Max Storage Devices (HA): 144 (disks)[27] Max DS212C Shelves (HA): 6 Max DS224C Shelves (HA): 5 Max DS2246 Shelves (HA): 5 Max DS4243 Shelves (HA): 5 Max DS4246 Shelves (HA): 5	
2.58.	Define other performance characteristics	Information	• With clustered ONTAP, you can **expand flash capacity when you need performance**, high-density drives when you need raw capacity, or both. You can scale up when you need a higher end storage array, or scale out horizontally when you need to distribute a workload. All of these operations can be performed while clients and hosts continue accessing their data.	Pls see technical report TR-3982, **Doc. No. A.13**, *"NetApp Clustered Data ONTAP 8.3.x and 8.2.x: An Introduction"* Page 5 of 19, last 2 paragraphs of page, *highlighted text.*
	Disk Drives (HDD & SSD)			
2.59.	Specify all supported SATA or NL-SAS (Near-line SAS) HDD disk drives. Form Factor (e.g. 2.5", 3.5"), Nominal Capacity (e.g. 1 TB), Rotational Speed (e.g. 7,5k rpm), Gbps etc.	Yes (Specify)	Yes, our proposed system FAS2554HA currently supports a number of different shelves, types and sizes of disks, including: SATA & NL-SAS disk drives In detail: SATA 7.2K: 2TB, 3TB, 4TB (3.5") NL-SATA 7.2K: 4TB, 6TB, 8TB, 10TB (both 2.5" and 3.5", according to the shelf they will be placed in) (Some of these disks are encrypted as well. Encrypted disks cannot get mixed with Non-Encrypted disks in the same shelf)	Pls see **Doc. No. B.21** *"Supported Shelves Drives - FAS2554 9.1RC1 ONTAP (External Drives (Single/HA)"* Page 1 & 2 of 2: See *SATA & NL-SAS disks.*
2.60.	Specify all supported SAS HDD disk drives. Form Factor (e.g. 2.5", 3.5"), Nominal Capacity (e.g. 600 GB), Rotational Speed (e.g. 10k rpm), Gbps etc.	Yes (Specify)	Yes, our proposed system FAS2554HA currently supports a number of different shelves, types and sizes of disks, including: SAS disk drives: In detail:	Pls see **Doc. No. B.21** *"Supported Shelves Drives - FAS2554 9.1RC1 ONTAP*

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No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled B
			SAS 10K: 900GB, 1.2TB, 1.8TB (Some of these disks are encrypted as well. Encrypted disks cannot get mixed with Non-Encrypted disks in the same shelf)	*(External Drives (Single/HA)"* Page 1 & 2 of 2.
2.61.	Specify all supported SSD drives. Specify all options, Form Factor (e.g. 2.5", 3.5"), Nominal Capacity (e.g. 600 GB), Gbps etc.	Yes (Specify)	Yes, our proposed system FAS2554HA currently supports a number of different shelves, types and sizes of disks, including: SSD disk drives In detail: There are numerous sizes of SSD available to add currently [Different shelves can accommodate different sizes of SSD disks. See enclosed *"Supported Shelves Drives - FAS2554 9.1RC1 ONTAP (External Drives (Single/HA))* document for exact details on this]: SSD Disks: 400GB, 800GB, 960GB, 1.6TB, 3.840TB, 15.3TB !!	Pls see **Doc. No. B.21** *"Supported Shelves Drives - FAS2554 9.1RC1 ONTAP (External Drives (Single/HA)"* Page 1 & 2 of 2: *highlighted text.* Also, **Doc. No. B.22** *"Supported SSD Drives"* Page 1: *highlighted text.*
2.62.	Define other disk drives supported (not mentioned above).	Information	As mentioned in previous points above, NetApp also supports encrypted disks. 🔒	Pls refer to **Doc. No. B.21** *"Supported Shelves Drives - FAS2554 9.1RC1 ONTAP (External Drives (Single/HA)"* Also, **Doc. No. B.22** *"Supported SSD Drives"* Page 1. (🔒 Indicates that the drive is encrypted)
	Features and Functions			
2.63.	Ability to set Quota limits on disk space per volume *[Volume refers to logical container of file systems (LUNs, NAS file systems).]*	Yes	Yes, the ability to set Quota limits on disk space per volume is supported by NetApp OS. Quotas enable you to restrict or track the disk space and number of files used by a user, group, or qtree. You can use the Add Quota wizard in System Manager to create a quota and apply it to a specific volume or qtree.	Pls see **Doc. No. B.23** *"Quotas: under ONTAP 9 OS Documentation Center"* Page 1 & 2 of 2: *highlighted text.*

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled B
			You can create quotas, delete, edit, activate or deactivate, and resize quotas!	
2.64.	Provide point-in-time copy (snapshots and delta-snapshots) of volumes in an efficient way in terms of performance and storage usage. *[Volume refers to logical container of file systems (LUNs, NAS file systems).]*	Yes (Specify)	Yes, NetApp has a patent for their point-in-time copies, called Snapshots®. Several data storage vendors implement snapshot copies, but not all snapshot technology is created equal. NetApp, the first company to ship high volume open systems and "point-in-time" snapshot capability, offers unique and important advantages. NetApp® Snapshot technology delivers more stability, scalability, recoverability, and performance than competing snapshot technologies. NetApp has leveraged its superior Snapshot technology as the foundation for a family of data protection solutions. These products incorporate and extend the advantages of NetApp Snapshot copies to deliver advanced enterprise data protection. **What is a NetApp Snapshot Copy?** A Snapshot copy is a point-in-time file system image. Low-overhead Snapshot copies are made possible by the unique features of the WAFL® (Write Anywhere File Layout) storage virtualization technology that is part of Data ONTAP®. Like a database, WAFL uses pointers to the actual data blocks on disk, but, unlike a database, WAFL does not rewrite existing blocks; it writes updated data to a new block and changes the pointer. A NetApp Snapshot copy simply manipulates block pointers, creating a "frozen" read-only view of a WAFL volume that lets applications access older versions of files, directory hierarchies, and/or LUNs (logical unit numbers) without special programming.	Pls see **Doc. No. B.24** "*NetApp Snapshot Technology*" Page 1 of 2: *highlighted text.*

B.2.2.1

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled B
			Because actual data blocks aren't copied, Snapshot copies are extremely efficient both in the time needed to create them and in storage space. A NetApp Snapshot copy takes only a few seconds to create—typically **less than one second**, **regardless of the size of the volume** or the level of activity on the NetApp storage system. After a Snapshot copy has been created, changes to data objects are reflected in updates to the current version of the objects, as if Snapshot copies did not exist. Meanwhile, the Snapshot copy of the data remains completely stable. A NetApp Snapshot copy incurs no performance overhead; users can **comfortably store up to 255 Snapshot copies per WAFL volume**, all of which are accessible as read-only and online versions of the data. Snapshot technology forms the basis of a unique ecosystem of high-availability, disaster-tolerant, and data protection solutions.	
2.65.	Read and write access to point in time copies (snapshots and delta-snapshots) of volumes *[Volume refers to logical container of file systems (LUNs, NAS file systems).]*	Yes (Specify)	Yes, NetApp read and write to Snapshots (and delta-snapshots) of volumes is allowed, with the use of a Software called FlexClone®, which is included in our proposal. *[The administrators of CUT's NetApp Filers, have been successfully using FlexClone software for many years now, so they are aware of the benefits that can offer, including*	PIs see Doc. No. A.22 *"FlexClone Datasheet"*, Page 1 of 2, 3rd Column, 2nd paragraph, *highlighted text.*

B.2.2.1

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled B
			the tremendous savings of time, space, and thus money!!!!)	
2.66.	Number of retained point in time copies (snapshots and delta-snapshots) per volume *[Volume refers to logical container of file systems (LUNs, NAS file systems).]*	≥ 200 (Specify)	Yes, NetApp storage volumes support **255 Snapshot copies.** The ability to store a large number of low impact, frequently created Snapshot copies increases the likelihood that the desired version of data can be successfully recovered!	Pls see **Doc. No. B.24** "*NetApp Snapshot Technology*" Page 2 of 2, 2nd Column, last paragraph, under point Scalability, *highlighted text.*
2.67.	Internal cloning of volumes in the same Storage System (any restrictions must be specified) *[Volume refers to logical container of file systems (LUNs, NAS file systems).]*	Yes (Specify)	Yes, NetApp supports internal cloning of volumes in the same Storage System. FlexClone software provides instant replicas of data **volumes**, **files**, and **LUNs** to increase productivity in several Data ONTAP® environments. FlexClone replicas are virtual copies that do not require any storage space to create. Because they do not require any data copying, FlexClone volumes can be created instantly, thus eliminating the performance-related time delays associated with traditional data cloning.	Pls see **Doc. No. A.23**, "*Technical FAQ FlexClone Clustered Data ONTAP 8.3*" Page 4 of 15, 1st Paragraph under heading Overview. Also, Pls see **Doc. No. A.22** "*FlexClone Datasheet*", Page 1 of 2, 3rd Column, 2nd paragraph, *highlighted text.*
2.68.	Replication and incremental replications of volumes between storage arrays of disks (any restrictions must be specified) *[Volume refers to logical container of file systems (LUNs, NAS file systems).]*	Yes (Specify)	Yes, NetApp supports replication and incremental replications of volumes between storage arrays of disks, with a Software called **SnapMirror®.** This is a licensed software, which we have included in the cost of our proposal, in the "bundle of software" called Premium Bundle for FAS8020A. *(The administrators of CUT's NetApp Filers, have been successfully using SnapMirror software for many years now, so they are aware of the benefits that can offer, including the tremendous savings of bandwidth, space, and thus money!!!!)*	Pls see **Doc. No. A.24**, "*How Snapmirror works*" Page 1, 1st and 3rd Paragraph. Also, Pls see Actual Configuration for proposed Products document "*CUT Tender Configuration*" (as configured from NetApp's Quotes Tool) **No. A. 2**, Pages: 2 of 3: End of Page, under heading Software, *highlighted text*

B.2.2.1

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled B
2.69.	Ability to create copies of data (cloning) for testing and development (provide efficient way in terms of performance and storage usage)	Yes (Specify)	Yes, NetApp supports internal cloning of volumes in the same Storage System, with a Software called **FlexClone®.** This is a licensed software, which we have included in the cost of our proposal, in the "bundle of software" called Premium Bundle for FAS8020A. *(The administrators of CUT's NetApp Filers, have been successfully using FlexClone software for many years now, so they are aware of the benefits that can offer, including the tremendous savings of time, space, and thus money!!!!)*	Pls see **Doc. No. A.22** *"FlexClone Datasheet"*, Page 1 of 2, 1st Column, under heading 'Key Points', *highlighted text.* Also, Pls see Actual Configuration for proposed Products document *"CUT Tender Configuration"* (as configured from NetApp's Quotes Tool) **No. A. 2**, Page 2 of 3: Middle of Page, under heading Software, *highlighted text*
2.70.	Automated Storage Reclamation (provide efficient way in terms of performance and storage usage)	Yes (Specify)	Yes, NetApp storage supports Automated Storage Reclamation. This is achieved by using the space reclamation capabilities of SnapDrive to increase storage efficiency by conserving and reusing disk space.	Pls see **Doc. No. A.25**,, *"NetApp SnapDrive Data Management Software Datasheet"* Page 2 of 4, 1st Column, 3rd Paragraph under 'Boost storage efficiency'
2.71.	All cost for the migration tolls from existing (NetApp FAS3140) must be provided by the tenderer	Yes (Specify)	Yes, if we are awarded with this tender, we shall use our own "migration tools", to migrate all your data from NetApp 7-Mode OS, to new cDOT ONTAP-9 OS and in specific, we shall use a tool provided freely to us (Gold Partners) by NetApp called 7MTT. This tool can significantly streamline the process of migrating data!	Pls see **Doc. No. A. 26** a part of a 150 Pages Guide called, *"7-Mode Transition Tool 2.3 Copy-Based Transition Guide For Transitioning to Clustered Data ONTAP®"* Pages 1-6, of 150 Index/Contents to get an idea of the processes involved.
	Protocols			

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled B
2.72.	Unified Storage that provides via a double controller storage System NAS (file services) and SAN (block I/O storage services) without the need of an external device.	Yes	Yes, NetApp is the **first Company that has managed to provide via the same appliance, NAS (file services) and SAN (block I/O storage services) without the need of an external device!! And this was accomplished more than a decade ago!** Simplify Your Storage Environment Run SAN and NAS workloads with unified scale-out storage, and efficiently protect your at-rest data!	Pls see **Doc. No. B.1** OS Datasheet, "*ONTAP 9 Data Management Software*", Page 1, Left Column of Datasheet, under heading KEY BENEFITS & Flexibly Support Changing Business Needs, 3rd Point *highlighted text.* Also, Pls see **Doc. No. A.27**, "*NetApp ONTAP: Unified Storage Architecture*", Page 1, *highlighted text.* Also, Pls see **Doc. No. B.17**, "*NetApp FAS2500 Series Datasheet*" Page 1, 1st Column, 2nd paragraph, under heading 'Delivers Best Value for your IT Investment', *highlighted text*
2.73.	NAS (Network Attached Storage) for file access services that provide NFS (support NFS v3, NFS v4) and CIFS by connecting to TCP/IP network.	Yes	Yes, NetApp supports NAS (Network Attached Storage) for file access services that provide NFS (support NFS v3, NFS v4) and CIFS by connecting to TCP/IP network. (SBM connectivity)	Pls see technical report **Doc. No. A.13**, "*NetApp Clustered Data ONTAP*" Page 16, under 'Multiprotocol Unified Architecture'.
2.74.	Support of pNFS (Parallel NFS)	No	Yes. NetApp supports pNFS.	Pls see technical report **Doc. No. A.13**, "*NetApp Clustered*

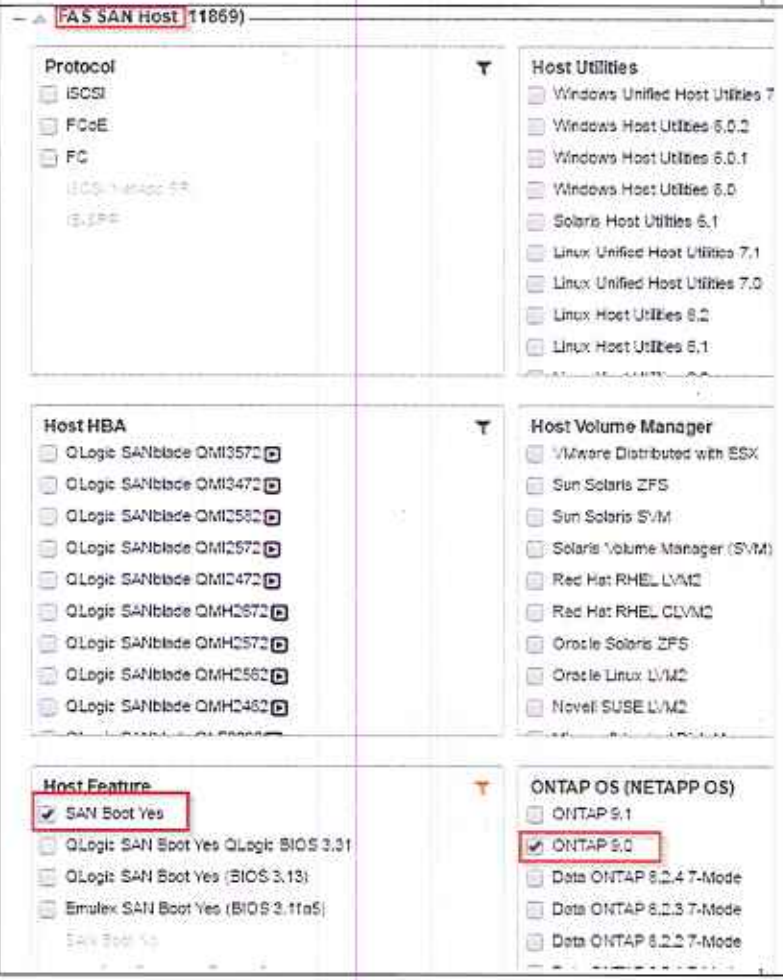
No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled B
				Data ONTAP" Page 16, under 'Multiprotocol Unified Architecture', 1st bullet point. *highlighted text*
2.75.	CIFS integration with "Cyprus University of Technology" Microsoft Active Directory infrastructure	Yes	Yes, you can consolidate your Windows® file servers on NetApp NAS with native SMB/CIFS support. Integrate NetApp NAS systems into your Windows environment with minimal-to-no disruption, and connect them to existing authentication services such as Active Directory. Use SMB/CIFS shares for applications such as SharePoint and SQL, as well as for your custom and traditional workloads. Going further, you can take advantage of SMB 3.0 support to improve scalability and manageability for Microsoft® Hyper-V® environments.	Pls see **Doc. No. A.28**, *"Network Attached Storage"* (http://www.netapp.com/us/products/protocols/nas/index.aspx), Page 1, 4th paragraph, *highlighted text.*
2.76.	SAN (Storage Area Network) for block I/O services that provide "Fibre Channel SAN" and iSCSI	Yes	Yes, NetApp storage solutions are protocol agnostic, so you can get the benefits of Data ONTAP across all NetApp SAN and NAS solutions, whether FC, FCoE, iSCSI, NFS, or CIFS!	Pls see **Doc. No. A.31**, *"Storage Area Network (SAN)"* Page 1, *highlighted text*
2.77.	Ability to set Quota limits on disk space usage per Microsoft Active Directory (MS AD) user and MS AD group	Yes	Yes, you can set quotas when using **qtrees**. Either per user or group. Since the SVM is joined to the active directory then the above information is from the Active Directory.	Pls see **Doc. No. A.55**, *"How quotas work with qtrees"*, Page 1, 1st paragraph, *highlighted text.* Also, Pls see **Doc. No. A.56**, *"Quotas"*, 2nd Page, 2nd & 6th paragraphs, *highlighted text.* Also, Pls see **Doc. No. A.57** OS Datasheet, *"What quota rules, quota policies, and*

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled B
				quotas are", Page 1, 1st paragraph, *highlighted text.*
2.78.	Ability to set Quota limits on number of files per Microsoft Active Directory (MS AD) user and MS AD group	Yes	Yes, you can set quotas on number of files per MS AD user and MS AS group, when using **qtrees.** Either per user or group. Since the SVM is joined to the active directory then the above information is from the Active Directory.	Pls see **Doc. No. A.55**, "*How quotas work with qtrees*", Page 1, 1st paragraph, *highlighted text.* Also, Pls see **Doc. No. A.56**, "Quotas", 2nd Page, 2nd & 6th paragraphs, *highlighted text.*
2.79.	Ability to use Microsoft Previous Versions to file systems that enable point in time copies (delta-snapshot copies with support of MS VSS). So users can recover files and folders from Snapshot copies from their Windows client.	Yes	Yes.	Pls see technical report **Doc. No. A.30**, "*User access to Snapshot copies*" Page 1, 1st and 2nd Paragraph.
2.80.	Ability for NFS users to access point in time copies (delta-snapshot copies with support of MS VSS). So users can recover files and folders from Snapshot copies from their NFS client.	Yes	Yes.	Pls see technical report **Doc. No. A.30**, "*User access to Snapshot copies*" Page 1, 1st and 2nd Paragraph.
2.81.	SAN (Storage Area Network) for block I/O services that provide "Fibre Channel SAN" and iSCSI	Yes	Yes, as per point 2.76 above, NetApp storage solutions are protocol agnostic, so you can get the benefits of Data ONTAP across all NetApp SAN and NAS solutions, whether FC, FCoE, iSCSI, NFS, or CIFS!	Pls see **Doc. No. A.31**, "*Storage Area Network (SAN)*" Page 1, *highlighted text*
2.82.	SAN: Number of Supported LUNs, per Storage System	≥ 1000	**2048 per Controller**	Pls see **Doc. No. B.3** "*NetApp FAS2500 Series Technical Specifications*", Page 5 of 8: Under Max Number of LUNs, 3rd Row, *highlighted text.*
2.83.	SAN Supported LUN Size (TB)	≥ 10TB	**16 TB for all models**	Pls see **Doc. No. B.27**

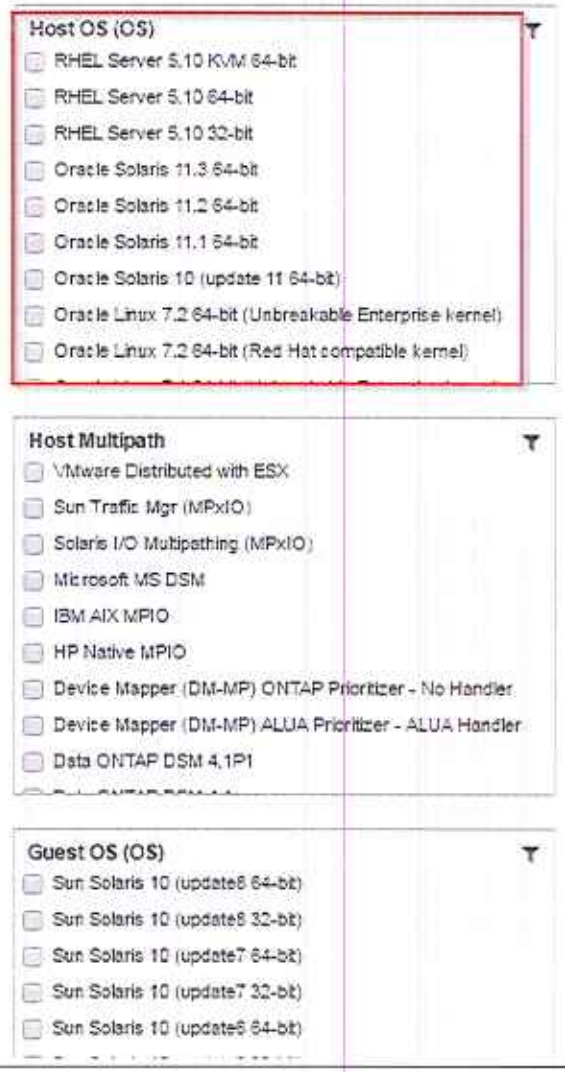
B.2.2.1

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled B
				"SAN configuration limits", Page 2 of 3: 3rd Row, under heading LUN Size, *highlighted text*.
2.84.	Boot from SAN (including Microsoft Windows 2008 and all later, Linux, AIX, VMware Infrastructure suite ESXi 5 and later)	Yes	Yes, Boot from SAN is supported in all the mentioned OS, however to check one specific OS version you need to check our Interoperability Matrix Tool (IMT) on: (http://mysupport.netapp.com/matrix/)	Pls see **Doc. No. A.50**, Actual "*Screenshot from NetApp's Interoperability Matrix Tool (IMT)*" showing how you can check specific OS version compatibility with Boot from SAN etc Also, Pls see **Doc. No. A.49** "*(iSCSI) SAN boot configuration for iSCSI hardware, software initiators*", Information and links in Page 1, *highlighted text*.

B.2.2.1

No.	Requirements – Specifications	Requirement	Response - Offer	Reference
				Documentation labeled B

B.2.2.1

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled B
				

B.2.2.1

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled B
2.85.	CIFS and NFS logging capabilities for Auditing purposes (eg user activity on files)	Yes	Yes, native auditing is supported by NetApp's OS (cDOT) and it provides a file auditing framework that supports both CIFS and NFS protocols. How the Data ONTAP auditing process works? The Data ONTAP auditing process is different than the Microsoft auditing process. Before you configure auditing, you should understand how the Data ONTAP auditing process works. Audit records are initially stored in binary staging files on individual nodes. If auditing is enabled on an SVM, every member node maintains staging files for that SVM. Periodically, they are consolidated and converted to user-readable event logs, which are stored in the audit event log directory for the SVM.	Pls see **Doc. No. A.32**, *"CIFS and NFS Auditing Guide"* Page 9-93, Middle of page under heading 'How Data ONTAP auditing process works', *highlighted text* https://library.netapp.com/ecm/ecm_download_file/ECMLP2426796
	Operating System and Application Aware Point in Time Copies and Restore functionality			
2.86.	Operating System support (all open systems including Windows Server 2008, Windows Server 2012, Linux, AIX, VMware Infrastructure ESXi)	Yes	Yes, NetApp and of course the proposed Filer, supports all the mentioned Operating Systems, plus more. In detail: Windows 2000, Windows Server 2003, Windows Server 2008, Windows Server 2012, Windows Server 2016, Windows XP, Linux, Sun Solaris, AIX, HP-UX, Mac OS, VMware, ESX.	Pls see product **Doc. No. B.17**, *"NetApp FAS2500 Series Datasheet"* Page 4, Row 14, next to 'Host/Client operating systems supported'.
2.87.	Application Aware Snapshot for MS Exchange	Yes	Yes! SnapManager for Exchange is included in our proposal, as part of Premium Bundle.	Pls see **Doc. No. A.33**, *"SnapManager for Microsoft Exchange Server"* Page 1, 2nd Paragraph. Also, Pls see Actual Configuration for proposed Products document *"CUT Tender Configuration"* (as configured

B.2.2.1

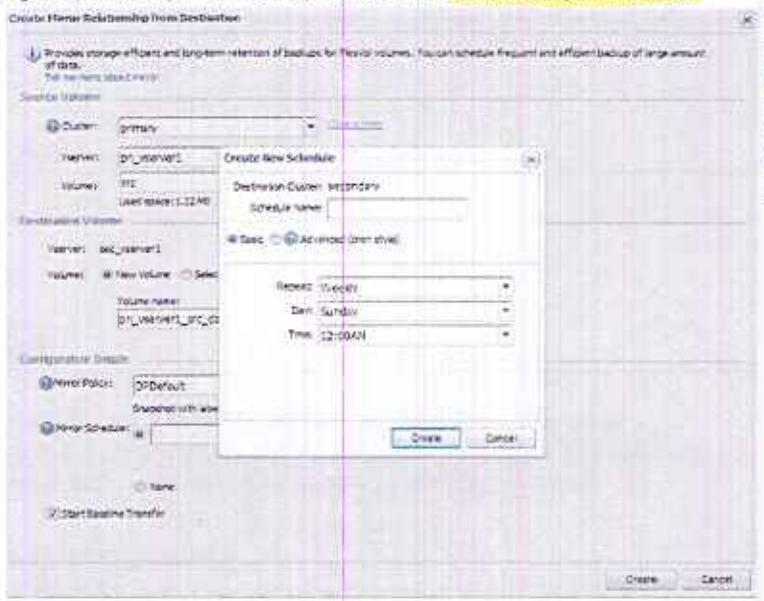
No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled B
				from NetApp's Quotes Tool) **No. A. 2**, Pages: 2 of 3: Middle of Page, under heading Software, *highlighted text*
2.88.	Application Aware Snapshot for MS SQL	Yes	Yes! SnapManager for SQL is included in our proposal, as part of Premium Bundle.	Pls see **Doc. No. A.34**, "*SnapManager for Microsoft SQL Server*" Page 1, 2nd Paragraph. Also, Pls see Actual Configuration for proposed Products document "*CUT Tender Configuration*" (as configured from NetApp's Quotes Tool) **No. A. 2**, Pages: 2 of 3: Middle of Page, under heading Software, *highlighted text*
2.89.	Application Aware Snapshot for Oracle RDBMS (including RAC)	Yes	Yes! SnapManager for Oracle is included in our proposal, as part of Premium Bundle.	Pls see **Doc. No. A.35**, "NetApp *SnapManager for Oracle Datasheet*" Page 1, 3rd column under 'The solution'. Also, Pls see Actual Configuration for proposed Products document "*CUT Tender Configuration*" (as configured from NetApp's Quotes Tool) **No. A. 2**, Pages:

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled B
				2 of 3: Middle of Page, under heading Software, *highlighted text*
2.90.	VMware vSphere Integration (vCenter Plugin)	Yes (Specify)	Yes. SnapManager for Virtual Infrastructure is included in our proposal, as part of Premium Bundle.  FAS/V32XX / FAS/V62XX / FAS80XX Premium Bundle*: CIFS, NFS, FCP, iSCSI, FlexClone®, SnapMirror®, SnapRestore®, SnapManager Suite, SnapVault®, Single Mailbox Recovery (SMBR) FAS22XX / FAS25XX Premium Bundle: FlexClone, SnapMirror, SnapRestore, SnapManager Suite, SnapVault, Single Mailbox Recovery (SMBR) SnapManager Suite** All Platforms: SnapManager for Oracle®, SnapManager for SAP®, SnapManager for VI, SnapDrive® for UNIX®, SnapDrive® for Windows®, SnapManager for Exchange®, SnapManager for SharePoint®, SnapManager for SQL®, SnapManager for Hyper-V SnapManager for Virtual Infrastructure (SMVI) has recently changed name to: '**NetApp Virtual Storage Console for VMware vSphere**' NetApp® Virtual Storage Console (VSC) for VMware® vSphere™ provides integrated, end-to-end virtual storage management for your VMware infrastructure. VSC leverages NetApp technologies to deliver centralized management of NetApp storage operations—in both SAN- and NAS-based VMware virtual server and desktop infrastructures—right from the VMware vCenter™. Key Points • Simplify storage and data management for VMware environments. • Boost responsiveness with real-time discovery and reporting. • Increase availability with nearly instant backups and granular restores.	Pls see **Doc. No. A.36**, "*NetApp Virtual Storage Console for VMware vSphere*" Page 1, 1st Paragraph. Http://www.netapp.com/us/products/management-software/vsc/index.aspx Also, Pls see **Doc. No. A.37**, "*NetApp Management Solutions suite for VMware VSphere*" Page 1, 2nd Paragraph, *highlighted text*

B.2.2.1

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled B
			· Reduce storage costs with thin provisioning, block-level deduplication. · Control storage operations on a per-VM basis. { The NetApp Management Solutions Suite for VMware vSphere defines a set of plug-in solutions for VMware vCenter. It provides management capabilities for virtual machines in VMware environments using NetApp storage systems. Mainly it is about the Virtual Storage Console, which is free of charge and can be downloaded from the NetApp MySupport page.} If we are awarded the tender, we shall be using CommVault IntelliSnap for NetApp (described in the next section) for the backup and recovery of VMWare.	
2.91.	Multi-tenant storage capabilities. "Tenants" act as virtual controllers, in order to facilitate higher standards in security, management and performance of the Storage System.	Yes (Specify)	Yes.	Pls see Doc. No. A.38,, "*Secure Multi-Tenancy for Cloud Architecture*" Page 1, 4th Paragraph.
	Disaster Recovery and data security Features			
2.92.	Enabling storage replications based on schedule (eg at 13:00 and 23:00 daily) to "*Requested Product (2): Secondary Site Storage System*" on volume level. *[Volume refers to logical container of file systems (LUNs, NAS file systems).]*	Yes (Specify)	Yes!	Pls see part of a 70-Pages Technical Report TR-4015 Doc. No. A.39,, "*SnapMirror Configuration and Best Practices. Guide for Clustered Data ONTAP*, Page 37, Table, *highlighted text* Also,

B.2.2.1

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled B
			Figure 23) Create SnapMirror relationship from destination: create new SnapMirror schedule.  Also, SnapVault (*The most important new storage efficiency capability in clustered Data ONTAP is the addition of SnapVault technology with thin replication. SnapVault is the NetApp solution for space-efficient disk-to-disk backup. It performs asynchronous replication using NetApp Snapshot copies of a primary volume. Once a baseline copy is created, incremental backups are all that are required; these are very efficient since only blocks that have changed since the last Snapshot copy was taken are copied.* *You can convert a SnapMirror to a SnapVault relationship if needed.*) allows you to have different retention schedules for Snapshot copies on the primary and secondary	Pls see **Doc. No. A.40**, "*Storage Efficiency in Clustered Data ONTAP*" Page 2 of 5, under 'SnapVault: New in Clustered Data ONTAP 8.2, Middle of Page, *highlighted text*

B.2.2.1

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled B
			volume. (Snapshot copies serve as incremental backups.) You can retain Snapshot copies that have been released from primary storage on secondary storage. You can keep up to 251 Snapshot copies per volume.	
2.93.	Support cross replication (primary site - secondary site and vice versa)	Yes	Yes, cross replication is supported with SnapMirror, NetApp's replication software, from Primary Site to Secondary and Vice-versa. In fact, when you mirror data to one or more NetApp storage systems and continually update the mirrored data, your data is kept current and is available whenever you need it. No external replication servers are required. In addition, the industry-leading ability of NetApp to fail over to a specific point in time in the DR copy enables you to quickly recover from mirrored data corruption. Furthermore, NetApp uses a single solution across all of their ONTAP® supported NetApp storage arrays, regardless of protocol. SnapMirror technology works with any application, in both virtual and traditional environments, and in multiple configurations—including hybrid cloud. *The administrators of CUT's NetApp Filers, have been successfully using SnapMirror software for many years now, so they are aware of the benefits that can offer, including the tremendous savings of time, space, and thus money!)*	Pls see **Doc. No. A.41**,, "NetApp SnapMirror" Page 1, 2nd Paragraph under 'The Solution', *highlighted text* And Page 2 of 2, 2nd Column, 1st Paragraph under heading 'Reduce Management Overhead', *highlighted text*
2.94.	Support replication to different size storage systems or disk types.	Yes	Yes. Replication (with SnapMirror) is supported between different size of NetApp FAS systems, and with different number and type of shelves/disks. In fact, NetApp uses a single solution **across all of their ONTAP® supported NetApp storage arrays**, regardless of size, model, or of protocol. SnapMirror technology works with any application, in both virtual and traditional environments, and in multiple configurations—including hybrid cloud.	Pls see **Doc. No. A.41**, "NetApp SnapMirror" Page 2, 3rd Paragraph (left column) under 'Data Distribution, *highlighted text*

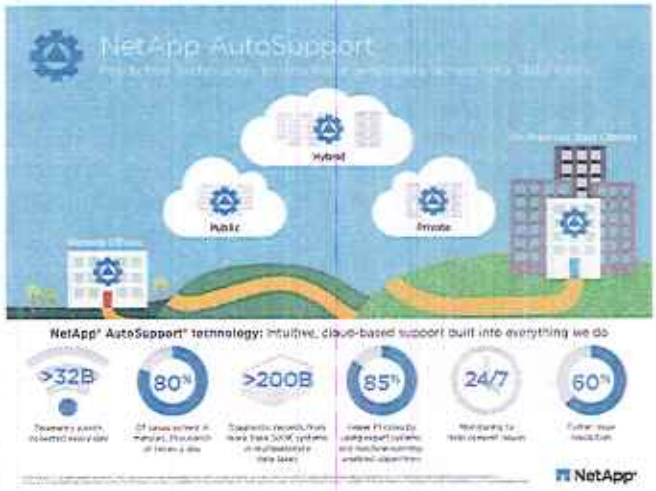
No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled B
2.95.	A mechanism must be available to move Point in time copies (snapshots and delta-snapshots) done at Primary Site to Secondary Site.	Yes (Specify)	Yes. SnapMirror uses a mechanism to move Point in time copies (Snapshots and delta snapshots) done at the Primary Site to Secondary Site. Integrated NetApp® SnapMirror® software technology provides fast, efficient data replication and disaster-recovery (DR) for your critical data. Cost-effective SnapMirror capabilities include: • Network compression to reduce bandwidth utilization • Accelerated data transfers to lower recovery-point objective (RPO) • A single repository for both the active mirror and prior backup copies to enable selective failover points	Pls see Doc. No. A.41,, "NetApp SnapMirror" Page 2, Left Column, Last couple of Paragraph under 'Reduce Network Bandwidth Utilization and Storage Footprint, *highlighted text*
2.96.	The connection between sites (primary and secondary) should be based on TCP/IP protocols for data transfer, with the minimum bandwidth usage utilizing compression and/or deduplication.	Yes (Specify)	Yes, the connection between Primary & Secondary sites is based on TCP/IP protocols for data transfer (SnapMirror is a TCP\IP based technology, thus transmission is ensured based up the IP stack.), with the minimum bandwidth usage utilizing compression and deduplication. SnapMirror and NetApp Storage Efficiency: SnapMirror maintains storage efficiency benefits in replicated volumes. If the source volume is deduplicated, the destination volume is in a deduplicated state as well. SnapMirror does not inflate deduplicated data during a transfer. If the source volume is compressed, the destination volume is in a compressed state as well. Replication of compressed volumes does not uncompress the source volume to read data for a transfer; data is replicated in a compressed state to the destination volume. It is not possible to have different configurations of storage efficiency enabled between the source and destination volumes. For example, it is not possible to compress or deduplicate the SnapMirror destination volume alone without enabling compression or deduplication on the SnapMirror source volume. SnapMirror creates a Snapshot copy before performing an	Pls see Doc. No. A.41,, "NetApp SnapMirror" Page 1, Left Columns, 2nd Paragraph under 'Reduce Bandwidth Utilization and Storage Footprint', *highlighted text*

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled B
			update transfer. Any blocks in the Snapshot copy are locked and cannot be deduplicated. Therefore, if maximum space savings from deduplication are required, run the dedupe process before performing SnapMirror updates. *The administrators of CUT's NetApp Filers, have been successfully using SnapMirror software for many years now, so they are aware of the benefits that can offer, including the tremendous savings of time, space, and thus money!!!!)*	
2.97.	In case of disruption(s) on a data transfer between sites, a recovery point must be automatically available (checkpoint), so the transfer will be able to resume from that point and not restarting the transfer from the beginning.	Yes	Yes, in case of a disruption on a data transfer between sites, a recovery point is automatically available, so the transfer is able to resume from that point and not restarting the transfer from the beginning.	Pls see part of a 70-Pages Technical Report TR-4015 **Doc. No. A.39**, "*SnapMirror Configuration and Best Practices. Guide for Clustered Data ONTAP*, Page 7, *highlighted text*
2.98.	Recovery mechanism in case of a file system corruption or error. The entire file system should be able to be restore to an instance, prior to the corruption.	Yes (Specify)	Yes, in case of a file system corruption or error on a data transfer between sites, the same automated actions will take place as point above. A recovery point will be automatically available, so the transfer will be able to resume from that point and not restarting the transfer from the beginning.	Pls see part of a 70-Pages Technical Report TR-4015 **Doc. No. A.39**, "*SnapMirror Configuration and Best Practices. Guide for Clustered Data ONTAP*, Page 7, *highlighted text*
2.99.	Disk Shredding (Process for deleting data on a specific disk that is intended to make the data unrecoverable)	Yes		Pls see **Doc. No. A.42** "*Using disk sanitization to remove data from disks*", Page 1 of 2: *highlighted text.*
	Management & Monitoring Tools and Support			

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled B
2.100.	On board management port	≥ 1	1 Per Controller = 2 in total	Pls see **Doc. No. B.28**, "*Rear view – FAS2554*" Page 1.
2.101.	Ability to administer, configure and operate all functionality without any additional external device such as management server.	Yes	Yes. NetApp has its own tools for administering, configuring and operating all its functionality without any additional external device/hardware such as a management server.	Pls see **Doc. No. A.44**, datasheet "*OnCommand System Manager*" Page 1, under 'Unlocked ONTAP Power'
2.102.	Ease of use GUI and role-based access to Management Console	Yes	Yes. OnCommand System Manager include an easy to use GUI and role-based access to Management Console. NetApp OnCommand® System Manager is a simple graphical user interface designed for administering a clustered ONTAP system. It provides the ability to provision storage virtual machines, volumes, LUNs, network connectivity, and replication relationships. It can be used to manage local users and groups, and administrative roles. It is available as an on-box user interface in clustered Data ONTAP 8.3 onwards.	Pls see **Doc. No. A.44** datasheet, "*OnCommand System Manager*" Page 1, under 'Key benefits and simplified Management' Also, Pls see technical report **Doc. No. A.13**, "*NetApp Clustered Data ONTAP 8.3 and 8.2.x*" Page 15, under 'Key Features', 1st Bullet point.
2.103.	Single management console for managing multiple systems (Primary and Secondary Storage) from one Management Console.	Yes	Yes, with **OnCommand System Manager.** NetApp OnCommand® System Manager is a simple, versatile GUI-based manageability product that enables administrators to easily configure and manage clustered NetApp storage systems. System Manager is designed with wizards and workflows to simplify common storage tasks such as creating volumes, LUNs, qtrees, shares, and exports, which saves time and helps prevent errors. System Manager is one product that can **manage the entire NetApp FAS line**, including systems running NetApp FlexArray® storage virtualization software. Included in our proposal.	Pls see **Doc. No. A.44** datasheet, "*OnCommand System Manager*" Page 1, 3rd & 4th paragraphs, under heading 'The Solution'

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled B
2.104.	Monitoring tools for environmental problems and resource utilization (disk, bandwidth, quota limits etc)	Yes	Yes, monitoring tools for environmental problems and resource utilization (disk, bandwidth, quota limits etc), with **NetApp's OnCommand Unified Manager and Performance Manager** Key Features Streamline Management Tasks A single dashboard increases user productivity with a complete view of the health of your NetApp® storage—availability, capacity, performance, and data protection relationships. You can: • Simplify management with a single URL and a unified login for NetApp OnCommand® Unified Manager and Performance Manager. • Access a single location to configure clusters, users, and authentication attributes. • Gain faster access through the Favorites dashboard to storage objects that are frequently referenced. Included in our proposal.	Pls see **Doc. No. A.53** datasheet, "*OnCommand Unified Manager and Performance Manager*" Pages: 3 of 4, 1st Column, 2nd paragraph, under heading 'Integrated Performance', *highlighted text.* 1 of 4, 1st Column, last paragraph (bullet points), *highlighted text.* Also, Pls see **Doc. No. A.54** datasheet, "*OnCommand Performance Manager*" Page 2 of 4, 1st Column, 2nd paragraph, under heading 'Troubleshoot and correct Quickly', highlighted *text.*
2.105.	Ability to set thresholds that trigger alerts and notifications via email.	Yes	Yes, ability to set thresholds that trigger alerts and notifications via email, and much more, with NetApp's **OnCommand Performance Manager.** Key Benefits : Get a comprehensive view of performance through a single dashboard for proactive storage management. • Monitor and receive event notifications and alerts automatically. • Have dynamic, user-defined, and system-defined thresholds for alerts. • Identify whether storage is the source of a reported response time incident.	Pls see **Doc. No. A.54** datasheet, "*OnCommand Performance Manager*" Page 1 of 4, 1st Column, 1st paragraph, under heading 'Key Benefits', highlighted *text.* Also, Pls see **Doc. No. A.53** datasheet, "*OnCommand Unified Manager and Performance Manager*"

B.2.2.1

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled B
			• Troubleshoot and perform root cause analysis. • Get guidance on corrective actions and verify changes. Armed with a wealth of performance data and leveraging advanced analytics, storage administrators can bring storage performance in line with the fluctuating demands of their business. Included in our proposal.	Pages 3 of 4, 2nd Column, 2nd paragraph, bullet points, *highlighted text.*
2.106.	Alerts for errors and trend analysis for proactive planning and troubleshooting (configuration) problems.	Yes	Yes, monitoring tools for environmental problems and resource utilization (disk, bandwidth, quota limits etc), with **NetApp's OnCommand Unified Manager and Performance Manager.** Included in our proposal.	Pls see **Doc. No. A.53** datasheet, "*OnCommand Unified Manager and Performance Manager*" Page 3 of 4, 1st Column, 4th paragraph, *highlighted text.*
2.107.	Secure Remote Service from the Vendor (Manufacturer) for diagnostics and notifications, in order to improve response time in case of failure and error.	Yes	Yes, with **NetApp AutoSupport.** A service you have been using for your existing NetApp Filers for more than 7+ years now. 	Pls see **Doc. No. A.45** datasheet, "*AutoSupport*" Page 1, 3rd & 4th paragraphs.

B.2.2.1

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled B

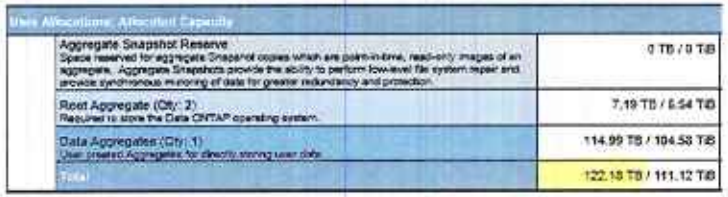
2.108.	Logging configuration features (eg logs retention period)	Yes	Yes, with Event Management System, for short **EMS**, which is part of NetApp's OS, Data ONTAP.
			EMS collects event data from various parts of the Data ONTAP kernel and provides a set of filtering and event forwarding mechanisms. An event producer recognizes the existence of an event and generates an event indication. The EMS definitions typically include text formatting for syslog messages and optional formatting for SNMP traps.
			EMS supports a built-in logging facility that logs all EMS events.
			
			Sample EMS logged message:
			`Tue Jun 3 09:11:32 BST [myntapfiler:`
			`cf.disk.shelfCountMismatchOk :CRITICAL]:`
			`cfdisk: previous shelf count mismatch resolved`
			
			In clustered Data ONTAP, the event log can be viewed by running the `event log show`command.
			
			Example, **To search for a phrase:**
			Note: The search string is case sensitive
			`cm6080-rtp2::> event log show -event *"Completed block"*`
				Pls see **Doc. No. A.46**,
				"What is EMS and what is the difference between the messages in /etc/messages and /etc/log/ems files?"
				Page 1 of 7, under 'ANSWER' and 'EMS Log Data'
				
				https://kb.netapp.com/support/s/article/what-is-ems-and-what-is-the-difference-between-the-messages-in-etc-messages-and-etc-log-ems-files?language=en_US

	Compatibility with existing infrastructure			
2.109.	Support 4 Gbit/sec FC connectivity with existing "HP StorageWorks 4/32B SAN Switch Power Pack" (P\N: AG758A)	Yes	Yes, support for HP StorageWorks 4/32B San is the equivalent Brocade Switch 5000.	Pls see **Doc. No. A.47**, *"NetApp Interoperability Matrix"* Page 3, 1st Row.

B.2.2.1

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled B
2.110.	Support 4 Gbit/sec and 8 Gbit/sec FC connectivity with existing "HP StorageWorks 8/40 Power Pack+ SAN Switch" (P\N: AM870A)	Yes	Yes, support for HP StorageWorks 8/40 is the equivalent Brocade Switch 5100	Pls see **Doc. No. A.48**, *"NetApp Interoperability Matrix"* Page 3, 1st Row.
	Manuals and Documentation			
2.111.	Documentation and manuals for all delivered equipment in electronic form (PDF open standard). Includes Administrators guide for installation, setup, configuration, performance tuning and maintenance.	Yes	Yes, if we win the tender, we shall provide documentation and manuals for all delivered equipment in electronic form (PDF open standard). Includes Administrators guide for installation, setup, configuration, performance tuning and maintenance etc.	
2.112.	The configuration and the final set-up of the system must be document, as part of the acceptance process by the Tenderer's team.	Yes	Yes, if we win the tender, we shall undertake to document the configuration and the final set-up of the system, as part of the acceptance process by the Tenderer's team.	
	Licenses, Warranty and Support Services			
2.113.	Full Software and Hardware Warranty from Manufacturer for at least 60 months period. Includes: • Next business day parts delivery service for all hardware equipment that needs replacement due to failure or malfunctioning. • Software Updates and Fixes • On line support service via web (ability to open a ticket/case related to technical issues). • On line access to resources via web (access to documentation eg manuals, guides etc). • All software tools needed for migration from the existing Storage System to this Storage System (Primary Storage System)	Yes	Yes, our proposed system is fully covered with *Software and Hardware Warranty from Manufacturer for the period of 60 months*, including: · **4-hours Parts delivery service** for all hardware* equipment that needs replacement due to failure or malfunctioning. · Software Updates and Fixes · On line support service via web (ability to open a ticket/case related to technical issues). · On line access to resources via web (access to documentation eg manuals, guides etc). · All software tools needed for migration from the existing Storage System to this Storage System (Primary Storage System) * All failed/malfunctioned hardware will be replaced on a 4-hours delivery service, with the exception of disks, which will be replaced on a Next Business Day service, as per NetApp's New Announcement in August 2016.	Pls see Actual Configuration for proposed Products document *"CUT Tender Configuration"* (as configured from NetApp's Quotes Tool) **No. A. 2**, Pages: 2 of 3: End of Page, under heading Services, *highlighted text* 3 of 3: 1st Table, under heading: Services, *highlighted text* Also, Pls see **Doc. A51**, NetApp's announcement called *"Disk Drive Preferences"*, and

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled B
			Because drives are a noncritical part, all system serial numbers and future shipments will have the default set to Next Business Day (NBD) delivery, regardless of the target response of the service contract. This preference was created to allow customers to reduce their operational costs by simplifying management of drive replacements that might occur during multiple times on any given day. This new preference will not affect other parts and can be changed during the incident at the customer's request or if deemed necessary by the support team. Also, the default preference can be changed just as any other preference for critical systems for which failure is a concern. So, if your NetApp contract service level is to get your parts the same day as a target response to an incident, this preference will move only your disk drives to NBD during Normal Business Hours (NBH). This preference also applies for cases that are generated automatically for AutoSupport (ASUP) enabled systems and for cases opened by the customer or partner directly. The target response for all other parts will remain the same. Logistics companies usually have defined delivery schedules based on geography and location and the drives will be delivered, as required, during that window during NBH.	especially Pages 4 of 7, under paragraph headings: 3. Disk Drive Delivery Preference & 4. Common Questions *highlighted text*
2.114.	The solution includes all hardware and software, licenses (for at least 60 months period) and the required accessories and cables for full operation. The successful tenderer will assemble and configure the solution to be operational with the existing infrastructure. CUT personnel will provide the necessary physical / logical access and information to the University's infrastructure when is needed.	Yes	Yes, our proposed solution includes all hardware and software, licenses (for 60 months period) and the required accessories and cables for full operation. If we win this tender, we will assemble and configure the solution to be operational with the existing infrastructure. CUT personnel will provide the necessary physical / logical	Pls see Actual Configuration for proposed Products document "*CUT Tender Configuration*" (as configured from NetApp's Quotes Tool) **No. A. 2**, Pages:

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled B
			access and information to the University's infrastructure when is needed.	2 of 3: End of Page, under heading Services, *highlighted text* 3 of 3: 1st Table, under heading: Services, *highlighted text*
	Disk Drives Capacity			
2.115.	Total Storage System SATA Usable Capacity (excluding SSD raw capacity) minimum 7.2k RPM Specify the following: • Number of disk shelves (Specify Part Numbers) • Number of disks (Specify Part Numbers) Tenderer can add usable capacity more than the minimum require to accommodate any losses (caused by low Deduplication and Compression savings) during data migration from the existing system (ref "Παράρτημα ΙΙ, Όροι Εντολής – Τεχνικές Προδιαγραφές").	≥ 110TB (Specify)	Having thoroughly examined your tender document specifications, we hereby are proposing to you the following as regards to Disk Drives Capacity: **Raw Capacity**, for a total of 44x4TB Disks: **176 TB** Within NetApp Filer we are offering: Part #: Description: FAS2554-302-R6-C FAS2554,4x400GB,**20x4TB**,Mixed With A New Shelf we are offering: DS4246-0796-24A-1P-SK-R6 DSK SHLF,**24x4TB**,7.2K,6G,FAS25xx All offered SATA disks are of 7.2K RPM speed. **Usable Capacity**. ≈ 122.18TB* * This is an approximate figure, as provided by NetApp's sizing tool.  Calculations as provided by NetApp sizing tools.	Pls see Actual Configuration for proposed Products document "*CUT Tender Configuration*" (as configured from NetApp's Quotes Tool) No. A. 2, Page1 of 3: Lines 16 & 30. under heading Hardware, *highlighted text* Also, Pls see Doc. No. B.25 "*Technical Proposal*" done especially for the proposed Filer and configuration, for the purpose of this tender, using a NetApp special sizing tool (for NetApp internal Employees and NetApp Partners) called Synergy Page 6 of 11, Table under heading '4. Provisioning: FAS Categories: cutdr: cutdr-01/cutdr-02', and ***'User Allocations: Allocated***

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No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled B
			With our proposed solution, it is guaranteed that you shall have at least 50% savings by using deduplication, thin provisioning, compression, and other unique technologies by NetApp, etc, therefore we are quoting what our NetApp Sizing tools recommend! Another live proof of that our solution **does SAVE**, is the fact that your current NetApp Solution (Hardware & Software) even though is already 7+ years old, it does provide you with **storage efficiencies of 378%!!!!** **Real numbers, taken from your live systems.**	***Capacity*** *– blue shaded' highlighted text.* In addition, Pls see Actual NetApp *AutoSupport Dashboard from your existing NetApp Filers,* showing your Filers' Health & Storage Efficiencies (as taken from NetApp's AutoSupport Website) **Doc. No. A. 52**, 2 Pages!
	Existing Storage System equipment (NetApp FAS3140HA and NetApp FAS3140) that will be used as part of Tenderers solution			
2.116.	Specify all CUT's existing equipment that will be used, as part of this storage system solution (Primary Storage Solution).	Information	We plan to use **2 x DS2246 shelves, with a total of 36 x 900GB SAS disks** of the CUT's existing equipment as part of this storage system solution **at the PRIMARY SITE**. In addition, our plan is to use the existing **FAS3140A Filer** for archiving, testing and development, or even for another specific project, since we have no plans to touch the FC and SATA disks (disks in DS14 Shelves) which are still working fine. In addition, we are planning to convert FAS3140A Filer to clustered ONTAP (cDOT) OS! ☺ Going further, we thought that we can keep **FAS3140 Filer** which is now at the DR site, for spare parts, to support the FAS3140A. If we win this tender, we can further share our ideas with you and find the perfect fit for your old Filers which for sure are still worthy of using!	

B.2.2.1

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled B
2.117.	Any preparation procedure or activities that needs to be done on the existing equipment will by the Tenderer.	Yes (Specify)	Yes, if we win the tender, we shall undertake to take all the necessary steps to migrate data, free up existing shelves and move the shelves to their new destination to become part of the new solution.	

3 Ζητούμενο προϊόν – Requested Product (3): Backup and Recovery Software

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled C
	General Information			
3.1.	Company Name (Product owner)	Information	**CommVault.**	Pls see **Doc. No. C.1**, "*CommVault History*" Page 1.
3.2.	Product Name	Information	**Commvault IntelliSnap for NetApp** Management Software. (NetApp sells this software as OEM) Commvault (CVLT), (a global leader in enterprise data protection and information management) in 2015 announced Commvault IntelliSnap® for NetApp, a new array-based snapshot management solution that accelerates and simplifies data protection and recovery for NetApp customers. The Commvault IntelliSnap for NetApp offering replaces NetApp SnapProtect®, enables customers to expand to the full range of Commvault's data protection solutions, and shifts support responsibility for the deployed solution to Commvault's world-class customer support organization.	Pls see **Doc. No. C.2**, "*Commvault® Intellisnap® Technology for NetApp*" Page 1, Heading.
3.3.	Software version *(Note that latest stable version at the time of the installation will be installed)*	Information	Yes, the latest version at the time of installation will be installed. Current versions are **V11 SP4 & SP5.**	Pls see **Doc. No. C.3** documentation, "*Newsletter for Version 11, Service Pack 4 New Features*" documentation, Heading.
3.4.	License scheme offered (e.g per client agent, per storage controller, per installation, per backup capacity GB etc)	Information	Yes, NetApp has a special agreement with CommVault, so the OEM license through NetApp for CommVault Intellisnap Software, you just buy it once with the Controller (Controller based) and it is enough regardless of the storage capacity, or clients!) You get a simple **All-Inclusive License**, so there is no need for you to buy a different licenses for agents, tape, VMs etc!!	Pls see **Doc. No. C.4** PowerPoint Slide – *Pricing Model*, "*Slide from a Presentation Called ~Commvault Intellisnap for NetApp SE Presentation* " Page 79, *highlighted text.*

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled C
			(Buying this license directly from Commvault is different: It can be licensed in numerous ways, including per production TB presented to the solution and per virtual machine, per mailbox for archiving.)	Also, Pls see **Doc. No. C.2** product documentation, *"Commvault® Intellisnap® Technology for NetApp"* Page 4 of 4, under Additional Technical Data Table, 1st Line, *highlighted text.*
3.5.	Operating System on which will be installed	Information	Commvault can be implemented on: Windows, Linux and/or Unix. 1 Server in the Commvault environment, if more than 1 is required, must be Windows to host the MS SQL Database. This MS SQL license is provided.	Pls see **Doc. No. C.3** documentation, *"Newsletter for Version 11, Service Pack 4 New Features"* Page 21 from 34, *highlighted text.*
	Features and Functions			
3.6.	All functionality of the "Backup and Recovery Software" must not affect the normal operation in terms of performance of both the "Primary Site Storage System" and the "Secondary Site Storage System".	Yes	Yes, all functionality of the "Backup and Recovery Software – Intellisnap for NetApp" will not affect the normal operation in terms of performance of both the "Primary Site Storage System" and the "Secondary Site Storage System". In fact, it has near-zero impact on performance overhead.	Pls see **Doc. No. C.2** product documentation, *"Commvault® Intellisnap® Technology for NetApp"* Page 2 of 4, 3rd Paragraph, under heading *"Faster Protection and Recovery to meet your Business requirements", highlighted text.*
3.7.	WAN\LAN\SAN Backup Support	Yes	Yes, Commvault Intellisnap for NetApp fully supports local, wide area networks, as well as shared storage on a SAN. Since CommVault works with the NetApp storage, it also supports WAN\LAN\SAN backup support.	Pls see **Doc. No. C.60**, *"Intellisnap® Guide on NetApp Storage System"* Page 2 of 14, 2nd Paragraph, *highlighted text.*

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled C
3.8.	Compression: Read\Write Backup in compressed format to disks and tapes, via software and hardware (for hardware if available by hardware manufacturer)	Yes	Yes, Commvault supports software and hardware compression to disk, tape and cloud storage.	Pls see **Doc. No. C.2** product documentation, "*Commvault® Intellisnap® Technology for NetApp*" Page 2 of 4, 2nd Paragraph, under heading "The Intellisnap Technology Solution", last sentence, *highlighted text*. Also, Pls see **Doc. No. C.5** part of CommVault's ONLINE DOCUMENTATION, article on "*Data Compression: Software, and Hardware*", *highlighted text*.
3.9.	Deduplication: Read\Write Backup in deduplicated format to disks as a first step and as a second step to tapes via software (The second step to tapes is not required to be in deduplicated format)	Yes	Yes. Commvault supports the use of deduplication to disk as well as deduplication to tape.	Pls see part of CommVault's ONLINE DOCUMENTATION, article on: · **Doc. No. C.6** "*Deduplication Database Backup and Recovery*", · **Doc. No. C.7** "*Deduplication Overview*", 1st Page. · **Doc. No. C.8** "*Deduplication to Tape*", 1st Page.
3.10.	Backup files in use (open files)	Yes	Yes, Commvault can utilize VSS to protect open files.	Pls see **Doc. No. C.9** part of CommVault's ONLINE DOCUMENTATION, article on:

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled C
				"Enabling Volume Shadow Service (VSS) for Windows File System Backups", Page 2 of 3, under Procedure, in last line of Table, "for locked files", *highlighted text.*
3.11.	Backup Browser (by date, job etc)	Yes	Yes, Commvault administrators are able to search for data using the browse feature.	Pls see **Doc. No. C.9** part of CommVault's ONLINE DOCUMENTATION, article on: "Browse and Restore Data: Advanced", in specific Page 3 of 17, under · Sorting Browse Results, · Browsing and Restoring Data Based on Backup Time, etc. *highlighted text.* Also, Pls see **Doc. No. C.11** PowerPoint Slides from a Presentation Called "~Commvault Intellisnap for NetApp SE Presentation~ ": – *Scheduling*, Page 35, – *Configuring the schedule policy*, Page 36, *highlighted text.*

B.2.2.1

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled C
3.12.	Integration with Storage Systems "Primary Site Storage System" and "Second Site Storage System"	Yes	Yes, Commvault integrate very well with the proposed NetApp Storage Systems, both at the Primary and Secondary Sites. Evidence of this integration and cooperation between the 2 Companies, is the fact that NetApp has integrated the Intellisnap backup & restore software in its portfolio of products and it sells it together with its Storage. Going further, Commvault IntelliSnap for NetApp integrates with NetApp Snapshot technology in a virtually seamless way for fast and efficient backup operations and with NetApp SnapVault and SnapMirror software to support content cataloging and data movement to tape-based media.	Pls see **Doc. No. C.12** , *highlighted text.* Pls see **Doc. No. C.13** Technical Report: *"Commvault IntelliSnap for NetApp: Solution Overview"*, Pages: · 1 of 43, *highlighted text.* · 41 of 43 under heading, Summary, in last line of Table, "for locked files", *highlighted text.*
3.13.	Ability to integrate with replication functionality provided by hardware Manufacturer of "Primary Site Storage System" and "Second Site Storage System" in order to move backup and data between the two Storage Systems. (NDMP support or equivalent) Replication must support full replication and incremental replication.	Yes	Yes. Commvault Intellisnap for NetApp integrates with the replication functionality provided by NetApp of "Primary Site Storage System" and "Second Site Storage System" in order to move backup and data between the two Storage Systems. (NDMP support or equivalent) Replication supports full replication and incremental replication.	Pls see **Doc. No. C.17** Pages from CommVault's Online Documentation: *"IntelliSnap Guide on NetApp Storage System"*, Pages: · 2 of 18, Middle of Page · 4 of 18, Table, Last Raw of · 6 of 18, Page last sentence *highlighted text.* https://documentation.commvault.com/commvault/v11/article?p=white_paper/snapprotect/netapp.htm Also, Pls see **Doc. No. C.2** product documentation, *"Commvault® Intellisnap® Technology for NetApp"*

B.2.2.1

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled C
				Page 3 of 4, under "Lower Costs" Last paragraph of Page, *highlighted text.*
3.14.	Ability to use snapshot technology provided by hardware Manufacturer of "Primary Site Storage System" and "Second Site Storage System".	Yes		Pls see **Doc. No. C.17** Pages from CommVault's Online Documentation: *"IntelliSnap Guide on NetApp Storage System"*, Pages: · 2 of 18, Middle of Page *highlighted text.*
3.15.	Backup Job Scheduler (capability for unattended backup)	Yes	Yes, Commvault Intellisnap for NetApp supports Backup Job Scheduler (In fact, it supports both *scheduled* and on *demand* backup jobs).	Pls see **Doc. No. C.17** Pages from CommVault's Online Documentation: *"IntelliSnap Guide on NetApp Storage System"*, Pages: · 1 of 18, 2nd Paragraph, *highlighted text* · 11 of 18, 2nd half of page, *highlighted text.*
3.16.	Backup Job retention policy		Yes, Commvault Intellisnap for NetApp Schedule Policies are designed for full automation of data retention.	Pls see **Doc. No. C.18** Pages from CommVault's Online Documentation: *"Schedule Policy - FAQ"*, Pages: · 1st Page, Middle of Page *highlighted text.* Also,

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled C
				Doc. No. C.19 Pages from CommVault's Online Documentation: *"IntelliSnap - NetApp – Best Practices"*, 2nd Page: Last Paragraph.
3.17.	Backup Job priority capability		Yes, Commvault Intellisnap for NetApp has a default priority setting for each job type within the solution. For example, restore takes priority over a report. An administrator of the system can also add prioritization to data types so that, for example, high transactional databases take priority over file system data.	Pls see Doc. No. C.24 from CommVault's Online Documentation: *"Job Priorities and Priority Precedence - Getting Started", Highlighted text.* http://documentation.commvault.com/commvault/v11/article?p=features/job_management/job_priority.htm
3.18.	Backup Job Logging and History report for each Job run.	Yes	Yes, full job history is stored within the solution for reporting purposes.	Pls see Doc. No. C.20 Pages from CommVault's Online Documentation: *"Job History - Advanced"*, Pages: - 1 of 33, 2nd Paragraph *ALL highlighted text.*
3.19.	Backup types: • Full • Incremental	Yes	Yes, Commvault Intellisnap for NetApp supports both Full as well as incremental backups. **In addition** to the Full & Incremental, our solution supports: - All, - Synthetic Full - Transaction Log - Differential	Pls see Doc. No. C.20 Pages from CommVault's Online Documentation: *"Job History - Advanced"*, Pages: - 2 & 3 of 33, Table *ALL highlighted text.*

B.2.2.1

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled C
3.20.	Backup verification support that ensures the data is available for the recovering operation.	Yes	Yes, data verification can automatically run after a backup job to ensure the job was successful. An email can also be sent notifying a user if data verification triggers an error.	Pls see **Doc. No. C.21** Pages from CommVault's Online Documentation: *"Data Verification - Overview"*, *Highlighted text.*
3.21.	Tape Library management operations including: • Export Media • Import Media • Inventory and Catalogue Media • Format/Erase/Scratch Media • Retire Media • Drive Cleaning • Set and manage Media location by policy • Manage Barcodes	Yes	Yes, Tape Library management operations are supported, including: - Export Media - Import Media - Inventory and Catalogue Media - Format/Erase/Scratch Media - Retire Media - Drive Cleaning - Set and manage Media location by policy - Manage Barcodes Commvault Vault Tracker fully supports all tape management requirements listed. Meaning that fully automated tape management from tape library to off sited tapes requires little input from the administration team.	Pls see **Doc. No. C.22** Pages from CommVault's Online Documentation: *"Library Operations - Overview"*, Pages: - 1 through to 4 of 4, *ALL highlighted features.*
3.22.	Required Backup Destinations supported: • Disk to Tape • Disk to Disk • Disk to Disk to Tape Ability to recover from any Backup Destination. *Disk refers to any disk that is accessible from the "Backup and Recovery Software" SAN or NAS.*	Yes	Yes, Commvault fully supports disk-to-tape, disk-to-disk and disk- to-disk-to-tape configurations.	Pls see **Doc. No. C.17** Pages from CommVault's Online Documentation: *"IntelliSnap Guide on NetApp Storage System"*, Pages: - 2 of 18, Middle of Page - 12 of 18, Last Rows of Page *highlighted text.*

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled C
				Also, Pls see **Doc. No. C.13** Technical Report TR-3920: *"Commvault IntelliSnap for NetApp: Solution Overview"*, Pages: · 4 of 43, Top of page, under heading 'Introduction', *highlighted text.* · 18 of 43, under heading 'Data Replication Using SnapVault and/or SnapMirror', 2nd & 5th paragraphs, *highlighted text.* · 21 of 43: under heading 'Data Movement to Tape', *highlighted text.* · 26 of 43: Points 4 & 5, *highlighted text.* · 37 of 43: under heading '6.Commvault IntelliSnap for NetApp Network and Security Considerations', 2nd paragraph, *highlighted text.*
3.23.	Other Backup Destinations supported: • Disk to Cloud	No	Yes, this is supported: • **Disk library.** A storage resource with an associated mount path that is used to store backups of index information in the Commvault IntelliSnap for NetApp solution. These backups are	Pls see **Doc. No. C.13** Technical Report TR-3920: *"Commvault IntelliSnap for NetApp: Solution Overview"*,

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled C
			also targets for backups to **cloud storage** (NetApp AltaVault® appliance [formerly known as SteelStore]) and act as backup targets for streaming backups.	Pages 6 of 43, under heading '1.2. Commvault IntelliSnap for NetApp Basic Terminology, *highlighted text.*
3.24.	Ability to set prescripts and postscripts in order to run specific scripts before and after running backup	Yes	Yes, Pre and Post Scripts can be built into a backup and/or restore a job.	Pls see **Doc. No. C.26** Pages 1 & 2 of 2, from CommVault's Online Documentation: *"Example: Creating a Pre- or Post-Process Script" highlighted text.* http://documentation.commvault.com/commvault/v11/article?p=products/iseries/t_iseries_sc_script.htm
	Existing Tape Library Compatibility			
3.25.	Compatible with IBM System Storage TS3100 Tape library (3573-TL) with two (2) drives (ULT3580-HH5).	Yes	Yes, the proposed Backup & Recovery Software is compatible with IBM System Storage TS3100 Tape library (3573-TL) with two (2) drives (ULT3580-HH5).	Pls see **Doc. No. C.23** Pages from CommVault's Online Documentation: *"Hardware Matrix" & "Compatibility Matrices" ALL highlighted text.*
3.26.	Ability to manage IBM System Storage TS3100 Tape library (3573-TL) with two (2) drives (ULT3580-HH5) in order to read/write backups directly to tapes.	Yes	Yes, the proposed Backup & Recovery Software is compatible and has the ability to manage the IBM System Storage TS3100 Tape library (3573-TL) with two (2) drives (ULT3580-HH5) in order to read/write backups directly to tape.	Pls see **Doc. No. C.23** Pages from CommVault's Online Documentation: *"Hardware Matrix" & "Compatibility Matrices" ALL highlighted text.*

B.2.2.1

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled C
				https://ma.commvault.com/Support/CompatibilityMatrices Please select: 1. Hardware 2. All 3. Libraries 4. IBM 3573-TL (TS3100 – TS3200)
	Operating System (OS) Platform aware Backups and Recovery			
3.27.	Non-disruptive backup process for BfSAN (Boot from SAN) setup for the following platforms (SAN of either Primary Storage or Secondary Storage): • Windows 2008 and all later • Linux (at least RedHat, Ubuntu) • ESXi	Yes	Yes, Commvault fully supports BfSAN and Windows 2008 onwards, RedHat, Ubuntu and 14 other versions of Linux Operating Systems. ESXi 4.1 or later is fully supported. 	Pls see **Doc. No. C.25** Pages from CommVault's Online Documentation: *"System Requirements - 1-Touch for Windows"* *ALL highlighted text.* Also, Pls see **Doc. No. C.58** Pages from CommVault's Online Documentation: *"Hardware Matrix" & "Compatibility Matrices"* *ALL highlighted text.* Also, Pls see **Doc. No. C.59** Pages from CommVault's Online Documentation: *"Hardware Matrix" & "Compatibility Matrices"*

B.2.2.1

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled C
				ALL highlighted text.
3.28.	Support for Microsoft VSS-enable method (Volume Shadow Copy Service) for Microsoft Environment consistent backups	Yes	Yes, Commvault fully supports VSS enabled protection of Microsoft systems.	Pls see **Doc. No. C.17** Page from CommVault's Online Documentation: *"IntelliSnap Guide on NetApp Storage System"*, Pages: - 4 of 18, Table, 8th Raw *highlighted text.* https://documentation.commvault.com/commvault/v11/article?p=white_paper/snapprotect/netapp.htm
3.29.	BfSAN Backup to disk (SAN and NAS) and to tape. BfSAN Recovery from disk (SAN and NAS) and from tape.	Yes		
3.30.	Time needed (RTO - guarantee) for the whole OS Platform (BfSAN) recovery process to complete (in hours) assuming the following: • BfSAN server is located on Primary Site Storage System • There are two volumes (LUNs) direct attached to it of 300GB capacity each with 90% capacity used. • The backup instance for recovery is located to Primary Site Storage System (Specify any critical bottlenecks for the solution) *[Volume refers to logical container of file systems (LUNs, NAS file systems).]*	≤ 24hrs (Specify)	CommVault's flexible policy based solution enables our customers to reduce RPO's and RTO's to the needs specified. Using protection strategies such **as IntelliSnap managed hardware snapshots** can give application aware, granular restore with RPO and RTO as low as <1hr. Snapshot Management IntelliSnap technology integrates the complex lifecycle of snapshot management into one seamless framework. This integrated approach makes it quicker, easier, and more affordable to harness the power of multiple vendor array-based snapshots, accelerating backup and recovery of applications, systems, VMs and data. IntelliSnap automates the creation of application-aware hardware snapshot copies across a multi-vendor storage environment, and catalogs snapshot data to simplify the recovery of individual files without the need for a	Pls see **Doc. No. C.27** Page 1 of 1, from CommVault's Online Documentation: *"Snapshot Management"* *highlighted text.*

B.2.2.1

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled C
			collection of scripts and disparate snapshot, backup, and recovery tools. IntelliSnap technology can be deployed as a lightweight, standalone solution for automating snapshot management and application-aware recovery across multiple storage arrays and physical or virtual servers, unifying the management of hardware snapshots through a single console to improve efficiency and unleash the true potential of snapshots. This maximizes the value of your existing snapshot investment by simplifying management, speeding recovery and making snapshots searchable. You can automatically create long-term snapshot backups and archives from snapshots using commodity disk, cloud or tape, without the need for traditional backup, potentially eliminating legacy backup solutions.	
3.31.	Time needed (RTO - guarantee) for the whole OS Platform (BfSAN) recovery process to complete (in hours) assuming the following: • BfSAN server is located on Primary Site Storage System • There are two LUNs (disks) direct attached to it of 300GB capacity each with 90% capacity used. • The backup instance for recovery is located to Secondary Site Storage System (Specify any critical bottlenecks for the solution)	≤ 24hrs (Specify)	The exact time it would take to restore data of this volume, would depend on a number of factors, including on the performance of the server, storage, and the rate that the data is being transferred through. On the same storage though, it is easy to say that such a task can only take **a few minutes.**	Pls see **Doc. No. B.1** OS Datasheet, "*ONTAP 9 Data Management Software*", Page 4 of 4, 18th Row under heading SnapRestore®, *highlighted text.*
3.32.	Time needed (RTO) for specific files or folders (BfSAN) recovery process to complete (in hours) assuming the following: • 30GB of data must be recovered • The backup instance for recovery is located to Primary Site Storage System (Specify any critical bottlenecks for the solution eg GB to restore).	≤ 24hrs (Specify)	The exact time it would take to restore data of this volume, would depend on a number of factors, including on the performance of the server, storage, and the rate that the data is being transferred through. On the same storage though, it is easy to say that such a task can only take **a few minutes.**	Pls see **Doc. No. B.1** OS Datasheet, "*ONTAP 9 Data Management Software*", Page 4 of 4, 18th Row under heading SnapRestore®, *highlighted text.*

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled C
	Recovery of files and folders from backup must not require a full file-system recovery process.			
3.33.	Time needed (RTO) for specific files or folders (BfSAN) recovery process to complete (in hours) assuming the following: • 30GB of data must be recovered • The backup instance for recovery is located to Secondary Site Storage System (Specify any critical bottlenecks for the solution eg GB to restore). *Recovery of files and folders from backup must not require a full file-system recovery process.*	≤ 24hrs (Specify)	The exact time it would take to restore data of this volume, would depend on a number of factors, including on the performance of the server, storage, and the rate that the data is being transferred through. On the same storage though, it is easy to say that such a task can only take **a few hours.**	Pls see **Doc. No. B.1** OS Datasheet, "*ONTAP 9 Data Management Software*", Page 4 of 4, 18th Row under heading SnapRestore®, *highlighted text.*
3.34.	Bare-metal recovery based on a BfSAN backup with a single LUN (disk) attached to it. (Bare metal refers to the ability of restore procedure to restore an OS not to the identical server hardware but to a different one. Including different CPU, but in the same architecture family [eg x86-64].)	No	Yes, Full bare metal restore to dissimilar hardware is fully supported with Commvault from a following a SAN mode backup.	Pls see **Doc. No. C.28** Pages 1 & 2 from CommVault's Online Documentation: "*Overview - 1-Touch for Windows*", *highlighted text.* http://documentation.commvault.com/commvault/v11/article?p=prod_overview/1touch.htm
3.35.	Capability to clone a BfSAN OS Platform with single or multiple LUNs (disks) direct attached to it.	Yes	Yes, Fully supported. (CommVault's OS rebuild with multiple LUNs has the same answer as 3.34 as it relates to their bare metal restore.)	Pls see **Doc. No. C.28** Pages 1 & 2 from CommVault's Online Documentation: "*Overview - 1-Touch for Windows*", *highlighted text.* http://documentation.commvault.com/commvault/v11/article?p=prod_overview/1touch.htm
	Application aware Backups and Recovery – VMware			

B.2.2.1

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled C
3.36.	Support VMFS and NFS Datastore backup and recovery	Yes	Yes, Commvault fully supports VMFS (fully supports VMware*) and NFS level backup and recovery. *: VMware vSphere Support: The following versions are supported for vSphere, vCenter, vCenter Server Appliance, and ESX or ESXi: 4.1* or later, 5.0.x, 5.1.x, 5.5, 5.5.1, 5.5.2, 5.5.3**, 6.0, 6.0.1, 6.0.2	Pls see **Doc. No. C.29** Pages from CommVault's Online Documentation: *"Overview: NFS"* *ALL highlighted text.* http://documentation.commvault.com/commvault/v11/article?p=products/nfs/c_nfs_overview.htm Also, Pls see **Doc. No. C.30** Pages from CommVault's Online Documentation: *"System Requirements for Virtual Server Agent with VMware"*, Page 2 of 4, Middle of Page, under heading 'Datastore Support' *ALL highlighted text.* http://documentation.commvault.com/commvault/v11/article?p=system_requirements/vs_vmware.htm
3.37.	Support Backup and Recovery for Guest OS that VMware vSphere supports including (at least): • Windows 2008 and all later • Linux (at least RedHat, Ubuntu)	Yes	Yes, backup of VMware Guest VM's support windows 2008 and later as well as Linux RedHat, Ubuntu and more, is supported.	Pls see **Doc. No. C.30** Pages from CommVault's Online Documentation: *"System Requirements for Virtual Server Agent with VMware"*, Page 2 of 4, Middle of Page, under heading 'Datastore Support'

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled C
				ALL highlighted text. http://documentation.commvault.com/commvault/v11/article?p=system_requirements/vs_vmware.htm
3.38.	Integration with Point-in-time copy for VMware virtual machines (VMware Snapshots with quiesce capability)	Yes	Yes, full integration with VMware snapshots using the **quiesce capability** for VM consistency.	Pls see **Doc. No. C.31** Pages from CommVault's Online Documentation: *"Backups with Quiescing of the Operating System and Applications"* Page 1 of 2, 1st paragraph, *highlighted text.* http://documentation.commvault.com/commvault/v11/article?p=products/vs_vmware/c_vmw_backup_application_aware.htm
3.39.	Support for Microsoft VSS-enable method (Volume Shadow Copy Service) for Microsoft Environment consistent backups	Yes	Yes, **VSS is fully supported** for Microsoft consistent backups.	Pls see **Doc. No. C.32** Pages from CommVault's Online Documentation: *"Enabling Volume Shadow Service (VSS) for Windows File System Backups"*, Page 1 of 2, 1st paragraph, *highlighted text.* http://documentation.commvault.com/commvault/v11/article?p=products/windows/t_win_using_vss_to_backup_all_files.htm

B.2.2.1

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled C
3.40.	Ability to manage daily VM backups of at least 500 VMs	Yes	Yes, Commvault has a theoretical limit of 20,000 servers in a single environment, therefore **500 VM's can be handled easily!**	Pls see **Doc. No. C.33** Pages from CommVault's Online Documentation: *"Hardware Specifications for CommServe"*, Page 1, 1st Column 'ENTERPRISE' *highlighted text.* http://documentation.commvault.com/commvault/v11/article?p=system_requirements/commcell_sizing/commserve.htm
3.41.	Ability to retain VMware virtual machines backup (based on VMware Snapshots) to the following locations by policy: • On Primary Storage System • On Secondary Storage System • On Tape Library	Yes	Yes, **Commvault policies allow a customer to specify the retention of data on different forms of media on a case by case basis.** Therefore a Disk to Disk to Tape solution is fully supported.	Pls see **Doc. No. C.34** Pages from CommVault's Online Documentation: *"Performing an Auxiliary Copy"*, Page 1 & 2 of 2, Kindly read procedure. *ALL highlighted text.* http://documentation.commvault.com/commvault/v11/article?p=features/auxiliary_copy/t_run_an_auxiliary_copy.htm
3.42.	Recovery and cloning of VMware Virtual Machines (VM) based on a VM backup	Yes	Yes, In placed and out of place **restore, cloning, is fully supported by Commvault** of virtual machines.	Pls see **Doc. No. C.35** Pages from CommVault's Online Documentation: *"Virtualize Me - Windows - Overview"*, Page 1, *highlighted text.*

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled C
				http://documentation.commvault.com/commvault/v11/article?p=features/virtualizeme/overview_win.htm
3.43.	Recovery of specific file(s) and folder(s) within a VMware VM image from backup without the need for a full file-system recovery process.	Yes	**Yes, granular restore of individual files and/or folders from virtual machines if fully supported**	Pls see **Doc. No. C.36** Pages from CommVault's Online Documentation: *"Restores for Guest Files and Folders with VMware"*, Page 1 of 2, 1st Paragraph, *highlighted text.* http://documentation.commvault.com/commvault/v11/article?p=products/vs_vmware/c_vmw_restore_guest_files.htm
	Application aware Backups and Recovery – Oracle and Oracle RAC			
3.44.	Support Oracle 11g (11.2.0.3.0) RAC and later	Yes	Yes, Commvault fully supports protections of **Oracle 11g and onwards.**	Pls see **Doc. No. C.37** Pages from CommVault's Online Documentation: *"System Requirements - Oracle iDataAgent"*, Page 1 of 6, *highlighted text.* http://documentation.commvault.com/commvault/v11/article?p=system_requirements/oracle.htm

B.2.2.1

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled C
3.45.	Full integration with RMAN (Oracle Recovery Manager) including: • Oracle ASM support • Non-disruptive online (ARHIVELOG mode) and offline full or incremental backup • Recovery and cloning of entire database or individual datafiles and tablespaces and archive logs at any point in time.	Yes	Yes, Commvault **fully supports RMAN backup** with support for Oracle ASM, Non-Disruptive online and offline backup. Cloning is fully supported of oracle instances.	Pls see **Doc. No. C.38** Pages from CommVault's Online Documentation: *"Oracle Backups Using the CommCell Console"*, Pages 1 & 2 of 2, *highlighted text.* http://documentation.commvault.com/commvault/v11/article?p=products/oracle/c_ora_gui_backup.htm
	Application aware Backups and Recovery – SAP ERP (with Oracle RAC)			
3.46.	Support for SAP ERP (Microsoft Windows 2012 [VMware VM] for Netweaver and RedHat (BfSAN) for RDBMS that is Oracle 11g RAC 4-nodes)	Yes (Specify)	Yes, SAP on Oracle, MaxDB and Hana are fully supported by Commvault for backup and restore. (See also point below)	Pls see **Doc. No. C.39** Pages from CommVault's Online Documentation: *"SAP Archive Link Agent Overview"*, Pages: 1 - 3 of 3, *highlighted text.* http://documentation.commvault.com/commvault/v11/article?p=products/sap_archive_link/c_overview.htm
3.47.	Non-disruptive backup, recovery and cloning (e.g. database clone for quality assurance or development).	Yes	Yes, non-disruptive backup or application and DB nodes, as well as restore and cloning, are fully supported.	Pls see **Doc. No. C.40** Pages from CommVault's Online Documentation: *"Creating a SAP HANA Clone Environment"*, Page 1 of 3, 1st middle of page paragraphs, *highlighted text.* Also,

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled C
				Pls see **Doc. No. C.41** Pages from CommVault's Online Documentation: *"Restoring SAP HANA Backups"*, Page 1 of 2, *highlighted text.* http://documentation.commvault.com/commvault/v11/article?p=products/sap_hana/snap/t_hana_snap_restore_clone.htm
3.48.	Full integration with SAP ERP BR*Tools	Yes	Yes, **full integration with SAP BR tools** for effective backup and recovery!	Pls see **Doc. No. C.42** Pages from CommVault's Online Documentation: *"SAP on Oracle Restore Examples Using the BR*Tools Command Line Interface"*, Page 1, *highlighted text.* http://documentation.commvault.com/commvault/v11/article?p=products/sap_oracle/c_sap_ora_rest_br.htm
	Application aware Backups and Recovery – Microsoft SQL			
3.49.	Support for Microsoft SQL 2008 and later (Standard) that runs in physical and virtual machines the following: • Non-disruptive consistent backup • Recovery • Non-disruptive database cloning	Yes (Specify)	Yes, non-disruptive backup and cloning for Microsoft SQL 2008 and later is supported, with in and out of place restore also supported.	Pls see **Doc. No. C.43** Pages from CommVault's Online Documentation: *"Back Up SQL Server Data"*, Page 1 of 2, 1st Page - *highlighted text.*

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled C
				http://documentation.commvault.com/commvault/v11/article?p=products/sql/c_sql_bckp.htm
3.50.	Support of Microsoft VSS enable method for MS SQL consistent Backup	Yes	Yes, VSS protection of MS SQL supported along with our MS SQL agent.	Pls see **Doc. No. C.43** Pages from CommVault's Online Documentation: "*Back Up SQL Server Data*", Page 1 of 2, Table, 5th Row, under heading '**Full-text indexes**', *highlighted text.* http://documentation.commvault.com/commvault/v11/article?p=products/sql/c_sql_bckp.htm
3.51.	Support of single table recovery	Yes	Yes, database level restore fully supported.	Pls see **Doc. No. C.44** Pages from CommVault's Online Documentation: "*Restore SQL Server Data*", Page 1 of 3, 1st paragraph, *highlighted text.* http://documentation.commvault.com/commvault/v11/article?p=products/sql/c_sql_rstr.htm
	Application aware Backups and Recovery – Microsoft Exchange			
3.52.	Support of Microsoft Exchange 2013 or later that runs in physical and virtual machines	Yes	Yes. Commvault fully supports Microsoft Exchange 2007, 2010, **2013 and 2016 environments** hosted on Physical and Virtual Infrastructure for effective backup, recovery and archive of Exchange data.	Pls see **Doc. No. C.45** Pages from CommVault's Online Documentation:

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled C
				"System Requirements - Exchange Database Agent", Page 1 of 2, 1st Page Table, under heading 'Application' *highlighted text.* http://documentation.commvault.com/commvault/v11/article?p=system_requirements/exchange.htm
3.53.	Non-disruptive backup process for Microsoft Exchange	Yes	Yes, non-disruptive backup fully supported for exchange database and mailbox protection!	Pls see **Doc. No. C.46** Pages from CommVault's Online Documentation: "Backing Up an Exchange Database", Page 1 of 2, See Backup process explained. *highlighted text.* http://documentation.commvault.com/commvault/v11/article?p=products/exchange_database/t_exdb_backup_creating.htm
3.54.	Support of Microsoft VSS enable method for MS Exchange consistent Backup	Yes	Yes, VSS backup of Exchange is fully supported!	Pls see **Doc. No. C.47** Pages from CommVault's Online Documentation: "Application Aware Backups", Page 1 of 2, 1st Page paragraphs, *highlighted text.* http://documentation.commvault.com/commvault/v11/article?p=product

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled C
				s/vs_vmware/c_vmw_backup_appaware.htm
3.55.	Point in time copy for Microsoft Exchange 2010 and later. Expand LUNs and add storage without any downtime. Scheduled online backup with verification capability.	Yes (Specify)	Yes, point in time backup is fully supported for Microsoft Exchange 2010 and later with the ability to change LUNs and add storage without downtime.	Pls see **Doc. No. C.48** Pages from CommVault's Online Documentation: Screenshots of what the system software can offer: "Page 1 – 3. Also, Pls see **Doc. No. C.13** Technical Report TR-3920: *"Commvault IntelliSnap for NetApp: Solution Overview"*, Page 36 of 43, last sentence of page, *highlighted text.*
3.56.	Point in time recovery option for full Microsoft Exchange Server	Yes (Specify)	Yes, point in time restore is fully supported with Microsoft Exchange Servers.	Pls see **Doc. No. C.49** Pages from CommVault's Online Documentation: *"Restoring an Exchange Database Using the Exchange Database Agent"*, Page 1, 1st Page, see options on the left Column of page, *highlighted text.* http://documentation.commvault.com/commvault/v11/article?p=products/exchange_database/c_exdb_restore_database.htm

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled C
3.57.	Point in time recovery option for a single Microsoft Exchange Database recovery	Yes (Specify)	Yes, Point in time restore of Exchange Databases is fully supported.	Pls see **Doc. No. C.49** Pages from CommVault's Online Documentation: *"Restoring an Exchange Database Using the Exchange Database Agent"*, Page 1, 1st Page, see options on the left Column of page, *highlighted text.* http://documentation.commvault.com/commvault/v11/article?p=products/exchange_database/c_exdb_restore_database.htm
3.58.	Point in time recovery option for a single Mailbox recovery	Yes (Specify)	Yes, Point in time restore of single Mailbox is fully supported. (many emails are incorporated in a Single mailbox.)	Pls see **Doc. No. C.50** Pages from CommVault's Online Documentation: *"Recovering Messages from an Exchange Database (Live Browse)"*, Page 1, *highlighted text.* http://documentation.commvault.com/commvault/v11/article?p=products/exchange_database/c_exdb_restore_granular_recovery.htm
3.59.	Point in time recovery option for a single email message recovery	Yes (Specify)	Yes, Point in time restore of a single mail is fully supported	Pls see **Doc. No. C.50** Pages from CommVault's Online Documentation: *"Recovering Messages from an Exchange Database (Live*

B.2.2.1

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled C
				Browse)", Page 1, *highlighted text*. http://documentation.commvault.com/commvault/v11/article?p=products/exchange_database/c_exdb_restore_granular_recovery.htm
3.60.	Point in time recovery option for a Folder recovery	Yes (Specify)	Yes, Point in time recovery of a folder within a user's mailbox is fully supported.	Pls see **Doc. No. C.51** Pages from CommVault's Online Documentation: *"Recovering Messages from Traditional Exchange Database Jobs (Non-Block-Level)"*, Page 1, *highlighted text*. http://documentation.commvault.com/commvault/v11/article?p=products/exchange_database/t_exdb_restore_granular_recovery_backup.htm
3.61.	Technology for fast recovery of data and applications.	Yes (Specify)	Yes, IntelliSnap enables fast backup and restore of data and applications sitting on tier 1 production storage.	Pls see **Doc. No. C.52** Pages from CommVault's Online Documentation: *"Intellisnap – Overview – Exchange Database Agent"*, Page 2 of 3, towards the end of page, under heading 'Advantages of Using Intellisnap Backup for the Exchange Database Agent', *highlighted text*.

B.2.2.1

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled C
				http://documentation.commvault.com/commvault/v11/article?p=products/exchange_database/t_exdb_backup_creating.htm
	Management & Monitoring Tools and Support			
3.62.	Single GUI Management Console for managing all functions, features and configuration with RBAC support. A centralized backup policy management and configuration is required.	Yes	Yes, Commvault has a single user interface, GUI, for all administrative and management operations for backup, restore, archiving, replication and more. This reduces the need for training and overall efficiency for the solution. Simplified management is provided through a single GUI console to: view, manage, and access all functions and all data and information across the enterprise. The software platform is an enterprise level, integrated data and information management solution, built from the ground up **on a single platform and unified code base.** All functions share the same back-end technologies to deliver the unparalleled advantages and benefits of a truly holistic approach to protecting, managing, and accessing data. The software contains modules to protect and archive, analyze, replicate, and search your data, which all share a common set of back-end services and advanced capabilities, seamlessly interacting with one another. This addresses all aspects of data management in the enterprise, while providing infinite scalability and unprecedented control of data and information.	Pls see **Doc. No. C.53** Pages from CommVault's Online Documentation: "Software Overview", Page 1 of 2, under heading 'Key features of the software platform' and especially 1st bullet point of Page 2, *highlighted text*. http://documentation.commvault.com/commvault/v11/article?p=whats_new/c_main_overview.htm

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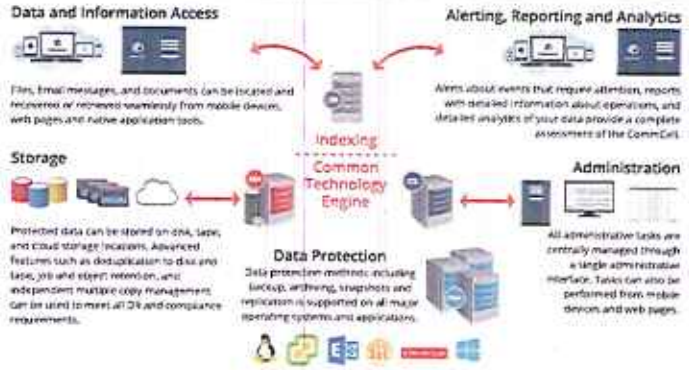
No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled C
				
3.63.	Ability for application administrators to restore their data without to contact backup or Storage Administrator in the concept of RBAC setup	Yes	Yes, the operation of restore can be delegated to an application owner or administrator without the interaction of a backup administrator and without the risk of providing access to all data to all users.	Pls see **Doc. No. C.54** Pages from CommVault's Online Documentation: *"Security Association Overview"*, Page 1, *highlighted text.* http://documentation.commvault.com/commvault/v11/article?p=features/user_admin/c_cc_associations.htm
3.64.	Integrated authentication with Microsoft Active Directory (MS AD) and LDAP protocol	Yes	Yes, Integrated authentication with Microsoft Active Directory (MS AD) and LDAP protocol is supported.	Pls see **Doc. No. C.16** part of CommVault's ONLINE DOCUMENTATION, Chapter on: *"Enabling Single Sign-On with Active Directory"*, Page 1 1st Paragraph, *highlighted text.*

B.2.2.1

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled C
3.65.	Secure (encrypted) remote connection to Management Console	Yes	Yes, a secure remote connection is provided with our secure CommCell consoles.	Pls see **Doc. No. C.55** Pages from CommVault's Online Documentation: *"CommCell Console Overview"*, Page 1, *highlighted text.* http://documentation.commvault.com/commvault/v11/article?p=features/commcell_console/c_cc_overview.htm Also, Pls see **Doc. No. C.17** Pages from CommVault's Online Documentation: *"IntelliSnap Guide on NetApp Storage System"*, Pages: - 2 of 18, 2nd Paragraph, *highlighted text.* https://documentation.commvault.com/commvault/v11/article?p=white_paper/snapprotect/netapp.htm Also, Pls see **Doc. No. C.57** *"CommVault Intellisnap for NetApp Supported Features and Products"*, Pages: - 3 of 5, Last Row of page, *highlighted text.*

B.2.2.1

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled C
				· 4 of 5: 1st Row of Page, *highlighted text.*
3.66.	Monitoring tools for errors and resource utilization (media utilization etc)	Yes	Yes, Monitoring tools for error reports and resource utilization monitoring is fully supported by Commvault's in built reporting and monitoring tools	Pls see **Doc. No. C.56** Pages from CommVault's Online Documentation: *"CommCell Monitoring"*, Pages 1 and 2 of 2, especially on 1st Page under heading 'Alerts', *highlighted text.* http://documentation.commvault.com/commvault/v11/article?p=features/commcell_monitoring/c_commcell_monitoring.htm
3.67.	Ability to receive alerts and notifications via email.	Yes	Yes, advanced alerting and notifications via email is built into the platform allow users to be notified if anything requires attention for the required fields and more. Operations are handled from a single interface, reducing the amount of time you spend managing processes and allowing you to respond faster to requests. The NetApp OnCommand server and Commvault CommServe server are typically separate systems. The OnCommand server is mandatory for replication (auxiliary copy) and adds additional capabilities to the system, such as monitoring, alerting, and reporting.	Pls see **Doc. No. C.13** Technical Report TR-3920: *"Commvault IntelliSnap for NetApp: Solution Overview"*, Pages: · 6 of 43, middle of page, *highlighted text.* · 37 of 43, middle of page, *highlighted text.* Also, Pls see **Doc. No. C.14** From Commvault Online Documentation: *"E-Mail Server Configuration" & "Alerts and Notifications - Overview", highlighted text.*

B.2.2.1

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled C
3.68.	Monitoring and Reporting for the following topics: • Backup infrastructure • Backup job management • Skipped file(s) • Skipped client(s) • Capacity • Configuration changes • User activities (audit trails) Ability to extract information above from the system for further analysis.	Yes	Yes, advanced monitoring and reporting is built into the platform as well. There is also the option for creating custom reports to include more details/fields than those provided in the ready-made "Backup Job Summary Report". The "Backup Job Summary Report" displays information related to all backup jobs for the selected clients and agents in the CommCell. If the agent has been configured to archive backups with OnePass, then information for those jobs appears in the Archive/Compliance Archive Job Summary Report. You can use this report to: - Monitor the overall health of backup jobs in the CommCell. - Help troubleshoot backup errors and keep track of specific object types in backup jobs. - View detailed information, such as the failed objects included or objects that were filtered from a single job. - Set up a different report template for each agent type or computer group to efficiently manage information. - Group backup job information according to the criteria that are most useful to you.	Pls see **Doc. No. C.15** Pages from Commvault's Online Documentation: *"Creating Dashboards for System Monitoring"*, as well as *"Reports Overview"* and *"Backup Job Summary Report – Overview"* *highlighted text.* https://documentation.commvault.com/commvault/v11/article?p=features/reports/types/js_backup_overview.htm
	Licenses, Warranty and Support Services			
3.69.	Full Software and Hardware Warranty from Manufacturer for at least 60 months period. Includes: • Next business day parts delivery service for all hardware equipment that needs replacement due to failure or malfunctioning. • Software Updates and Fixes • On line support service via web (ability to open a ticket/case related to technical issues).	Yes	Yes, Full Software and Hardware Warranty (Software Subscription is provided, since CommVault Intellisnap for NetApp is a Software. This s/w is provided with FAS8020A Filer which is offered with Hardware Subscription as well!) from NetApp is provided for 60 months period, as per tender document, and includes: - Next business day parts delivery service for all hardware equipment that needs replacement due to failure or malfunctioning. (Not relevant to Software)	Pls see **Doc. No. A.2** 3 Pages *"CUT Tender Configuration"*, the *actual NetApp Configuration* from NetApp's Quote Tool, in which you can clearly see that the CommVault Intellisnap for NetApp is offered (with

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled C
	• On line access to resources via web (access to documentation eg manuals, guides etc).		- Software Updates and Fixes - On line support service via web (ability to open a ticket/case related to technical issues), through NetApp, since the product is OEM from Commvault. - On line access to resources via web (access to documentation eg manuals, guides etc).	FAS8020A) with 60 Months of Software Subscription. (Software because, Commvault Intellisnap for NetApp is a Software and not Hardware) Page 2 of 3, last lines, *highlighted text.*
3.70.	The solution includes all hardware and software, licenses (for at least 60 months period) and the required accessories and cables for full operation. The successful tenderer will assemble and configure the solution to be operational with the existing infrastructure. CUT personnel will provide the necessary physical / logical access and information to the University's infrastructure when is needed.	Yes	Yes, the solution offered includes all hardware and software, licenses (for 60 months period) and the required accessories and cables for full operation. If we are awarded with this tender, we will assemble and configure the solution to be operational with the existing infrastructure. CUT personnel will provide the necessary physical / logical access and information to the University's infrastructure when is needed.	Pls see **Doc. No. A.2** 3 Pages "*CUT Tender Configuration*", the *actual NetApp Configuration* from NetApp's Quote Tool, in which you can clearly see that the CommVault Intellisnap for NetApp is offered (with FAS8020A) with 60 Months of Software Subscription. (Software because, Commvault Intellisnap for NetApp is a Software and not Hardware) Page 2 of 3, last lines *highlighted text.*
	Manuals and Documentation			
3.71.	Documentation and manuals for all delivered equipment in electronic form (PDF open standard). Includes Administrators guide for installation, setup, configuration, performance tuning and maintenance.	Yes	Yes, documentation and manuals for all the delivered software in electronic form will be provided, including Administrators guide for installation, setup, configuration, performance tuning and maintenance. Commvault provides a very detailed online manual which is continually updated for customers:	You may see this online manual from now by visiting: http://documentation.commvault.com/commvault/v11/article

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled C
			http://documentation.commvault.com/commvault/v11/article	
3.72.	The configuration and the final set-up of the system must be document, as part of the acceptance process by the Tenderer's team.	Yes	Yes, should we be awarded with the tender, the configuration and the final set-up of the system will be documented, as part of the acceptance process by the Tenderer's team.	N/A

B.2.2.1

4 Ζητούμενο προϊόν – Requested Product (4): Backup and Recovery Server

Our "Backup & Recovery Software Solution" requires the use of 2 Servers. For this purpose, we are proposing the same model of Server, in specific the DELL PowerEdge R430 Server, in 2 different configurations.

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled D
	General Information			
4.1.	Manufacturer	Information	DELL	Pls see **Doc. No. D.1** : *"DELL PowerEdge R430 Datasheet"*, 1st Page, Heading.
4.2.	Model	Information	DELL PowerEdge R430 	Pls see **Doc. No. D.1** : *"DELL PowerEdge R430 Datasheet"*, 1st Page, Heading, *highlighted text.*
4.3.	Part Number	Information	Part Number is 210-ADLO	Pls see **Doc. No. D.2** : *"Servers for Backup & Recovery Software (CommVault Intellisnap for NetApp) Datasheet"*, 1st Page, 1st line.
4.4.	Storage OS version	Information	NetApp Clustered Data ONTAP 9.0 OS.	Pls see **Doc. No. B.1** OS Datasheet, *"ONTAP 9 Data Management Software"*, Page 1, Heading, *highlighted text.*
4.5.	Condition of the equipment must be new and unused. Also, refurbished equipment is not acceptable.	Yes	Yes, all the equipment offered are new and unused.	Pls see **Doc. No. D.1** : *"DELL PowerEdge R430 Datasheet"*.
	Physical and Environmental Specifications			

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled D
4.6.	Rack mounted kits are required.19" IEC rack-compliant	Yes	Yes, Server is standard rack mount. Rack mounted kits are included and they comply for a 19" IEC rack.	Pls see **Doc. No. D.1** : "DELL PowerEdge R430", 1st Page, 1st paragraph, *highlighted text.*
4.7.	Define Form Factor – Height in Rack Units (U e.g. 2U)	Information	Rack height is **1U** (42.8 mm /1.68 inches)	Pls see **Doc. No. D.1** : "DELL PowerEdge R430 Datasheet", 2nd Page, 1st line, *highlighted text.*
4.8.	Define Weight fully loaded (kg)	Information	Dell R430 Chassis weight for **19.9* kg** (43.87 lb) *Maximum weight (loaded with all hard drives/SSDs) (Weight empty: 16.73kg)	Pls see **Doc. No. D.3** : "Dell PowerEdge R430 Owner's Manual", Technical Specifications, 37th Page, Table 19, 1st Paragraph *highlighted text.* Also, Pls see **Doc. No. D.8** : "Technical Specifications", 152th Page, 1st Table of page, *highlighted text.*
4.9.	The system depth should permit installation in a 120cm deep cabinet. Define Depth with cable management bracket (cm)	<120cm	Deploy powerful operations designed for rack environments requiring peak two-socket performance, sizeable internal storage capacity, and short chassis (1U) with **short-depth (24-inch*)depth** to overcome space constraints, the PowerEdge R430 rack server is an excellent fit for high-performance computing (HPC), web tech and infrastructure scale-out!! * 24-inch = approximately 60.96 cm.	Pls see **Doc. No. D.1** : "DELL PowerEdge R430 Datasheet", 1st Page, 1st paragraph, *highlighted text.*
4.10.	Maximum power consumption (watts)	Information	The Server comes with 2 x 550W power supplies, so the max consumption that the Server can have in Watts is 2 x 550W = 1100 Watts.	Pls see **Doc. No. D.1** :

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled D
				"DELL PowerEdge R430 Datasheet", 2nd Page, 8th line, *highlighted text.* Also, Pls see **Doc. No. D.2** : "DELL PowerEdge R430 ACTUAL Configuration", 1st Page, 19th Row, *highlighted text.*
4.11.	For all power cables, Power Plug AC 250V 10A, IEC C14 Male and C13 Female are required	Yes	Yes, all power cables, Power Plug AC 250V 10A, are IEC C14 Male and C13 Female, and are included with the Servers.	Pls see **Doc. No. D.2** : "DELL PowerEdge R430 ACTUAL Configuration", 1st Page, 20th line, *highlighted text.*
4.12.	Define Operating temperature (Celsius e.g. 10 °C to 35 °C)	10 °C to 30 °C	Continuous Operation Temperature: Operating temperature is 10°C to 35°C with no direct sunlight on the equipment.	Pls see **Doc. No. D.3** : "Dell PowerEdge R430 Owner's Manual", Technical Specifications, Page 40, Table 26 – Temperature, 'Environmental Specifications', *highlighted text.*
4.13.	Define Maximum thermal output (BTU/hour)	Information	The maximum thermal output : • for 2 x 550 W AC is 2107 BTU/hr	Pls see **Doc. No. D.3** : "Dell PowerEdge R430 Owner's Manual", Technical Specifications, Page 37, Table 20 - PSU specifications, *highlighted text.*

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled D
4.14.	Define Operating relative humidity range (e.g. 10% to 95%)	20% to 80%	The Operating humidity range is 10% to 80% with 29°C maximum dew point.	Pls see **Doc. No. D.3** : *"Dell PowerEdge R430 Owner's Manual"*, Technical Specifications, Page 40, Table 27 - Relative humidity, specifications, *highlighted text.*
4.15.	Recommended operating relative humidity range (e.g. 30% to 70%)	Information	The recommended operating relative humidity is 10% to 80% with 29°C maximum dew point.	Pls see **Doc. No. D.3** : *"Dell PowerEdge R430 Owner's Manual"*, Technical Specifications, Page 40, Table 27 - Relative humidity, specifications, *highlighted text.*
4.16.	Define operating acoustic noise at normal operating conditions (dBA e.g. 67.2 dBA)	Information	Yes, Operating acoustic noise at normal operating conditions is 40 dBA	Pls see **Doc. No. D.4** : *"Dell 13G PowerEdge Acoustical Performance & Dependencies*, Page 10, Last line of the document, *highlighted text*
4.17.	All products and services must meet international standards, environmental certifications and comply with all applicable laws and regulations. Including: • Comply with Waste Electrical and Electronic Equipment Directive (WEEE) 2002/95/EC • Comply with Restriction of Hazardous Substances Directive (RoHS) • Comply with REACH (Regulation for Registration, Evaluation, Authorization and Restriction of Chemicals) Directive • All equipment must meet the "Energy Star" standards for energy performance	Yes	Yes, All products and services meet the international standards, environmental certifications and comply with all applicable laws and regulations. - Compliance for Waste Electrical and Electronic Equipment Directive (WEEE) 2002/95/EC - Compliance for Restriction of Hazardous Substances Directive (RoHS) - Compliance for REACH (Regulation for Registration, Evaluation, Authorization and Restriction of Chemicals) Directive	Pls see **Doc. No. D.5** : *"Dell Product End-Of-Life Instructions – EU WEEE Directive 2002/96/EC"*, Pls see **Doc. No. D.6** : *"Dell's Chemical Use Policy" - for EU Restriction of Hazardous Substances Directive (RoHS) & EU Reach.*

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled D
			· "Energy Star" standards for energy performance	Pls see **Doc. No. D.7** : *"Dell ENERGY STAR Enterprise Server products".*
	Power Supply			
4.18.	Redundant Hot-Swap Power Supplies	Yes	Yes, Redundant Hot-Swap Power Supplies In both our configurations, we are including: Dual, Hot-plug, Redundant Power Supply (1+1), 550W	Pls see **Doc. No. D.2** : *"DELL PowerEdge R430 ACTUAL Configuration"*, 1st Page, Row 19, and for Second Configuration, Page 2, Raw 7, *highlighted text.*
	CPU			
4.19.	Manufacturer	Information	Manufacturer of the CPU is **Intel.** Intel Xeon E5-2603 v4 1.7GHz,15M Cache,6.4GT/s QPI,6C/6T (85W) Max Mem 1866MHz	Pls see **Doc. No. D.1** : *"DELL PowerEdge R430 Datasheet"*, 2nd Page, 2nd Row, *highlighted text.*
4.20.	Part Number	Information	Part Number is **338-BJDS** (The 2nd CPU, has a different part no: 338-BJEI)	Pls see **Doc. No. D.2** : *"DELL PowerEdge R430 ACTUAL Configuration"*, 1st Page: 1, 2 & 40 Rows *highlighted text.*
4.21.	Number of CPUs	≥ 2	· Server Configuration 1: Number of CPUs offered is **2** · Server Configuration 2: Number of CPUs offered is **1**, because these are the hardware requirements from the Backup software for the second server.	Pls see **Doc. No. D.2** : *"DELL PowerEdge R430 ACTUAL Configuration"*,: 1st Page, 1 & 2 Rows, 1st Page, 40th Row, *highlighted text.*

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled D
4.22.	Number of cores per CPU	≥ 4	Number of Cores per CPU is **6**	Pls see **Doc. No. D.2** : *"DELL PowerEdge R430 ACTUAL Configuration".:* 1st Page, 1 & 2 Rows, 1st Page, 40th Row, *highlighted text.*
	Memory			
4.23.	Manufacturer	Information	**Dell**	Pls see **Doc. No. D.2** : *"DELL PowerEdge R430 ACTUAL Configuration".:* 1st Page, 11 & 48 Rows, *highlighted text.*
4.24.	Part Number	Information	Part Number are: · 16GB RDIMM, 2400MT/s, Dual Rank, x8 Data Width: **370-ACNX** · 8GB RDIMM, 2400MT/s, Single Rank, x8 Data Width: **370-ACNQ**	Pls see **Doc. No. D.2** : *"DELL PowerEdge R430 ACTUAL Configuration".:* 1st Page, 11 & 48 Rows, *highlighted text.*
4.25.	RAM total in GB	≥ 8GB	Yes. · Server Configuration 1: TOTAL RAM offered is **64GB** · Server Configuration 2: TOTAL RAM offered is **16GB**, As per the requirements of our proposed Backup & Recovery Software.	Pls see **Doc. No. D.2** : *"DELL PowerEdge R430 ACTUAL Configuration".:* 1st Page, 11th Row, 1st Page, 48th Row, *highlighted text.*
4.26.	Number of memory DIMM slots	≥ 2	The proposed Server has a maximum **12 DIMM** slots on it.	Pls see **Doc. No. D.1** : *"DELL PowerEdge R430 Datasheet"*, 2nd Page, 8th line, *highlighted text.*

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled D
	Network Ethernet Adapter			
4.27.	Total Ethernet Port 1Gb	≥ 2	Total number of Ethernet 1GB ports, is **2**	Pls see **Doc. No. D.3** : *"Dell PowerEdge R430 Owner's Manual"*, Technical Specifications, Page 20, *highlighted text.*
	Other Ports			
4.28.	Number of USB v3 ports	≥ 2	Number of USB v3 ports is **2**	Pls see **Doc. No. D.3** : *"Dell PowerEdge R430 Owner's Manual"*, Technical Specifications, Page 39, Table 24 - USB specifications, *highlighted text*
4.29.	VGA Port	Yes	Yes, The PowerEdge R430 system supports two 15-pin VGA ports one each on the front and back panels.	Pls see **Doc. No. D.3** : *"Dell PowerEdge R430 Owner's Manual"*, Technical Specifications, Page 39, Under VGA ports, *highlighted text.*
	Existing Tape Library Compatibility			
4.30.	Compatible with IBM System Storage TS3100 Tape library (3573-TL) with two (2) drives (ULT3580-HH5).	Yes	Yes, supported	Pls see **Doc. No. D.9**, *"IBM System Storage Interoperation Center (SSIC)"*, Page 1 & 2, *highlighted text.* This is IBM's Interoperability matrix tool, where you can enter the specific Tape TS3100 (3573-TL) etc, and

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled D
				several other fields, and you get the required results. https://www-304.ibm.com/systems/support/storage/ssic/interoperability.wss Also, pls see the Interoperability list from CommVault (the Backup & Recovery software proposed) which also shows that there is compatibility between the specific tape, and Windows Server 2012 etc, which links everything together: **Doc. No. D.10**, "*CommVault Interoperability screenshot*".
4.31.	Connectivity to the IBM System Storage TS3100 Tape library (3573-TL) is via two (2) FC-LC ports (4 Gb/sec) one for each drive (ULT3580-HH5).	Yes	Yes, supported	Pls see **Doc. No. D.9**, "*IBM System Storage Interoperation Center (SSIC)*", Page 1 & 2, *highlighted text*. This is IBM's Interoperability matrix tool, where you can enter the specific Tape TS3100 (3573-TL) etc, and several other fields, and you get the required results. https://www-304.ibm.com/systems/support/storage/ssic/interoperability.wss Also, pls see the Interoperability list from CommVault (the Backup & Recovery software proposed) which also shows that there is

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled D
				compatibility between the specific tape, and Windows Server 2012 etc, which links everything together: **Doc. No. D.10**, "*CommVault Interoperability screenshot*".
	Disk Drives and Local Storage Capacity			
4.32.	Total number of disk drives	≥ 2	Yes, the total number of Disks Drives we offer with our Servers is **2 x 500GB** for each Server Configuration. There are multiple R430 chassis, that can host up to: • 10 x 2.5" hot-plug drives • 8 x 2.5" hot-plug drives • 4 x 3.5" hot-plug drives • 4 x 3.5" cabled drives	Pls see **Doc. No. D.2** : "*DELL PowerEdge R430 ACTUAL Configuration*",: 1st Page, 14th Row 2nd Page, 2nd Row, *highlighted text.* Also, Pls see **Doc. No. D.1** : "*DELL PowerEdge R430 Datasheet*", 2nd Page, 5th Row under Storage. *highlighted text.*
4.33.	Total server SAS usable capacity after RAID configuration with required RAID level protection against single disk failure (RAID1) (in TB).	≥ 500GB	RAID 1 requires a minimum of two physical disks, in this case 2 x 500GB, as data is written simultaneously to two places. If one disk fails, the other one can retrieve the data and continue to work with still of 500GB usable space.	Pls see **Doc. No. D.2** : "*DELL PowerEdge R430 ACTUAL Configuration*",: 1st Page, 14th Row 2nd Page, 2nd Row, *highlighted text.*
4.34.	Automatic disk recovery in the event of a single disk failure without downtime.	Yes	Yes, Automatic disk recovery in the event of a single disk failure without downtime.	Pls see **Doc. No. D.3** : "*Dell PowerEdge R430 Owner's Manual*", Technical Specifications, Page 25, 26 & 106.

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled D
4.35.	Redundant Hot-Swap Disks	Yes	Yes, Redundant Hot-Swap Disks	Pls see **Doc. No. D.3** : *"Dell PowerEdge R430 Owner's Manual"*, Drive Specifications, Page 38, Table 23 – Supported hard drive and SSD options for the PowerEdge R430 System, *highlighted text*
	Backup Restoration Process for the "Backup and Recovery Server"			
4.36.	Specify the Backup and Recovery process of the "Backup and Recovery Server". Since this "backup and recovery server" is part of the infrastructure recovery procedure, a special recovery process for a bare metal recovery of the services that this server provides must be available. The recovery process will assume that at least one of the Storage System (Primary or Secondary) will not be available during the server recovery procedure. Also, the recovery process is required not to take more than 24hrs (RTO) assuming hardware for restoration is available.	Yes (Specify)	Yes, CommVault IntelliSnap integrates with NetApp Technologies for backing up data. When a backup is triggered a NetApp Snapshot is created at a volume level. Furthermore this Snapshot can be also Snapmirrored or Snapvaulted. In case of major disaster and supposing that we don't even have the CommVault infrastructure, we can always use the NetApp built in tools to restore Snapshots instantly!	Pls see **Doc. No. C.60** product documentation, *"Intellisnap® Guide on NetApp Storage System"*, Page 2 of 14, 2nd Paragraph, *highlighted text*.
	Licenses, Warranty and Support Services			
4.37.	Full Software and Hardware Warranty from Manufacturer for at least 60 months period. Includes: • Next business day parts delivery service for all hardware equipment that needs replacement due to failure or malfunctioning. • Software Updates and Fixes	Yes	Yes, Full Software and Hardware Warranty from Manufacturer for at least 60 months period. Includes: • Next business day parts delivery service for all hardware equipment that needs replacement due to failure or malfunctioning. • Software Updates and Fixes.	Pls see **Doc. No. D.2** : *"DELL PowerEdge R430 ACTUAL Configuration"*,: 1st Page, 38th Row 2nd Page, 26th Row, *highlighted text*.
4.38.	The solution includes all hardware and software, licenses (for at least 60 months period) and the required accessories and cables for full operation. The successful tenderer will assemble and configure the solution to be operational with	Yes	Yes, The solution includes all hardware and software, licenses (for at least 60 months period) and the required accessories and cables for full operation. Mechatronic Ltd will assembly and configure the solution to be operational	

No.	Requirements – Specifications	Requirement	Response - Offer	Reference Documentation labeled D
	the existing infrastructure. CUT personnel will provide the necessary physical / logical access and information to the University's infrastructure when is needed. *Note that if "Microsoft Windows Server" proposed for OS the University will provide the Microsoft related license with no cost on the tenderer.*		with the existing infrastructure. We understand that CUT personnel will provide the necessary physical / logical access and information to the University's infrastructure when is needed. We also note that if "Microsoft Windows Server" proposed for OS the University will provide the Microsoft related license with no cost on the tenderer.	

5 Ζητούμενες Υπηρεσίες Εκπαίδευσης (1) – Requested Training Services

No.	Requirements – Specifications	Requirement	Response - Offer	Reference
	Training requested for Storage Systems (Primary and Secondary)			
5.1.	Provide an initial fundamental training during system deployment. The training at least 30 hours training covering the following topics for both Primary and Secondary Storage Systems. • Hardware Installation (at least 2 hour) • Management Console and Monitoring Tools (at least 3 hours) • SAN FC iSCSI (at least 4 hours) • NAS CIFS NFS (at least 4 hours) • Security and Audit (at least 3 hours) • Best Practises and Performance tuning (at least 4 hours) • Maintenance (at least 5 hours) • Software Upgrades and Updates procedures (at least 5 hours) Training should follow a logical learning curve to ensure proper setup and administration of the Storage Systems. Total of six (6) IST Personnel trainees will participate.	Yes	Yes, if we are awarded with this tender, we shall undertake to provide the University with an initial fundamental training during system deployment. The training will be of at least 30 hours training, covering the following topics for both Primary and Secondary Storage Systems. - Hardware Installation (at least 2 hours) - Management Console and Monitoring Tools (at least 3 hours) - SAN FC iSCSI (at least 4 hours) - NAS CIFS NFS (at least 4 hours) - Security and Audit (at least 3 hours) - Best Practises and Performance tuning (at least 4 hours) - Maintenance (at least 5 hours) - Software Upgrades and Updates procedures (at least 5 hours) Training will follow a logical learning curve to ensure proper setup and administration of the Storage Systems. We understand that a total of six (6) IST Personnel trainees will participate to this training. It's worthwhile mentioning 2 very important elements with regards to this topic: 1st: If you go with our solution, little training, as well as little effort from your side will be required, since you have been using NetApp technologies (previous O/S version) for the last 8 years, therefore it will be very easy for you to learn just a few differences between the old O/S and the new one! Most of the technologies, the Consoles, the MyAutoSupport etc... and the way NetApp storage works is already known to you! 2nd: We have already performed several training sessions with customers upgrading from the old (7-Mode) to the new O/S (cDOT), therefore we have the experience of what customers wish to hear, what	N/A.

No.	Requirements – Specifications	Requirement	Response - Offer	Reference
			makes it easy for them to understand the differences of the old to new etc.	
	Training requested for Backup and Recovery Software			
5.2.	Provide an initial fundamental training during system deployment. The training at least 17 hours training covering the following topics. • Software Architecture and CUT Environment (at least 2 hour) • Software Installation Procedure (at least 2 hour) • Management Console and Monitoring Tools (at least 2 hours) • Software Backup and Recovery capabilities (at least 6 hour) • Software upgrade Procedure (at least 2 hour) • "Backup and Recovery Software" Server and Services recovery in the event of a disaster (at least 3 hour) Training should follow a logical learning curve to ensure proper setup and administration of the Storage Systems. Total of six (6) IST Personnel trainees will participate.	Yes	Yes, if we are awarded with this tender, we shall undertake to provide the University with an initial fundamental training during system deployment. The training at least 17 hours training covering the following topics. · Software Architecture and CUT Environment (at least 2 hours) · Software Installation Procedure (at least 2 hours) · Management Console and Monitoring Tools (at least 2 hours) · Software Backup and Recovery capabilities (at least 6 hours) · Software upgrade Procedure (at least 2 hours) · "Backup and Recovery Software" Server and Services recovery in the event of a disaster (at least 3 hours) Training will follow a logical learning curve to ensure proper setup and administration of the Storage Systems. Total of six (6) IST Personnel trainees will participate.	

ΣΗΜΕΙΩΣΕΙΣ:

1. Είναι υποχρεωτική η απάντηση σε όλα τα σημεία του Πίνακα. Σε περίπτωση που δεν έχει απαντηθεί οποιοδήποτε σημείο, η απάντηση θεωρείται αρνητική.
2. Στη Στήλη «ΧΑΡΑΚΤΗΡΙΣΤΙΚΑ-ΠΡΟΔΙΑΓΡΑΦΕΣ» ή «ΑΠΑΙΤΗΣΕΙΣ-ΠΡΟΔΙΑΓΡΑΦΕΣ», περιγράφονται αναλυτικά οι αντίστοιχοι τεχνικοί όροι, υποχρεώσεις ή επεξηγήσεις για τα οποία θα πρέπει να δοθούν αντίστοιχες απαντήσεις.
3. Αν στη στήλη «ΑΠΑΙΤΗΣΗ» έχει συμπληρωθεί η λέξη «ΝΑΙ», που σημαίνει ότι η αντίστοιχη προδιαγραφή είναι υποχρεωτική για τον υποψήφιο Ανάδοχο ή ένας αριθμός που σημαίνει υποχρεωτικό αριθμητικό μέγεθος της προδιαγραφής και απαιτεί συμμόρφωση, θεωρούνται ως απαράβατοι όροι και οι Προσφορές που δεν καλύπτουν τέτοιες απαιτήσεις απορρίπτονται ως απαράδεκτες. Αν στη στήλη «ΑΠΑΙΤΗΣΗ» έχει συμπληρωθεί η λέξη «ΔΗΛΩΣΤΕ» απαιτείται η δήλωση συγκεκριμένης πληροφορίας της αντίστοιχης τεχνικής προδιαγραφής.

4. Στη στήλη «ΑΠΑΝΤΗΣΗ» σημειώνεται η απάντηση του Προσφέροντα που είτε είναι το συγκεκριμένο προϊόν που προσφέρει είτε έχει τη μορφή ΝΑΙ/ΟΧΙ εάν η αντίστοιχη προδιαγραφή πληρούται ή όχι από την Προσφορά ή ένα αριθμητικό μέγεθος που δηλώνει την ποσότητα του αντίστοιχου χαρακτηριστικού στην Προσφορά.

5. Στη στήλη «ΠΑΡΑΠΟΜΠΗ» θα καταγραφεί η σαφής παραπομπή σε Παράρτημα της Τεχνικής Προσφοράς το οποίο θα περιλαμβάνει αριθμημένα Τεχνικά Φυλλάδια κατασκευαστών, ή αναλυτικές τεχνικές περιγραφές των προσφερόμενων προϊόντων, που κατά την κρίση του Προσφέροντα τεκμηριώνουν τα δηλούμενα στον Πίνακα Στοιχεία. Οι παραπομπές πρέπει να είναι συγκεκριμένες (π.χ. Τεχνικό Φυλλάδιο 3, Σελ. 4 Παράγραφος 4, κ.λ.π.), ενώ αντίστοιχα στο τεχνικό φυλλάδιο ή την αναφορά θα υπογραμμίζεται το σημείο τεκμηρίωσης και θα σημειώνεται η αντίστοιχη παράγραφος του Πίνακα στην οποία καταγράφεται το ζητούμενο χαρακτηριστικό.

NOTES:

1. Responses MUST be provided for all items in the Table. If no response is provided for a particular item, this shall be considered as a negative response.
2. The Column "FEATURES – SPECIFICATIONS" or "REQUIREMENTS – SPECIFICATIONS" is used to describe in detail the corresponding technical terms, obligations or clarifications to which responses must be provided.
3. If the Column "REQUIREMENT" contains the word "YES" (meaning that the corresponding specification is mandatory for the Tenderer) or a specific number (meaning that the specification has a mandatory numerical value which must be complied with), these shall be considered as unchangeable terms and the Technical Offers that do not meet such requirements shall be rejected as inadmissible.
4. The Tenderer's response is entered in the Column "RESPONSE – OFFER". This response is either the specific product that the Tenderer offers or is of the form "YES/NO" (depending on whether the Technical Offer does or does not meet the respective specification) or a specific numerical value denoting the quantity of the respective feature in the Technical Offer.
5. The Column "REFERENCE" is used to enter an unambiguous reference to an Annex of the Technical Offer containing numbered Technical Brochures of manufacturers, or detailed technical descriptions of the products offered, which in the opinion of the Tenderer document the information stated in the Table. References should be specific (e.g. Technical Brochure 3, p. 4, par. 4), while in the technical brochure or report in question the respective point shall be underlined and a note shall be made of the paragraph in the Table where the required feature is stated.

ΠΑΡΑΡΤΗΜΑ Ε – Πίνακας Τιμών

ΠΙΝΑΚΑΣ ΤΙΜΩΝ						
ΕΙΔΟΣ	Α/Α	Προϊόν /Υπηρεσία	Μονάδα Μέτρησης	Προσφερόμενη Ποσότητα	Mechatronic Ltd	
					Τιμή Μονάδας Χωρίς Φ.Π.Α	Συνολική Τιμή Χωρίς Φ.Π.Α
ΠΡΟΙΟΝΤΑ	1	Ζητούμενο προϊόν – Requested Product (1): Primary Site Storage System * NetApp FAS8020A	Τεμάχια	1	€129.927	€129.927
	2	Ζητούμενο προϊόν – Requested Product (2): Secondary Site Storage System * NetApp FAS2554HA	Τεμάχια	1	Included above. Special price for both Systems was provided as a Bundle	Included above. Special price for both Systems was provided as a Bundle
	3	Ζητούμενο προϊόν – Requested Product (3): Backup and Recovery Software * NetApp CommVault Intellisnap (OEM)	Λογισμικό	1	Included in Storage cost above.	Included in Storage cost above.
	4	Ζητούμενο προϊόν – Requested Product (4): Backup and Recovery Server * DELL PowerEdge R430: Config 1 DELL PowerEdge R430: Config 2	Τεμάχια	1 1	€4.449 €3.558	€8.007
	5	Academic VMware vSphere 6 Std, 1 CPU, w/ Basic Support / Subscription1 year	Λογισμικό	1	€2.141	€2.141
ΥΠΗΡΕΣΙΕΣ	6	Ζητούμενες Υπηρεσίες όπως περιγράφονται στις Δραστηριότητες 1, 2 και 3 (βλ. Παράρτημα ΙΙ)	Ανθρωπο-ημέρες	~ 57	€0	€0
	7	Ζητούμενες Υπηρεσίες Εκπαίδευσης (1) – Requested Training Services *	Ανθρωπο-ημέρες	~ 7	€0	€0
					Συνολική Αξία Προσφοράς:	**€140.075**

* Όπως προδιαγράφεται στο Έντυπο 8 «Πίνακα Προσφοράς και συμμόρφωσης με τις τεχνικές προδιαγραφές»

** Να συμπληρωθεί από τον Προσφέροντα

*** Να συμπληρωθεί από τον Προσφέροντα εφόσον προτείνει επιπρόσθετο εξοπλισμό (βλ. σχετ. Άρθρο 1.2.2 Παράρτημα ΙΙ «ΟΡΟΙ ΕΝΤΟΛΗΣ – ΤΕΧΝΙΚΕΣ ΠΡΟΔΙΑΓΡΑΦΕΣ»)