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7RZDUGV D 7LPHO\&DXVDI@UW(Q\$QDU SULVH

'U 0X =KDQJ

3RVWGRFWRUDO \$VVRFLDWH

'HSDUWPHQW RI &RPHS X&RHU@ @IOH8QLYHUVLW

)ULGD\ 0DUFK WR RDPW5QR RQJLQHULQJ %XLOC

\$EVWUDFWLQFUHDVLRQ\ VRSKLVWLFDFWHG \$DWDQDFHNGV 3KIDYHL VEMH
D VHULRXV FKDOOHQJH IRU HQWHUSDOO\VLWH FZKULFW\WSDWVNDV NP XFC
UHODWLRQVKLSV EHWZHHQ ILOHV DQGRSHURDFEFMMVDQ@ ERQVGRXH
WKH ILUVW VWHS WRZDUGV XQGHUVWURSLQJ \$37 UHWV B@N M VD C6G
FDXVDOLW\ DQDO\VLV LV D WLPH FURLVHFIDQPE DXV@QLWW VLVDHFWL
H[WUDFW XVHIXO DWWDFN LQIRUPDWISRQ RLQ ZR WNL PLV@O LPPLOQHG L C
QHGG ([LVWLQJ DSSURDFKHV KDYH ODOJ@S HR@XMHG HRVQ VSRWQDC
WR WKH DWWDFN EXW IDLO WR GLOHUYHQWLV@ WUHR @CGX SHUWR X V WUL
EHQLJQ DQG FRPSOLFDFWHG V\VWHP RSHVWIDJ@VRLQRQ WIFM ODVQLQ V @R
7R DGGUHVV WKLV SUREOHP ZH SURSRVIR @ZD @GUD@XIV@O LDV E DFN
DXWRPDWLFDOO\ SULRULWLJHV WKHGL@SYHQVHLQJ@VHLR QQRW @IE QRUWPE
6SHFLILFDOO\ WR ULW@H@V DWKHV @H@R @G HQ WL WZ/H U@RQ@Q HVV DQG
IHDWXUHV LQ WKH FDXVDOLW\ JUDSRQ@RIGR@V@L@Q@X@D@K@V@X@Q@X@R@D@C
TXDQWLI\ WKH UDUHQHVV RI HDFK HYR@Q@W@O@Z@IGL@FYKH@OR@SR@Q@G@D@FR@PI@R@
DFWLYLWLHV LQ FRUSRUDWH FRPSXWHU@V\VL@Q@H@P@V@O@L@H@H@P@S@C@H@D@H@Q@W@
D UHIHUHQFH PRGHO EXLOGHU LQ . @IR@X@H@V@RR@R@O@Y@E@ @R@S@O@R@H@Q@H@Y@E@
LQ D UHDO HQWHUSULVH ,7 HQYLURQPH @E@W@O@Z@L@R@Q@H@2@6Z@H@H@Y@R@Q@O@V@H@F@V@
PDFKLQHV LQ RQH ZHHN ([SHULPHQW@D@ @B@Q@X@C@D@S@W@X@K@R@Z@D@W@W@D@W@N@3@
DUH PLVVHG E\ H[LVWLQJ WUDFNHUV D@S@G@W@R@H@V@Z@R@H@R@W@G@H@U@D@Q@B@O@P@D@L@J@C@

%LRX =KDQJ LV D 3RVWGRFWRUDO \$VVRFLDWHUL@F@W@K@H@F@H@S@D@U@W@R@
8QLYHUVLW\ ZRUNLQJ ZLWK 3URI (ODIL@Q@H@R@S@K@S@X@W@H@W@H@F@Q@L@R@W@H@D@K@L@L@V@
(QJLQHHULQJ IURPH@V@V@D@W@X@V@B@G@Y@L@L@V@H@G@L@Q@ 3%R@I@R@U@H@Q@R@Z@Q@L@Q@J@&R@U@Q@H@
WZR \H@D@U@V@D@V@D@U@H@V@H@D@U@F@K@V@W@D@I@P@H@P@E@H@V@H@D@W@F@K@(&Q@D@W@H@U@S@F@W@V@L@E@D@H@
DVSHFWV RI @R@P@S@X@W@H@U@6@H@F@X@U@L@W@\D@Q@L@Q@K@H@V@L@W@H@S@D@H@V@F@I@F@X@L@O@V@U@O@R@E@Q@O@V@
&\EHU 3K\VLFD@6\V@W@H@P@V@6@H@F@X@U@L@W@\D@Q@G@Z@R@O@W@H@K@L@S@V@L@V@H@H@Q@7@S@6@X@E@F@O@L@U@M@
&&6 &&6 1'66 1'66 1'66 S U H@V@H@W@L@J@L@Q@R@X@K@H@F@R@Q@J@H@I@D@H@R@Q@F@R@
V@H@F@X@U@L@W@\

7KLV HYHQW LV IXQGHHG E\ *62&6 D VXEV@L@Q@V@L@S@U@F@W@R@N@L@O@V@)X@V@H@L@Q@X@Q@C@